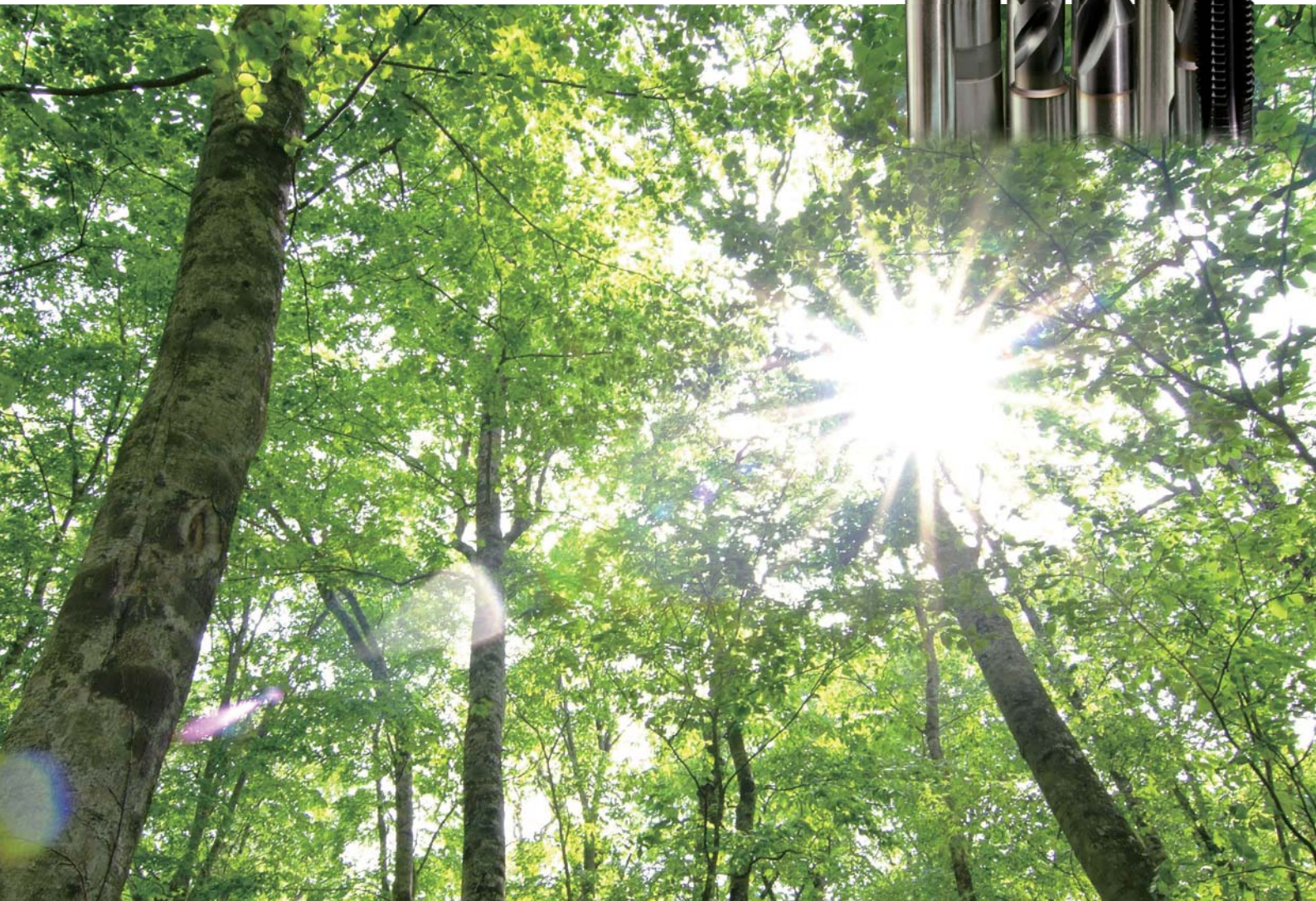


PRODUCTS CATALOG
DIN·ANSI·JIS

2016 - 2017



"Reliable screw threads" is
YAMAWA'S theme.

 Think threads with
YAMAWA

On the occasion of publishing new Yamawa General Catalog

Yamawa categorizes our innovation history into 3 stages, namely original foundation of 1923, second being after-the-war (1945) period and now, third one. On the occasion of each foundation & reflecting the original foundation spirit, we renewed our innovation mind and have been answering the market needs which are developing day by day. We aim to contribute to the technology of globally developing industries, from JAPAN with the most modern supplier country of industrial goods in the world. As a specialist & by using the newest manufacturing technology, Yamawa has been manufacturing high quality and high performance TAPs, DIES and CENTER DRILLS, and wants to be a reliable supplier. Yamawa is also paying special attention to our environment while efficiently using the limited natural resources. Based on our company philosophy "Reliable Screw Threads", we keep on making our PROPOSALS related to TAPPING to the market. Yamawa has just built up new product system to meet with flexibility of the market demand and is going to more fulfill our support system in the market. Any of your contact, that is, questions, requests and others, is always welcome.

YAMAWA Manufacturing Co., Ltd.
President **Yoshio Watanabe**

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Origin of corporate name, "YA" "MA" "WA".

Mr. Jokichi Watanabe, the founder of the company, decided to use shop name "YA" "MA" "WA", which he had been using in his family business instead of using his personal name. And he gave to his company the name "YA" "MA" "WA" by employing lucky words and the same connotation "YAMAWA" from ancient Japanese characters, MANYOGANA. The meaning of YAMAWA is "Greater prosperity, More united". In this word, he put a wish "as the company becomes prosperous, the harmony among employees becomes more precious".

Company Background (Company Outline)

- November 1923 : Founded by Jokichi Watanabe in Shibuya-ku, Tokyo.
- December 1937 : Company incorporated.
- May 1945 : Factory established in Yonezawa City in Yamagata prefecture.
- January 1953 : Spun off Yonezawa Factory into a separate company as YAMAWA TAP Co., Ltd.
- June 1955 : All products certified to Japanese Industrial Standard (JIS) categories.
- October 1956 : Awarded by the Department of Trade and Industry for superiority in industrial standardization.
- October 1963 : Awarded by the Institute of Industrial Technology for superiority in industrial standardization.
- April 1964 : Newly constructed Fukushima Factory began operation.
- November 1973 : Awarded from the Department of Trade and Industry as superiority in industrial standardization.
- October 1983 : Established YAMAWA ENGINEERING Co., Ltd.
- December 1984 : New machine tool manufacturing shop constructed inside the Fukushima Factory.
- October 1986 : Newly completed Aizu Factory began operation.
- July 1989 : Newly constructed Taiwan Factory opened.
- April 1991 : Spun off Fukushima Factory and Aizu Factory into a separate company, YAMAWA PRECISION Co., Ltd.
- November 1995 : Established TC (Total Cutting) CENTER Co., Ltd.
- June 1996 : YAMAWA TAP Co., Ltd. obtained ISO 9001 certification.
- July 2000 : YAMAWA PRECISION Co., Ltd. in Aizu Factory obtained ISO 9001 certification.
- October 2000 : YAMAWA PRECISION Co., Ltd. in Fukushima Factory also obtained ISO 9001 certification.
- August 2001 : Established YAMAWA TC CENTER Co., Ltd from TC CENTER.
- October 2002 : Obtained ISO14001 certification in YAMAWA PRECISION Co., Ltd. at Fukushima Factory.
- December 2002 : Obtained ISO14001 certification in YAMAWA PRECISION Co., Ltd. at Aizu Factory.
- January 2003 : Obtained ISO14001 certification in YAMAWA TAP Co.,Ltd.
- October 2003 : Obtained ISO14001 certificaion in YAMAWA Mfg. Co.,Ltd.
- April 2006 : Obtained ISO14001 certification in TAIWAN YAMAWA Co.,Ltd.
- October 2006 : Spun off Export Dept. into a separate company, YAMAWA INTERNATIONAL Co., Ltd.
- January 2007 : Spun off Taiwan Sales Dept into a separate company, YAMAWA ASIA Co., Ltd.
- May 2007 : Obtained ISO14001 certification in YAMAWA ASIA Co.,Ltd.
- March 2008 : Newly constructed Tsutsumi Factory of Yamawa Mfg began operation.
- September 2008 : Obtained ISO14001certification in YAMAWA ENGINEERING Co.,Ltd.,
YAMAWA TC CENTER Co.,Ltd and YAMAWA INTERNATIONAL Co.,Ltd.
- June 2011 : Obtained ISO14001 and ISO9001 certification in YAMAWA Tsutsumi Factory.
- February 2012 : Obtained ISO9001 certification in TAIWAN YAMAWA and YAMAWA ASIA.
- October 2012 : Obtained ISO9001 certification in YAMAWA Mfg. Co., Ltd.
- December 2013 : Newly constructed Tsutsumi No.2 Factory of Yamawa Mfg. began operation.
- October 2014 :YAMAWA TC Center Co., LTD. and YAMAWA Engineering Co., LTD.
were merged into a new company "YAMAWA Engineering Service Co., LTD."

ISO 9001/14001 certification

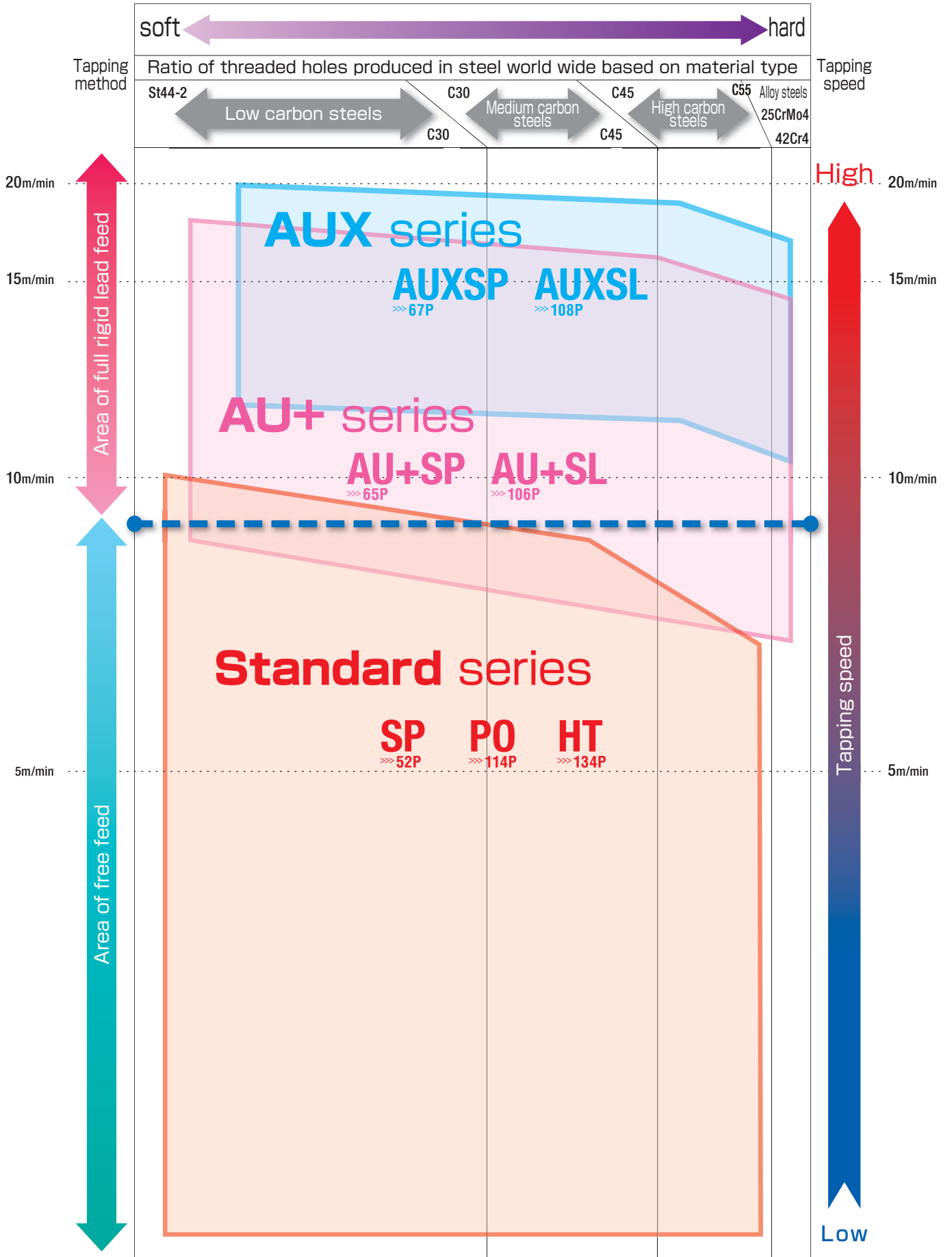


<http://www.yamawa.eu/>

YAMAWA Manufacturing Co., Ltd.

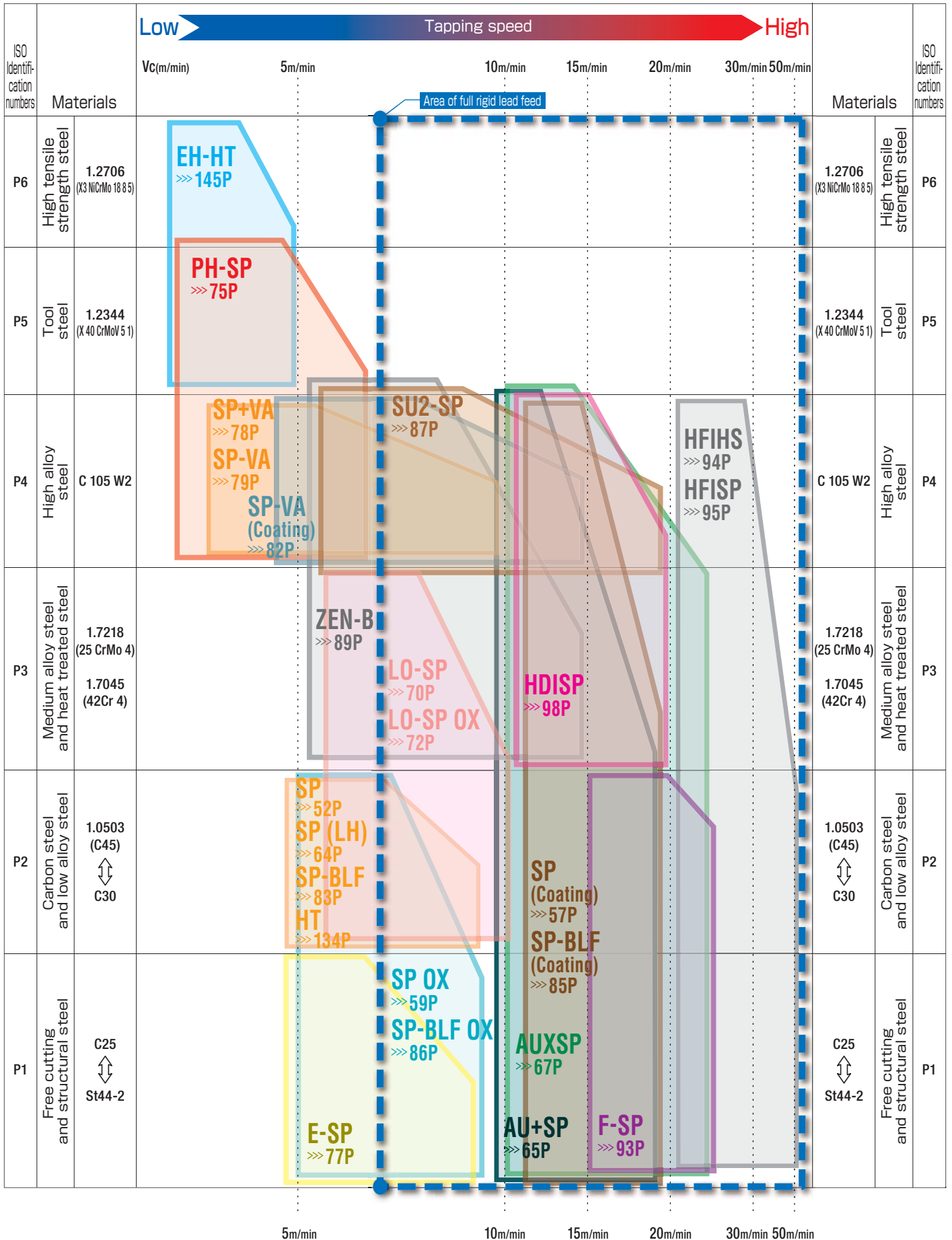


Basic concept of new product system for various steels



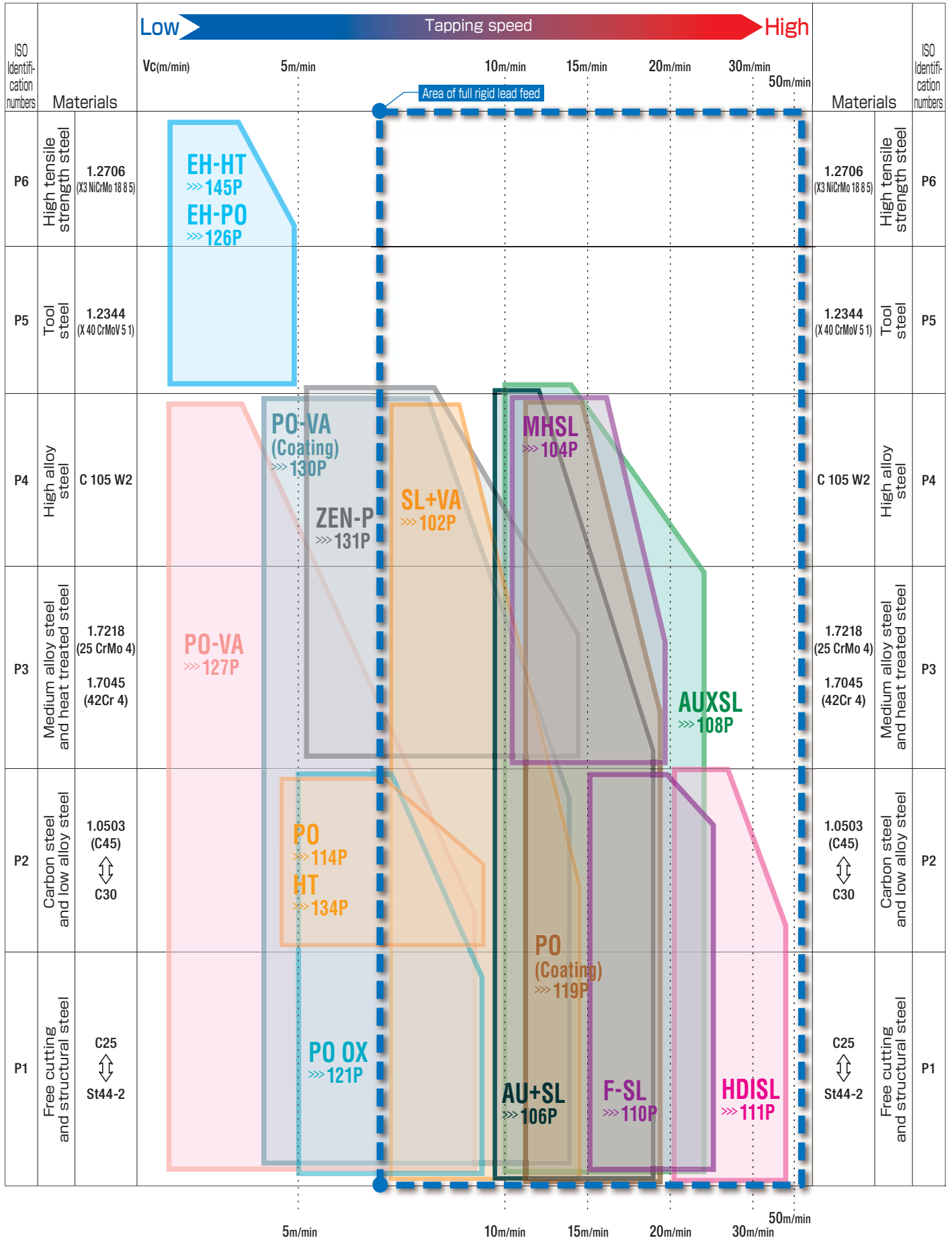
An image telling possible applications

System chart of taps for blind holes on ISO P - steel ~ 45HRC



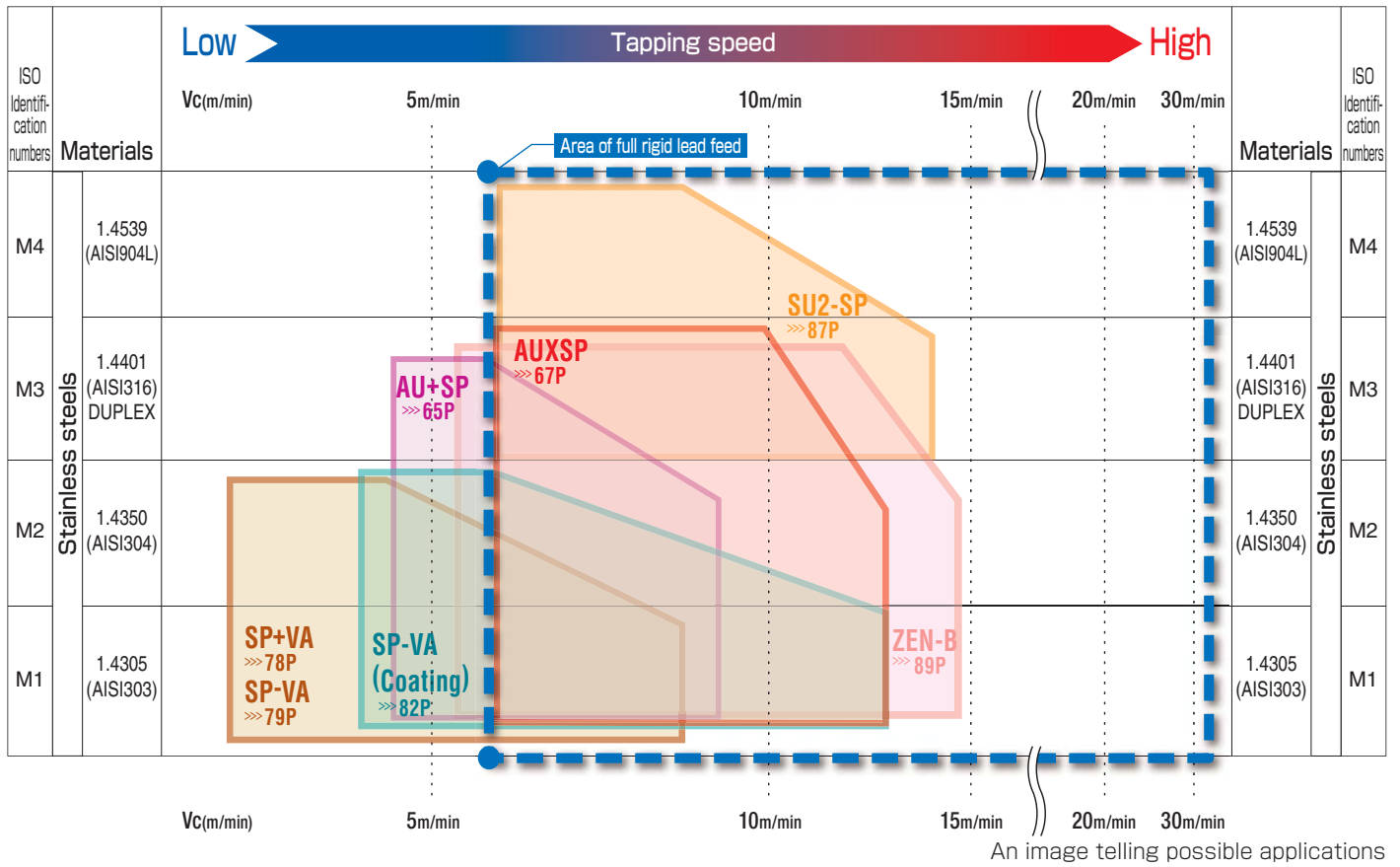
An image telling possible applications

System chart of taps for through holes on ISO P - steel ~ 45HRC

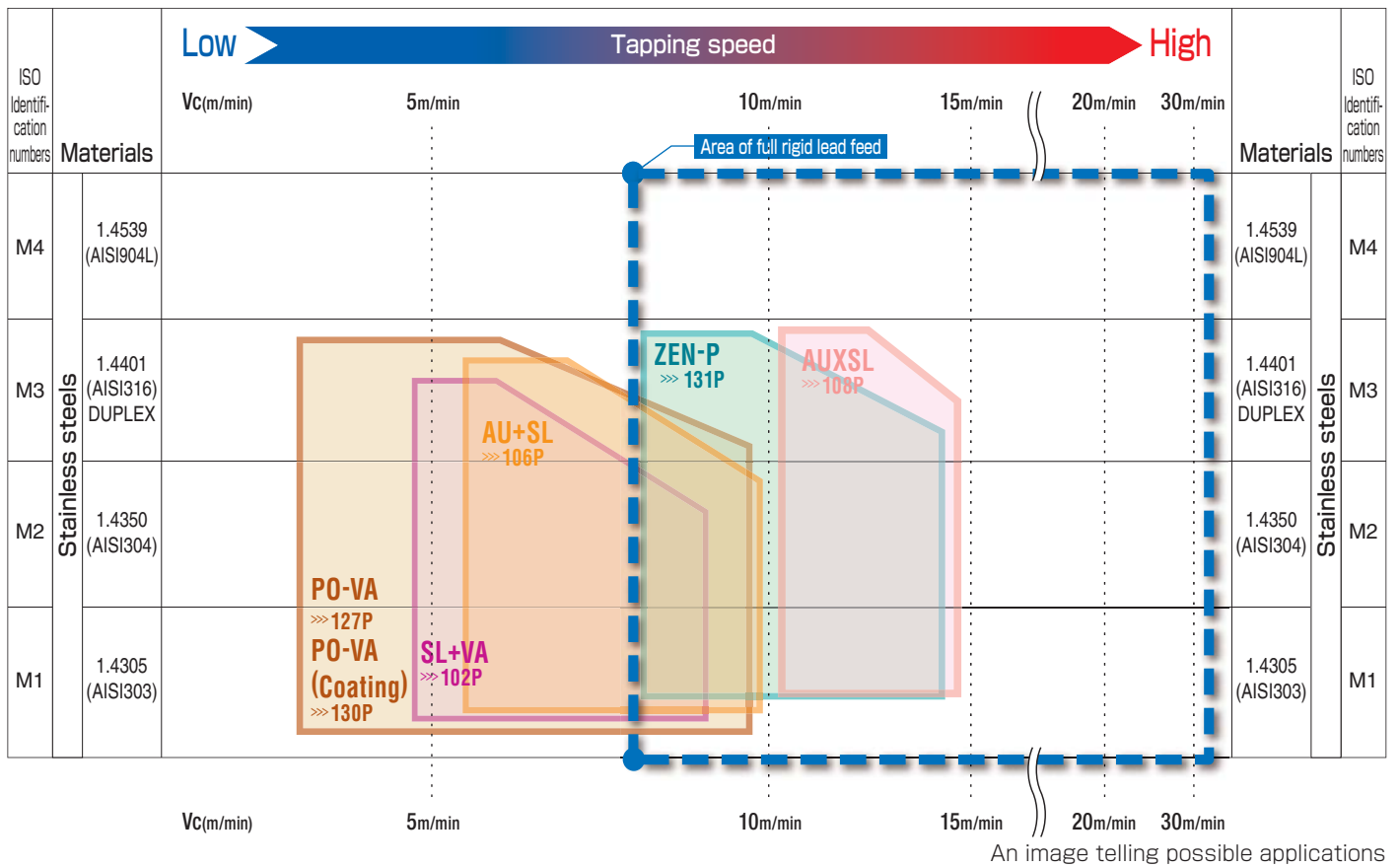


An image telling possible applications

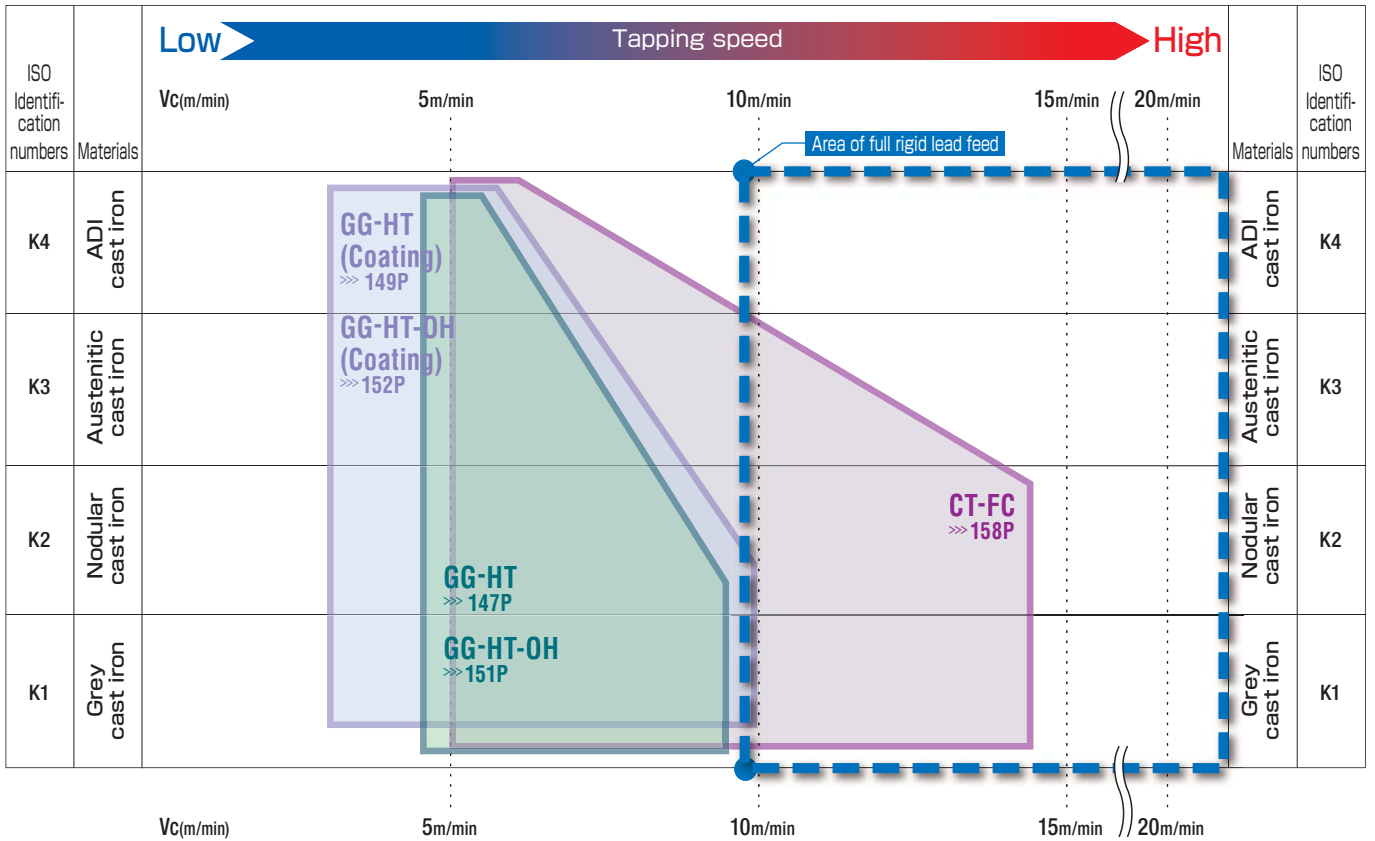
System chart of taps for blind holes on ISO M - stainless steel



System chart of taps for through holes on ISO M - stainless steel

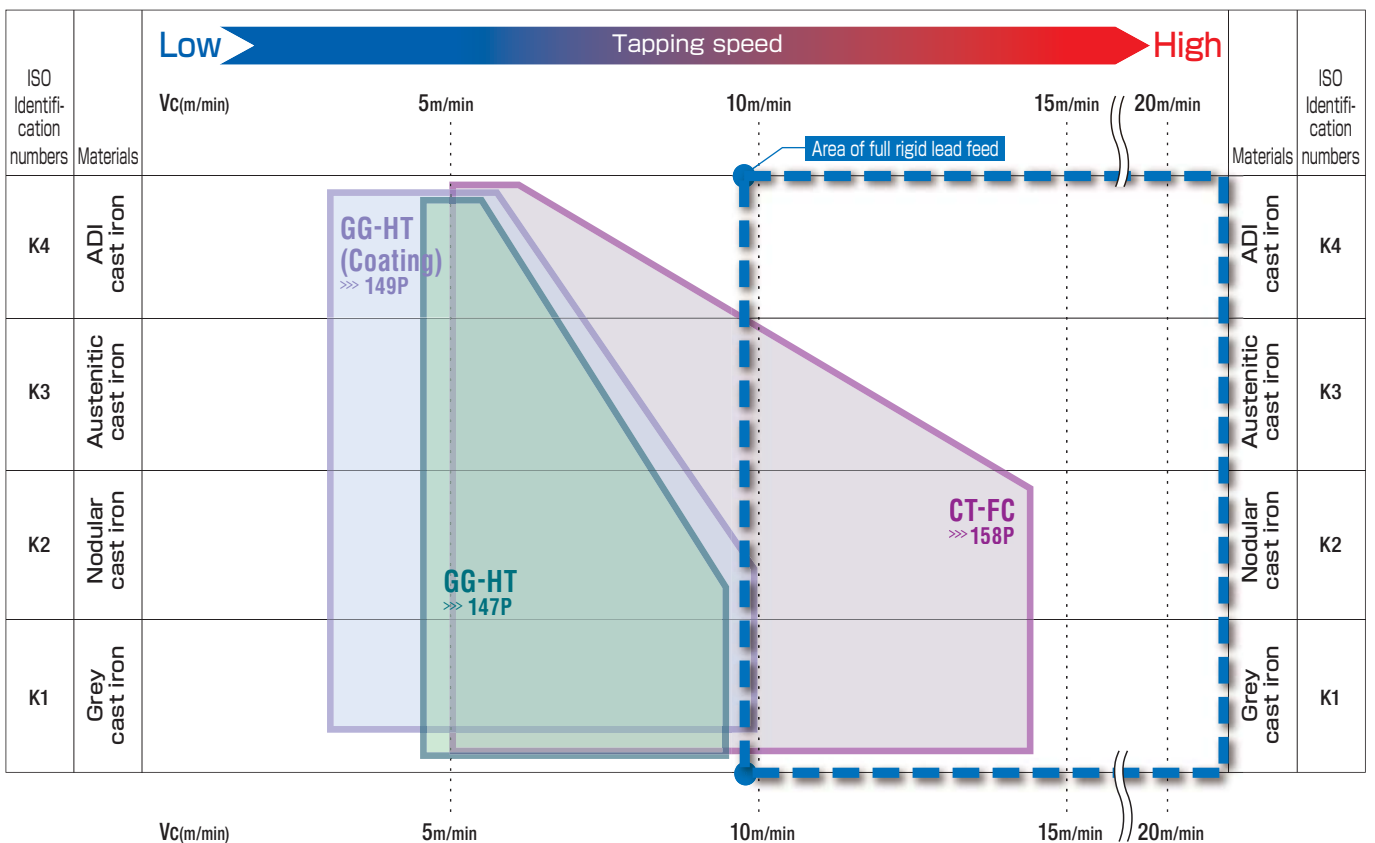


System chart of taps for blind holes on ISO K - cast iron



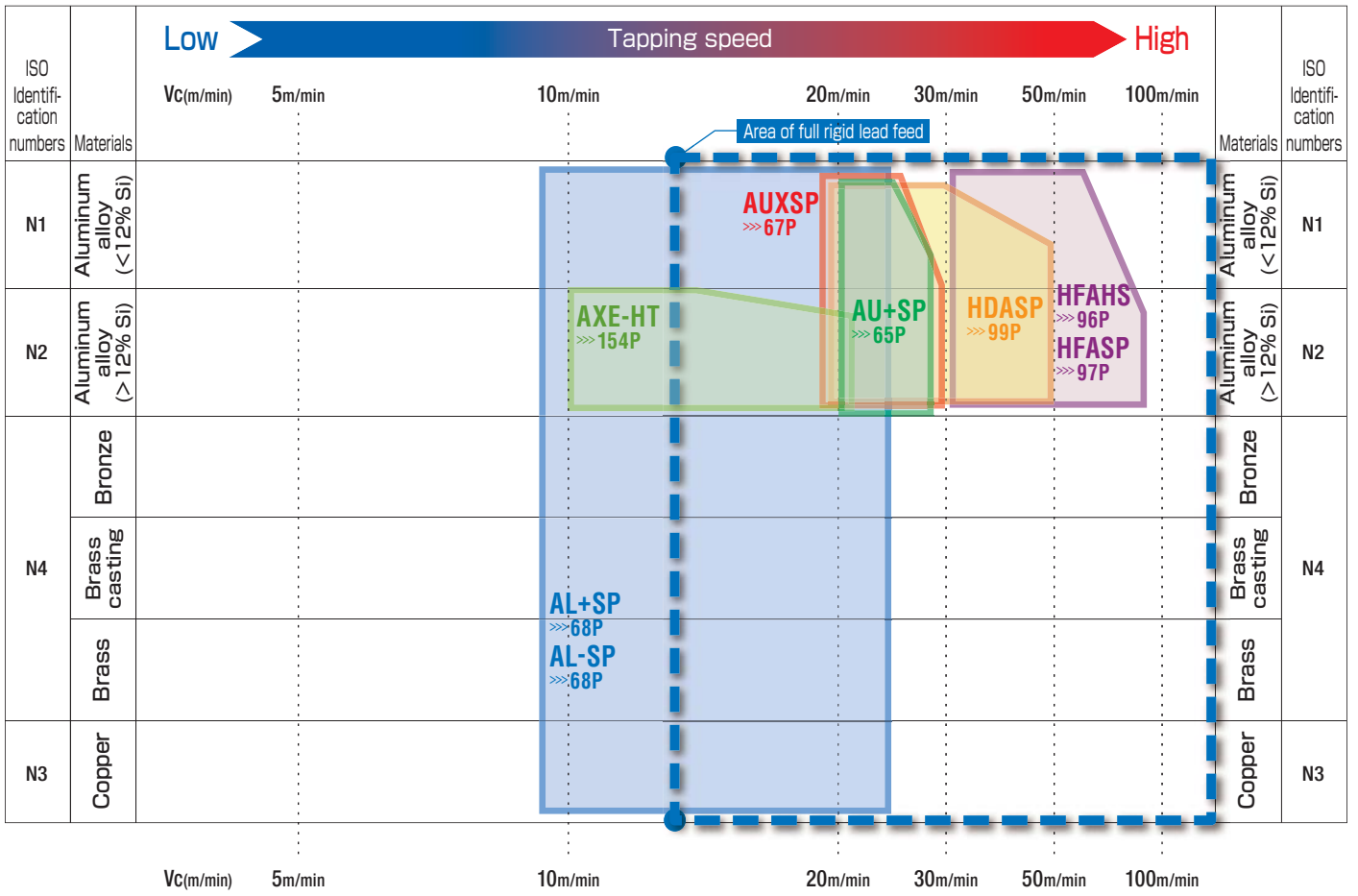
An image telling possible applications

System chart of taps for through holes on ISO K - cast iron



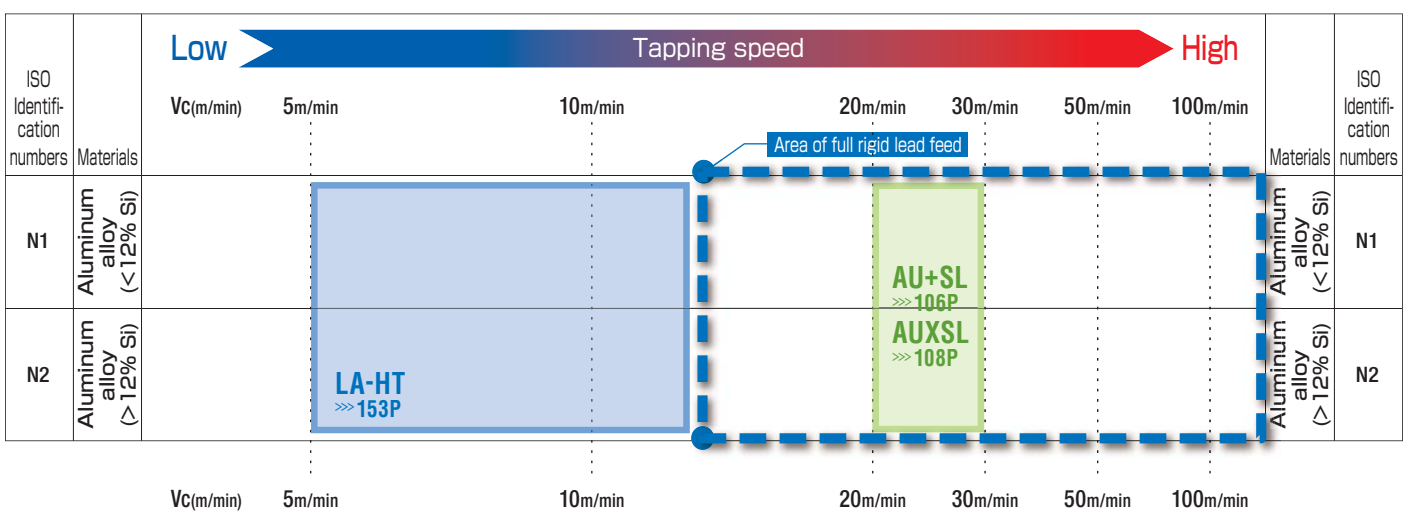
An image telling possible applications

System chart of taps for blind holes on ISO N - non ferrous materials



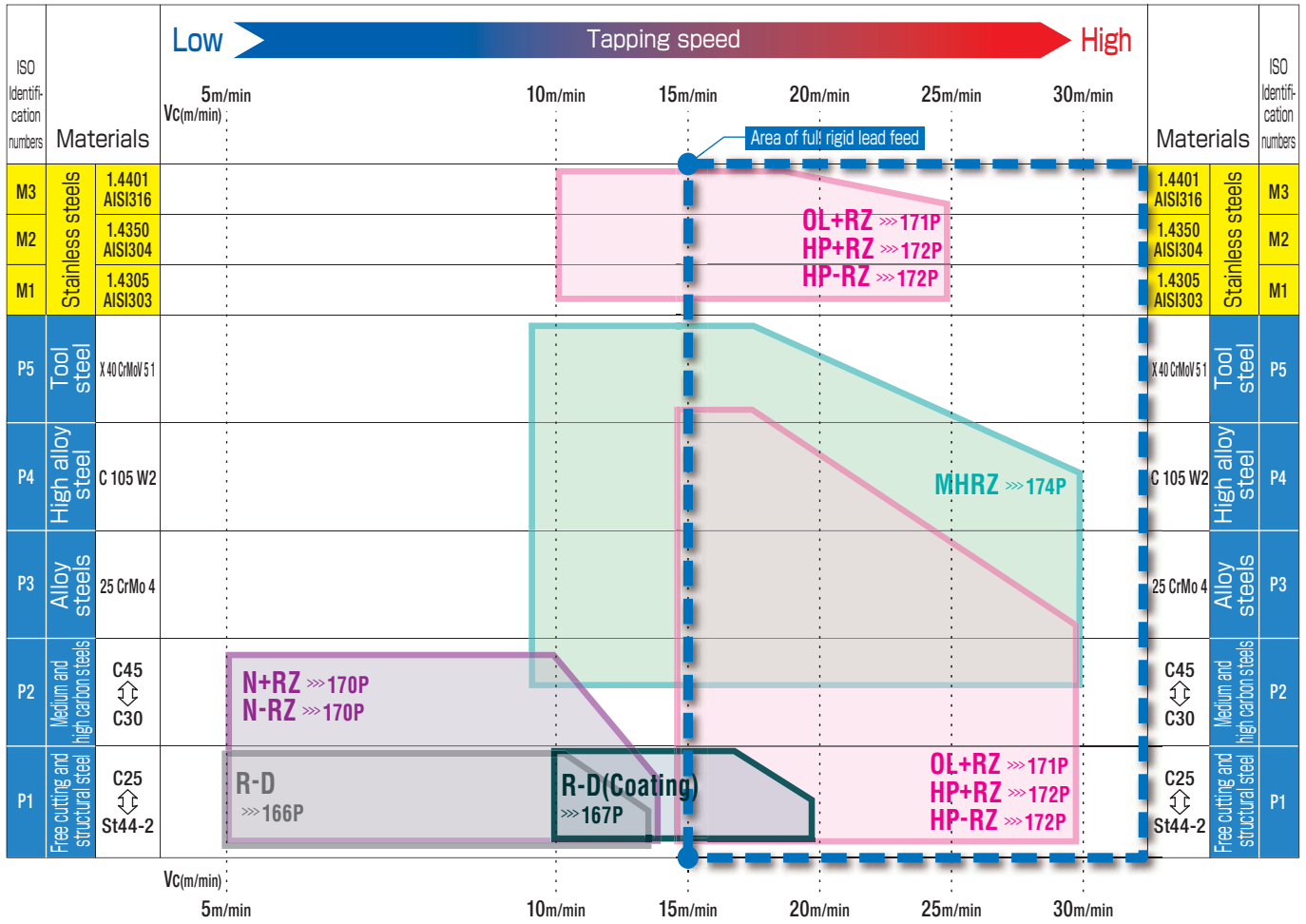
An image telling possible applications

System chart of taps for through holes on ISO N - non ferrous materials



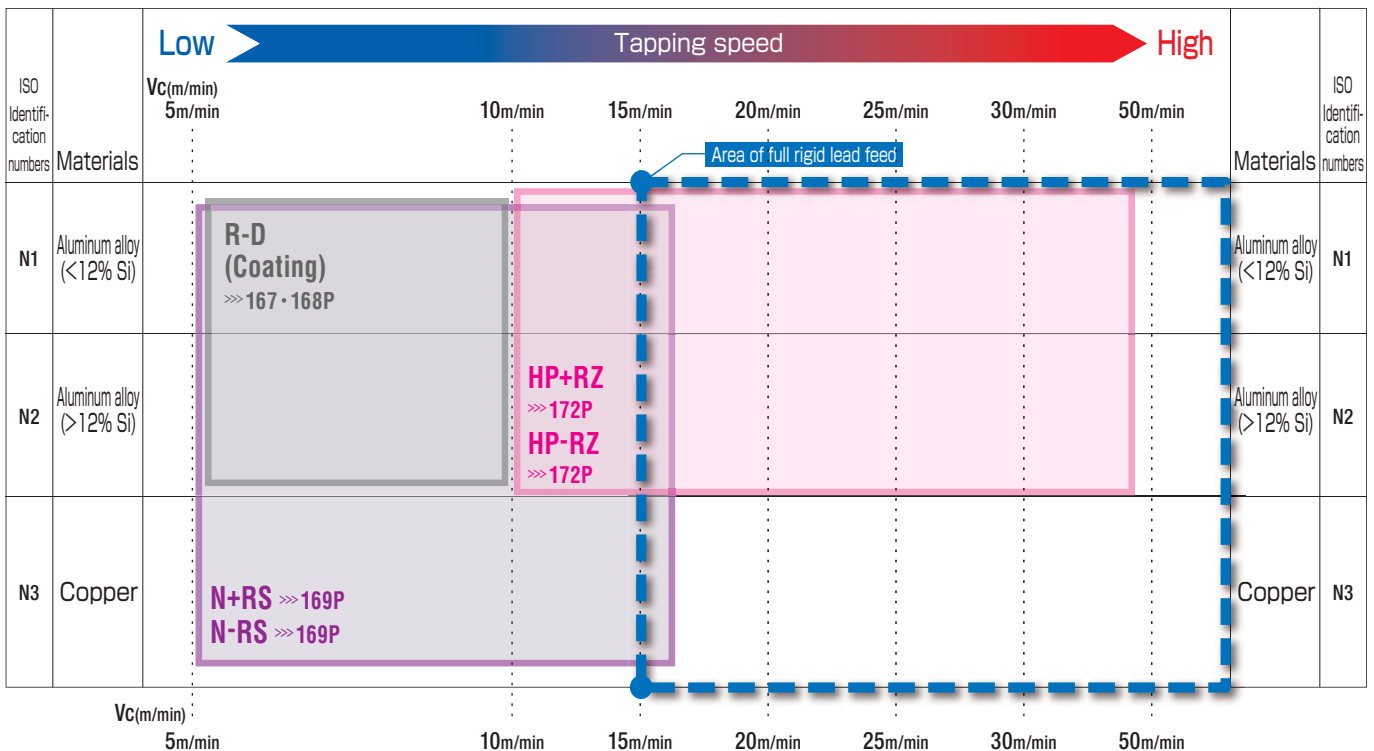
An image telling possible applications

System chart of forming taps for ISO P steel and ISO M stainless steel



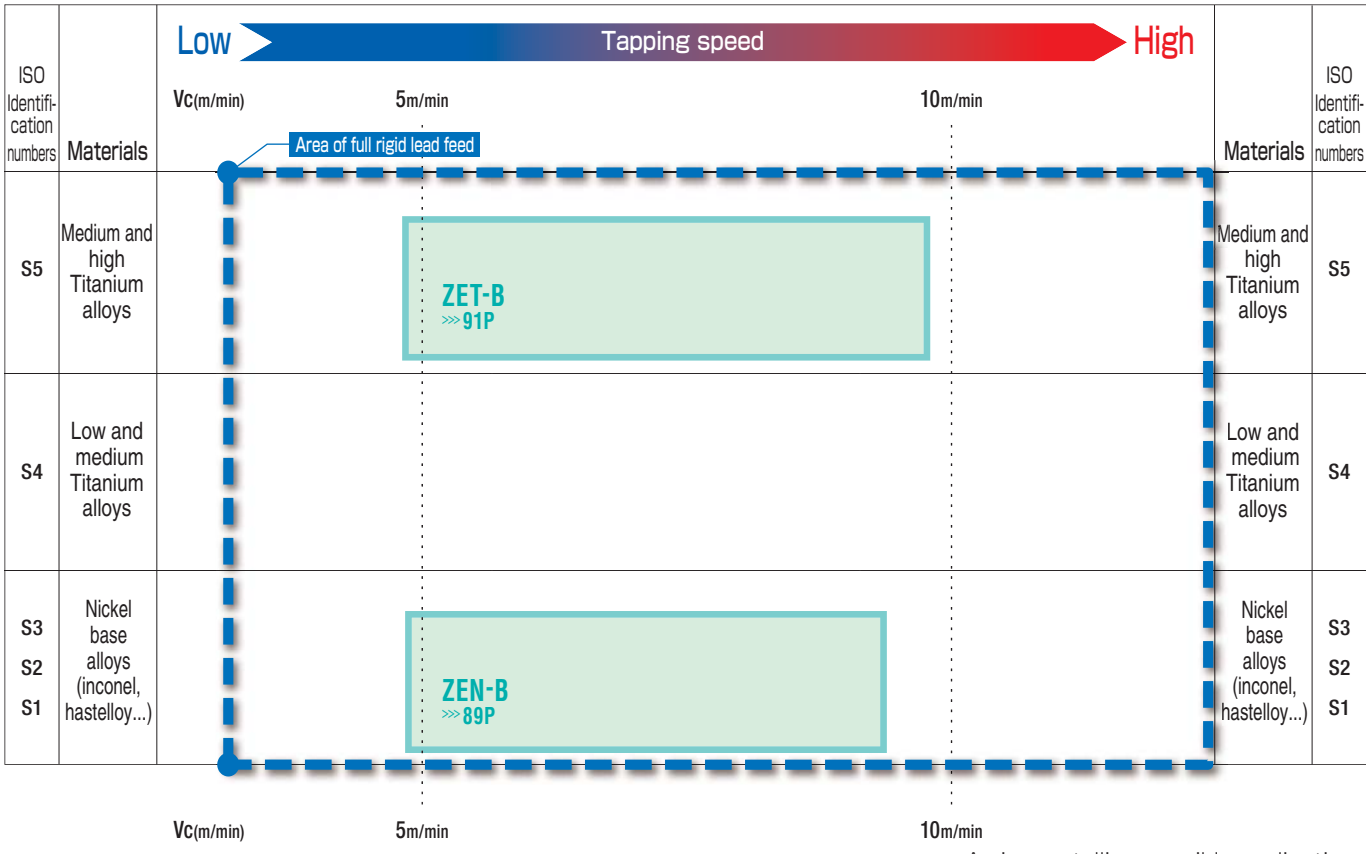
An image telling possible applications

System chart of forming taps for ISO N non ferrous materials



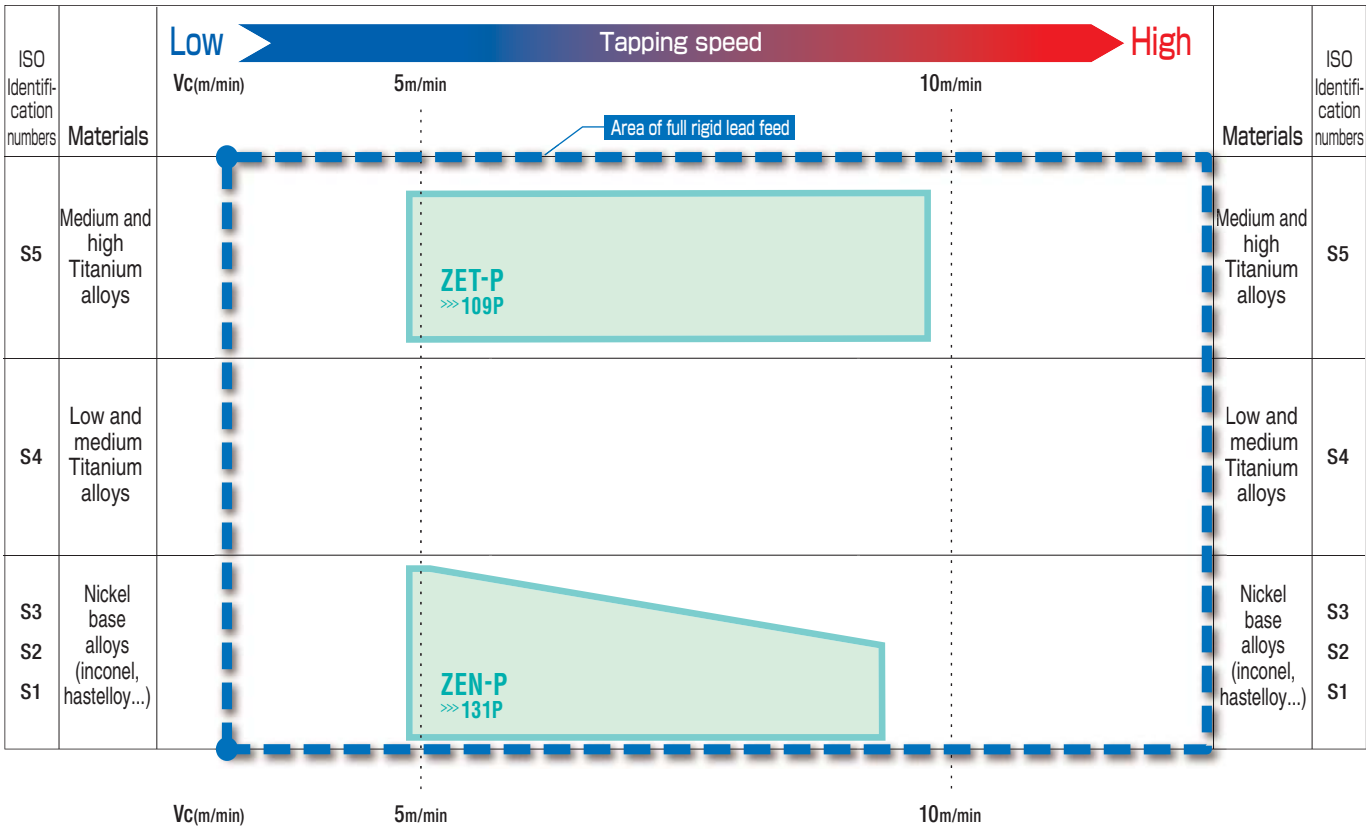
An image telling possible applications

System chart of taps for blind holes on ISO S-heat resistant alloys



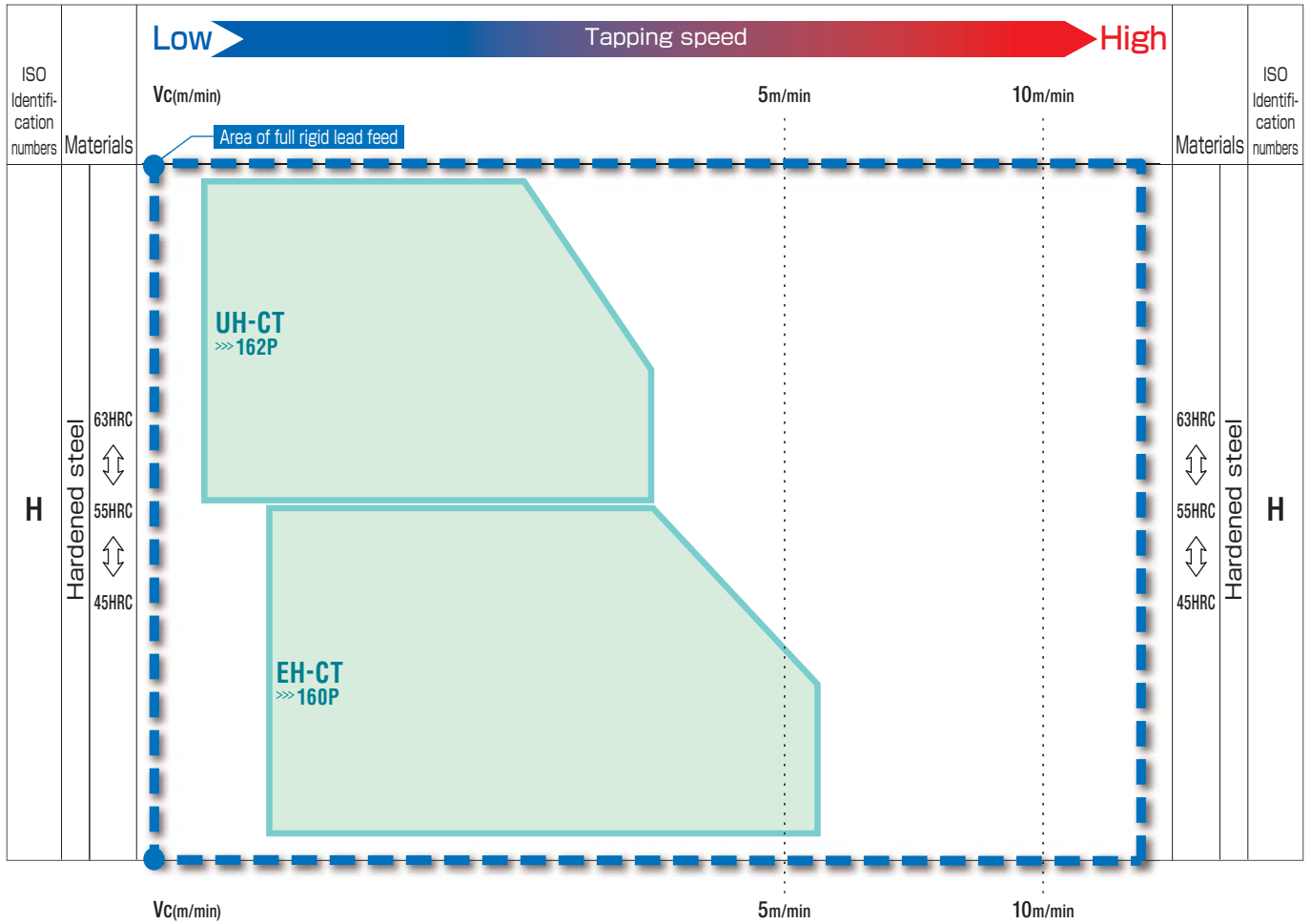
An image telling possible applications

System chart of taps for through holes on ISO S-heat resistant alloys



An image telling possible applications

System chart of taps for blind and through holes on ISO H - hardened steel 45 ~ 63HRC



An image telling possible applications

ISO Code

Gr.	Materials	Features
P1	Free cutting steel and structural steel	Rm < 500 N/mm ²
P2	Carbon steel and low alloy steel	Rm 500-700 N/mm ²
P3	Medium alloy steel and heat treated steel	Rm 600-800 N/mm ²
P4	High alloy steel	Rm 800-1000 N/mm ²
P5	Tool steel	Rm 900-1200 N/mm ²
P6	High tensile strength steel	Rm 1200-1600 N/mm ²
M1	Ferritic stainless steel	Rm 400-700 N/mm ²
M2	Austenitic stainless steel (good machinability)	Rm 500-750 N/mm ²
M3	Austenitic stainless steel (medium machinability)	Rm 550-850 N/mm ²
M4	Martensitic stainless steel	Rm 650-950 N/mm ²
M5	PH stainless steel	Rm 800-1250 N/mm ²
K1	Grey cast iron	HB 150-250
K2	Nodular cast iron	HB 150-350
K3	Austenitic cast iron	HB 120-260
K4	ADI cast iron	HB 250-500
N1	Aluminium alloys < 12% Si	
N2	Aluminium alloys > 12% Si	
N3	Copper alloys	
N4	Brass alloys and bronze alloys	
N5	Plastic materials	
N6	Fiber and composites	
S1	Heat resistant super alloys (HRSA) (good machinability)	HRC < 25
S2	Heat resistant super alloys (HRSA) (medium machinability)	HRC 25-35
S3	Heat resistant super alloys (HRSA) (low machinability)	HRC 35-45
S4	Low alloy Titanium (good machinability)	
S5	High alloy Titanium (medium machinability)	
H1	Hardened general steel	HRC 50-56
H2	Hardened bearing steel	HRC 54-62
H3	Hardened tool steel	HRC 60-65
H4	Hardened martensitic stainless steel	HRC 50-56
H5	Hardened white cast iron	HRC 48-55

List of work materials

Gr.	Materials	Features	Trade Mark	AISI-ASTM	W.-Nr	DIN	BS			
P1	free cutting steel and structural steel	$R_m \leq 500 \text{ N/mm}^2$	AVP	1213	1.0715	9 SMn 28	230 M 07			
				12 L 13	1.0718	9 SMnPb 28				
				1108	1.0721	10 S 20	210 M 15			
				11 L 08	1.0722	10 SPb 20				
					1.0723	15 S 20	210 A 15			
				1140	1.0726	35 S 20	212 M 36			
				1146	1.0727	46 S 20	212 M 44			
			AVZ	1215	1.0736	9 SMn 36	240 M 07			
				12 L 14	1.0737	9 SMnPb 36				
					1.0037	St 37-2				
			PR80	A29	1.0765	36 SMnPb 14				
				A 573 Gr. 58	1.0116	St 37-3	4360-40 C			
				A 573 Gr. 70	1.0144	St 44-3 N	4360-43 C			
				1010	1.0301	C 10	045 M 10			
				1015	1.0401	C 15	080 M 15			
				1023	1.0402	C 22	050 A 20			
			P2	carbon steel and low alloy steel	$R_m 500-700 \text{ N/mm}^2$			1.0570	St 52-3	4360-50 C
							1015	1.1141	Ck 15	080 M 15
	1025	1.1158				Ck 25	060 A 25			
		1.2162				21 MnCr 5				
	A 204 Gr. A	1.5415				15 Mo 3	1501-240			
	4520	1.5423				16 Mo 5	1503-245-420			
	3310, 9314	1.5752				14 NiCr 14	655 M 13			
	4320	1.5919				15 CrNi 6	S 107			
		1.6587				18 CrNiMo 7 6	820 A 16			
	5115	1.7131				16 MnCr 5	527 M 17			
		1.7139				16 MnCrS 5				
	5120	1.7147				20 MnCr 5				
	5120 H	1.7149				20 MnCrS 5				
	A 182-F11, F12	1.7335				13 CrMo 4 4	1501-620 Gr. 27			
	A 387 Gr. 12 Cl. 2	1.7337				16 CrMo 4 4	1501-620 Gr. 27			
	A 182-F22	1.7380				10 CrMo 9 10	1501-622 Gr. 31			
	1035	1.0501				C 35	060 A 35			
	1045	1.0503				C 45	80 M 46			
	1040	1.0511				C 40	080 M 40			
	1055	1.0535				St 70-2				
	1060	1.0601				C 60	080 A 62			
	1039	1.1157	40 Mn 4	150 M 36						
	1330	1.1165	30 Mn 5	120 M 36						
	1335	1.1167	36 Mn 5	150 M 36						
	1035	1.1181	Ck 35	080 M 36						
	1045	1.1191	Ck 45	080 M 46						
	1064	1.1221	Ck 60	080 A 62						
	1060	1.1740	C 60 W							
P3	medium alloy steel and heat treated steel	$R_m 600-800 \text{ N/mm}^2 (\leq a 23 \text{ HRC})$		9255	1.0904	55 Si 7	250 A 53			
				4142, 4140	1.1201	42 CrMo 4	708 M 40			
				4142, 4140	1.7225	42 CrMo 4	708 M 40			
				4135	1.2330	35 CrMo 4	708 A 37			
				S1	1.2542	45 WCrV 7	BS 1			
				L6	1.2714	56 NiCrMoV 7	BH 224-5			
				5045	1.5121	46 MnSi 4				
				3135	1.5710	36 NiCr 6	640 A 35			
				3435	1.5736	36 NiCr 10				
				9840	1.6511	36 CrNiMo 4	816 M 40			
				4340	1.6582	34 CrNiMo 6	817 M 40			
				5132	1.7033	34 Cr 4	530 A 32			
				5140	1.7035	41 Cr 4	530 M 40			
				4130	1.7218	25 CrMo 4	708 M 25			
					1.7361	32 CrMo 12	722 M 24			
				6150	1.8159	50 CrV 4	735 A 50			
				A 355 Cl. A	1.8509	41 CrAlMo 7	905 M 39			

SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
1912	S 250	11SMn28	SUM 22	CF 9 SMn 28	11 SMn30	G12130	
1914	S 250 Pb	11SMnPb28	SUM 22 L	CF 9 SMnPb 28	11 SMnPb30	G12134	
	10 F 1			CF 10 S 20	10 S 20		
	10 PbF 2	10 SPb 20		CF 10 SPb 20			
1922		F.210.F	SUM 32		15 SMn13		
1957	35 MF 4	F.210.G			35 S20	G11400	40
1973	45 MF 4				46 S20	G11460	
	S 300	12 SMn 35		CF 9 SMn 36	11 SMn37	G12150	
1926	S 300 Pb	F.2114-12		CF 9 SMnPb 36	11 SMnPb 37	G12144	
1311	E 24-2		STKM 12 C	Fe 360 B	S235JR		16D
			Cf 35 SMnPb 10	36SMnPb14			
1312, 1313	E 24-3, E 24-4			Fe 360 D FF	S235JRG2		18kp
1412, 1414	E 28-3, E 28-4		SM 41 C	Fe 430 D FF	S275J2G3		St14kP
	AF 34 C 10, XC 10	F.110	S 10 C	C 10	C 10	G10100	10
1350	AF3 7 C 12, XC 18	F.111		C 15, C 16		G10170	15
1450	C 20	F.112		C 20, C 21	C22+N	G10200	20
2172, 2132	E 36-3, E 36-4		SM 50 YA	Fe 510 B	S355JR		17G1S
1370	XC 15, XC 18	F.1511	S 15 C, S 15 CK	C 15, C 16	C 15R	G10170	15
	XC 25	F.1120	S 25 C	C 25		G10250	25
	20 NC 5		SCR 420 H				
2912	15 D 3	16 Mo3		16 Mo 3	16 Mo 3		
			SB 450 M	16 Mo 5		G45200	
	12 NC 15		SNC 815 (H)		14 NiCr 14	G33106	20X2H4A
	16 NC 6			16 CrNi 4			
	18 NCD 6			18 NiCrMo 7	18 NiCrMo 7 6		
2511	16 MC 5	F.1516	SCR 415	16 MnCr 5	16 MnCr 5	G51170	12KHN2
					16 MnCrS 5		18HG
	20 MC 5		SMnC 420 (H)	20 MnCr 5	20 MnCr 5	G51200	20KH
	20 MnCrS 5		SMnC 21 H		20 MnCrS 5		20KH
2216	15 CD 3.5			14 CrMo 4 5	13 CrMo 4 5		12KHM
2216	15 CD 4.5			14 CrMo 4 5			
2218	10 CD 9.10			12 CrMo 9 10	10 CrMo 9 10	J21890	12KH8
1550	AF 55 C 35	F.113		C 35	C35+N	G10350	35
1650	AF 65 C 45	F.114	S 45 C	C 45	E 335	G10430	45
	AF 60 C 40	F.114.A	S 40 C	C 40	C40+N		40
1655	A 70-2			Fe 690	E 360		55
	CC 55			C 60	C60+N	G10600	60
	35 M 5					G10390	40G
			SMn 1 H, SCMn 2		G 28 Mn6	G13300	30G2
2120	40 M 5	F.411	SMn 438 (H), SCMn 3		G 28 Mn6+QT	G13350	35G2
1572	XC 38 H1	F.1130	S 35 C	C 35	C 35E	G10340	35
1672	XC 42	F.1140	S 45 C	C 45	C 45E	G10420	45
1665, 1678	XC 60	F.1150	S 58 C	C 60	C 60E	G10640	60
	Y3 55		SK 7				60
2085, 2090	55 S 7			55 Si 8	55 SiCr7		55S2
2244	42 CD 4		SCM 440 (H)	42 CrMo 4	42 CrMo 4	G41400	38HM
2244	42 CD 4	F.1252	SCM 440 (H)	42 CrMo 4	42 CrMo 4	G41400	38HM
2234	34 CD 4	F.1250		35 CrMo 4		T51620	35KHM
2710				45 WCrV 8 KU		T41901	5KHV2S
			SKT 4	56 NiCrMoV7-KU		T61206	5KHNV
	35 NC 6		SNC 236				
	35 NC 11		SNC 631 (H)	35 NiCr 9			
	40 NCD 3			38 NiCrMo 4 (KB)	36CrNiMo4+TA	G98400	
2541	35 NCD 6	F.1280	SNM 447	35 NiCrMo 6 (KW)	34 CrNiMo 6		38H2N2MA
	32 C 4	35Cr4	SCR 430 (H)	34 Cr 4 (KB)	34 Cr 4	G51320	35KH
	42 C 4	42 Cr 4	SCR 440 (H)	41 Cr 4	41 Cr 4	G51400	40H
2225	25 CD 4 S	F.1251/55Cr3	SCM 425	25 CrMo 4 (KB)	25 CrMo 4	G41300	20KHM
2240	30 CD 12	F.124.A		32 CrMo 12			
2230	50 CV 4	F.143	SUP 10	51 CrV 4	50 CrV 4	H61500	50KHFA
2940	40 CAD 6.12	F.1740	SACM 645	41 CrAlMo 7	41 CrAlMo 7 10	K24065	

Gr.	Materials	Features	Trade Mark	AISI-ASTM	W.-Nr	DIN	BS
P4	high alloy steel	Rm 800-1000 N/mm ² (23-32 HRC)		1070	1.1231	Ck 67	060 A 67
				1095	1.1274	Ck 101	060 A 96
				W1	1.1545	C 105 W1	
					1.1645	C 105 W2	
				W1	1.1663	C 125 W	
				L2	1.2210	115 CrV 3	
				O1	1.2510	100 MnCrV 4	BO 1
			K720	O2	1.2842	90 MnCrV 8	BO 2
			HARDOX HiTuf				
	52100	1.3505	100 Cr 6	534 A 99			
	TOOLUX 33						
P5	tool steel	Rm 900-1200 N/mm ² (28-38 HRC)	K100	D3	1.2080	X 210 Cr 12	BD 3
			M310		1.2083	X 42 Cr 13	
			M201		1.2311	40 CrMnMo 7	
			M200-HOLDAX		1.2312	40 CrMnMoS 86	
					1.2316	X 36 CrMo 17	
			W300	H11	1.2343	X 38 CrMoV 5 1	BH 11
			W302	H13	1.2344	X 40 CrMoV 5 1	BH 13
				A2	1.2363	X 100 CrMoV 5 1	BA 2
			W320	H10	1.2365	X 32 CrMoV 3 3	BH 10
			K110		1.2379	X 155 CrVmo 12 1	
					1.2436	X 210 CrW 12	
					1.2601	X 165 CrMoV 12	
				L6	1.2713	55 NiCrMoV 6	
			W500		1.2714	56 NiCrMoV 7	
			M238		1.2738	40 CrMnNiMo8 6 4	
				M35	1.3243	S 6-5-2-5	
				M42	1.3247	S 2-10-1-8	BM 42
				T4	1.3255	S 18-1-2-5	BT 4
			S600	M2	1.3343	S 6-5-2	BM 2
				M7	1.3348	S 2-9-2	
	TOOLUX 40						
	T1	1.3355	S 18-0-1	BT 1			
	VANADIS 4						
	VANADIS 10						
P6	high tensile strength steel	Rm 1200-1600 N/mm ² (38-48 HRC)	TOOLUX 44				
			HARDOX 400				
			HARDOX 450				
			HARDOX 500				
			WELDOX 1100				
			CREUSABRO DUAL				
			CREUSABRO 8000				
			W720		1.6358	X 2 NiCrMo 18 9 5	
			MARAGING		1.2706	X 3 NiCrMo 18 8 5	

Gr.	Materials	Features	Trade Mark	AISI-ASTM	W-Nr	DIN	BS	
M1	ferritic stainless steel	Rm 400-700 N/mm ² (Magnetic)		405	1.4002	X 6 CrAl 13	405 S 17	
				430	1.4016	X 6 Cr 17	430 S 15	
				430 F	1.4104	X 12 CrMoS 17		
				434	1.4113	X 6 CrMo 17	434 S 17	
				CA-6NM	1.4313	X 5 CrNi 13 4	425 C 11	
				430 Ti	1.4510	X 6 CrTi 17		
				409	1.4512	X 5 CrTi 12	409 S 17	
M2	austenitic stainless steel	Rm 500-750 N/mm ² (Non-magnetic)		446	1.4749	X 18 CrN 28		
				303	1.4305	X 10 CrNiS 18 9	303 S 31	
				302	1.4300	X 12 CrNi 18 8	302 S 25	
				304, 304 H	1.4301	X 6 CrNi 18 10	304 S 31	
				305	1.4303	X5 CrNi 18 12	305 S 19	
				304 L	1.4306	X 2 CrNi 19 11	304 S 12	
				301	1.4310	X 12 CrNi 17 7	301 S 21	
				304	1.4350	X5 CrNi 18 9	304 S 31	
M3	austenitic stainless steel	Rm 550-850 N/mm ² (Non-magnetic)		347	1.4550	X 6 CrNiNb 18 10	347 S 31	
				304 LN	1.4311	X 2 CrNiN 19 11	304 S 62	
				310 S	1.4335	X 12 CrNi 25 21	310 S 24	
				316	1.4401	X 5 CrNiMo 17 12 2	316 S 31	
				316 LN	1.4429	X 2 CrNiMoN 17 13 3	316 S 62	
				316 L	1.4435	X 2 CrNiMo 18 14 3	316 S 12	
				317 L	1.4438	X2 CrNiMo 18 16	317 S 12	
				329	1.4460	X 4 CrNiMo 27 5 2		
				DUPLEX	F 51-329 A	1.4462	X 2 CrNiMoN 22 5	332 S 15
				317	1.4466	X 5 CrNi 18 15	317 S 16	
				321	1.4541	X10 CrNiTi 18 9	321 S 12	
				347	1.4550	X10 CrNiNb 18 9	347 S 17	
				316 Ti	1.4571	X10 CrNiMoTi 18 10	320 S 17	
				309	1.4828	X15 CrNiSi 20 12	309 S 24	
				330	1.4864	X12 NiCrSi 36 16		
M4	martensitic stainless steel	Rm 650-950 N/mm ² (Magnetic)		253 MA	1.4893	X 9 CrNiSiN 21 11 2	310 S 31	
				3RE60	1.4417	X 2 CrNiMoSi 19 5		
				403	1.4000	X 6 Cr 13	403 S 17	
				416	1.4005	X 12 CrS 13	416 S 21	
				410, CA-15	1.4006	X 10 Cr 13	410 S 21	
				420	1.4021	X 20 Cr 13	420 S 37	
				420F	1.4028	X 30 Cr 13	420 S 45	
				420	1.4031	X 40 Cr 13	420 S 45	
				431	1.4057	X 20 CrNi 17 2		
				440 A	1.4109	X 65 CrMo 14		
				440 B	1.4112	X 90 CrMoV 18	409 S 19	
				440 C	1.4125	X 105 CrMo 17		
				SUPER DUPLEX	F 53-329 S1	1.4410	X 2 CrNiMoN 25 7 4	
				SUPER DUPLEX	F 55-329 S	1.4501	X 2 CrNiMoCuWN 15 7 4	
				904L	1.4539	X 2 NiCrMoCu 25 20 5	904 S 13	
				329 A				
				254 SMO		1.4529	X 1 CrNiMoN 20 18 7	
				PH13-8Mo	XM-13	1.4534	X 3 CrNiMoAl 13 8 2	
	654 SMO		1.4652	X 2 CrNiMoN 25 22 7				
	Alloy 800		1.4876	X 10 NiCrAlTi 32 20				
M5	PH stainless steel	Rm 800-1250 N/mm ² (Non-magnetic)		15-5-PH	XM-12	1.4540	X 4 CrNiCuNb 16 4	
				17-4-PH	630	1.4542	X 5 CrNiNb 16 4	
				17-7-PH	631	1.4568	X 7 CrNiAl 17 7	301 S 81
				A286	660	1.4943	X 4 NiCrTi 25 15	HR 51

SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
	Z 8 CA 12	F.3111	SUS 405	X 6 CrAl 13			
2320	Z 8 C 17	F.3113	SUS 430	X 8 Cr 17	X 6 Cr 17	S43000	12KH17
2383	Z 10 CF 17	F.3117	SUS 430 F	X 10 CrS 17			
2325	Z 8 CD 17.01		SUS 434	X 8 CrMo 17			
2385	Z 5 CN 13.4		SCS 5	X 6 CrNi 13 04	X 3 CrNiMo 13 3	J91540	
	Z 4 CT 17		SUS 430 LX	X 6 CrTi 17			
	Z 6 CT 12		SUH 409	X 5 CrTi 12			
2322	Z 18 C 25				X 18 CrN 28	S44600	15KH28
2346	Z 10 CNF 18.09	F.3508	SUS 303	X 10 CrNi 18 09	X 10 CrNiS 18 9	S30300	12KH19N9
2331	Z 12 CN 18		SUS 302		X 12 CrNi 18 8	S30200	12KH18N9
2333	Z 6 CN 18.09	F.3551	SUS 304	X 5 CrNi 18 11	X 5 CrNi 18 9	S30400	08KH18N10
	Z 8 CN 18.12		SUS 305	X 8 CrNi 19 10			
2352	Z 2 CN 18.10	F.3503	SUS 304 L	X 3 Cr Ni 18 11	X 2 CrNi 19 11	S30403	03KH18N11
(2331)	Z 12 CN 17.07	F.3517	SUS 301	X 12 CrNi 17 07	X 9 CrNi 18 8	S30100	07KH16N6
2333	Z 6 CN 18.09	F.3551	SUS 304	X 5 CrNi 18 10			
2338	Z 6 CNNb 18.10		SUS 347	X 6 CrNiNb 18 11	X 6 CrNiNb 18 10	S34700	08KH18N12B
2371	Z 2 CN 18.10 Az		SUS 304 LN	X 2 CrNiN 18 11	X 2 CrNiN 18 10	S30453	03KH18N11
2361	Z 12 CN 25.20		SUH 310, SUS 310 S	X 6 CrNi 26 20	X 12 CrNi 25 21	S31008	12KH25N20
2347	Z 3 CND 17.11.1	F.3543	SUS 316	X 5 CrNiMo 17 12	X 5 CrNiMo 17 12 2	S31600	08KH17H13M2T
2375	Z 2 CND 17.13 Az		SUS 316 LN	X 2 CrNiMoN 17 13 3	X 2 CrNiMoN 17 13 3	S31653	03KH16N15M3
2353	Z 2 CND 17.13		SCS 16, SUS 316 L	X 2 CrNiMo 17 13 2	X 2 CrNiMo 18 14 3	S31603	03KH17N14M3
2367	Z 2 CND 19.15		SUS 317 L	X2CrNiMo18 16			
2324	Z 3 CND 25.7 Az	F.3309	SUS 329 J 1	X 3 CrNiMo 27 5 2	X 3 CrNiMo 27 5 2	S32900	
2377	Z 2 CND 22.05 Az			X 2 CrNiMoN 22 5	X 2 CrNiMoN 22 5 3	S31803	
2366			SUS 317	X 5 CrNi 18 15	X 3 CrNiMo 18 12 3	S31700	08KH17H15M3T
2337	Z 6 CND 18.10	F.3553	SUS 321	X6CrNiTi18 11			
2338	Z 6 CNNb 18.10	F.3552	SUS 347	X6CrNiNb18 11			
2350	Z 6 CNDT 17.12	F.3535	—	X6CrNiMoTi 17 12			
	Z 15 CN 24.13		SUS 309	X16 CrNi 24 14			
	Z 12 NCS 35.16		SUH 330				
2368					X 9 CrNiSiNcCe 21 11 2	S30815	
2376	Z 2 CND 18.05.03				X 2 CrNiMoSi 19 5	S31500	
2301	Z 6 C 12	F.3110	SUS 403	X 6 Cr 13	X 6 Cr 13	S41008	08KH13
	Z 11 CF 13	F.3411	SUS 416	X 12 CrS 13			
2302	Z 10 C 13	F.3401	SUS 410	X 12 Cr 13	X 12 Cr 13	S41000	12KH13, 08KH13
2303	Z 20 C 13	F.3402	SUS 420 J1	X 20 Cr 13	X 20 Cr 13	S42000	20KH13
2304	Z 30 C 13	F.3403	SUS 420 J2	X 30 Cr 13			
2304	Z 40 C 14	F.3404	SUS 420	X 40 Cr 14	X 39 Cr 13	S40280	40KH13
2321	Z 15 CNI 16.02	F.3427	SUS 431	X 16 CrNi 16			
	Z 70 D 14		SUS 440 A		X 70 CrMo 15	S44002	
2327	Z 2 CND 18 05		SUS 440 B	X CrTi 12	X 90 CrMoV 18	S44003	95KH18
	Z 100 CD 17		SUS 440 C	X 105 CrMo 17	X 105 CrMo 17	S44004	95KH18
2328	Z 3 CND 25.07 Az			X 2 CrNiMoN 25 7 4	X 2 CrNiMoN 25 7 4	S32750	
				X 2 CrNiMoCuWN 15 7 4		S32760	
2562	Z 2 NCDU 25 20				X 2 NiCrMoCu 25 20 5	N08904	
2778	Z 1 CNDU 20.18.05 Az			X 1 CrNiMoN 20 18 7	X 1 CrNiMoN 20 18 7	S31254	
					X 6 NiCrTiMoV 25 15	S13800	
					X 1 CrNiMoN 25 22 8	S32654	
	Z 10 NC 32.21		NCF 800		X 10 NiCrAlTi 32 20	N08800	
	Z 4 CNUNb 16.4 M					S15500	
			SUS 630				
2388	Z 9 CAN 17.7		SUS 631	X 7 CrNiAl 17 7	X 3 CrNiMoAl 13 8 2	S17700	09KH17N7YU1
2570	Z 6 NCTDV 25.15		SUH 660		X 5 CrNiCuNb 16 4	S66286	

Gr.	Materials	Structure	Trade Mark	AISI-ASTM	W.-Nr	DIN	BS
K1	grey cast iron (HB 150-250)	Grey cast iron (GCI)		A48-20B	0.6010	GG-10	Grade 100
		Grey cast iron (GCI)		A48 25 B	0.6015	GG-15	Grade 150
		Grey cast iron (GCI)		A48 30 B	0.6020	GG-20	Grade 220
		Grey cast iron (GCI)		G 3500		GG-220 HB	
		Grey cast iron (GCI)		A48 35 B	0.6025	GG-25	Grade 260
		Grey cast iron (GCI)		A48 45 B	0.6030	GG-30	Grade 300
		Grey cast iron (GCI)		A48 50 B	0.6035	GG-35	Grade 350
		Grey cast iron (GCI)		A48-60B	0.6040	GG-40	Grade 400
K2	nodular cast iron (HB 150-350)	Compacted graphite irons (CGI)		Grade 350		GJV-300	
		Compacted graphite irons (CGI)		Grade 400		GJV-350	
		Compacted graphite irons (CGI)		Grade 400-15		GJV-400	
		Compacted graphite irons (CGI)		Grade 450		GJV-450	
		Compacted graphite irons (CGI)		Grade 500		GJV-500	
		Nodular cast irons (SGI)			0.7033	GGG-35.3	Grade 350/22
		Nodular cast irons (SGI)		60-40-18	0.7040	GGG-40	Grade 420/12
		Nodular cast irons (SGI)		60-40-18	0.7043	GGG-40.3	Grade 370/17
		Nodular cast irons (SGI)		A536 80-55-6	0.7050	GGG-50	Grade 500/7
		Nodular cast irons (SGI)		A476 80-60-03	0.7060	GGG-60	Grade 600/3
Nodular cast irons (SGI)		A536 100-70-03	0.7070	GGG-70	Grade 700/2		
K3	austenitic cast iron (HB 120-260)	Malleable cast irons (MCI)	(Tempered)	A220 60004		GTS-55-04	P 540/5
		Austenitic lamellar cast irons	Ni-Resist 2	A436 Type 2	0.6660	GGL-NiCr 20 2	Grade F2
		Austenitic lamellar cast irons	Ni-Resist 3	A436 Type 3	0.6676	GGL-NiCr 30 3	Grade F3
		Austenitic lamellar cast irons	Ni-Resist 1	A436 Type 1	0.6655	GGL-NiCuCr 15 6 2	Grade F1
		Austenitic nodular cast irons	Ni-Resist D-5	A439 Type D-5	0.7683	GGG-Ni 35	
		Austenitic nodular cast irons	Ni-Resist D-2	A436 Type D-2	0.7660	GGG-NiCr 20 2	Grade S2
		Austenitic nodular cast irons	Ni-Resist D-3	A436 Type D-3	0.7676	GGG-NiCr 30 3	Grade S3
		Austenitic nodular cast irons	Nodumag	—	0.7652	GGG-NiMn 13 7	Grade S6
Austenitic nodular cast irons	Ni-Resist D-2M	A439 Type D-2M	0.7673	GGG-NiMn 23 4	Grade S2M		
K4	ADI cast iron (HB 250-500)	Austempered cast irons (ADI)	ADI 800	850/550/10		GJS-800-8	
		Austempered cast irons (ADI)	ADI 1000	1050/700/7		GJS-1000-5	
		Austempered cast irons (ADI)	ADI 1200	1200/850/4		GJS-1200-2	
		Austempered cast irons (ADI)	ADI 1400	1400/1100/1		GJS-1400-1	
		Austempered cast irons (ADI)	ADI 1600	1600/1300/-		GJS-1600-1	

SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
01 10-00			FC 100	G 10			Sc 10
01 15-00	Ft 15 D	FG 15	FC 150	G15	EN-GJL-150	F11601	Sc 15
01 20-00	Ft 20 D	FG 20	FC 200	G20	EN-GJL-200	F12101	Sc 20
02 19-00					EN-GJL-215		
01 25-00	Ft 25 D	FG 25	FC 250	G25	EN-GJL-250	F12401	Sc 25
01 30-00	Ft 30 D	FG 30	FC 300	G30	EN-GJL-300	F13101	Sc 30
01 35-00	Ft 35 D	FG 35	FC 350	G35	EN-GJL-350	F13502	Sc 35
0140-00	Ft 40 D		FC 40				
					EN-GJV-300		
					EN-GJV-350		
					EN-GJV-400		
					EN-GJV-450		
					EN-GJV-500		
07 17-15	FGS 370-17		FCD 350-22L		EN-GJS-350-22		
07 17-02	FGS 400-12	FGE 38-17	FCD 400-18L	GS 400-12	EN-GJS-400-15	F32800	Vc 42-12
07 17-12	FGS-370-17			GSO 42/17	EN-GJS-400-18	F32800	Vc 42-12
07 27-02	FGS 500-7	FGE 50-7	FCD 500-7	GS 500-7	EN-GJS-500-7	F33800	Vc 50-2
07 32-03	FGS 600-3	FGE 60-2	FCD 600-3	GS 600-3	EN-GJS-600-3	F34100	Vc 60-2
07 37-01	FGS 700-2	FGS 70-2	FCD 700-2	GS 700-2	EN-GJS-700-2	F34800	Vc 70-2
08 54-00	P 540/5		PCMP55-04	P 55-04	EN-GJMB-550-4	F24130	
05 23-00	FGL Ni20 Cr2				EN-GJLA-XNiCr 20-2	F41002	
	FGL Ni30 Cr3				EN-GJLA-XNiCr 30-3	F41004	
	FGL Ni15 Cu6 Cr2				EN-GJLA-XNiCuCr15-6-2	F41000	
	FGS Ni35				EN-GJSA-XNi35	F43006	
	FGS Ni20 Cr2				EN-GJSA-XNiCr20-2	F43000	
	FGS Ni30 Cr3				EN-GJSA-XNiCr30-3	F43003	
07 72-00	FGS Ni13 Mn7				EN-GJSA-XNiMn13-7	—	
	FGS Ni23 Mn4				EN-GJSA-XNiMn23-4	F43010	
					EN-GJS-800-8	ADI grade 1	
					EN-GJS-1000-5	ADI grade 2	
					EN-GJS-1200-2	ADI grade 3	
					EN-GJS-1400-1	ADI grade 4	
					EN-GJS-1600-1	ADI grade 5	

Gr.	Materials	Trade Mark	AISI-ASTM	W.-Nr	DIN	BS
N1	aluminium alloy < 12% Si		A1200	3.0205	Al 99	1C
			A1050/1050A	3.0255	Al 99.5	1B
			1070/1070A	3.0275	Al 99.7	
			1080/1080A	3.0285	Al 99.8	1A
				3.0515	AlMn1	N3
		Aluman 100		3.0517	AlMn1Cu	
			3105	3.0505	AlMn0.5Mg0.5	N31
			3005	3.0525	AlMn1Mg0.5	
			3004	3.0526	AlMn1Mg1	
			6012	3.0615	AlMgSiPb	
		Avional 660	2014/2014A	3.1255	AlCuSiMn	H15
		Avional 050	2117	3.1305	AlCuMg0.5	L86
		Avional 100	2017/2017A	3.1325	AlCuMg 1	(H14)
		Avional 150	2024	3.1355	AlCuMg 2	DTD5090
		—	2030	3.1645	AlCuMgPb	—
		Recidal 11	2011	3.1655	AlCuBiPb	FC1
			A380	3.2161	G-AlSi8Cu3	
			B26	3.2341	G-AlSi5Mg	LM25
		Anticorodal 063		3.3206	AlMgSi0.5	(H9)
				3.3210	AlMgSi0.7	(H10)
		Anticorodal 061	6061	3.3211	AlMg1SiCu	H20
		Peraluman 080		3.3315	AlMg1	N41
		Peraluman 150	5050	3.3316	AlMg1.5	
		Peraluman 250	5052	3.3523	AlMg2.5	
			5251	3.3525	AlMg2Mn0.3	N4
		Peraluman 350	5154	3.3535	AlMg3	N5/N56
			5454	3.3537	AlMg2.7Mn	N51
		Peraluman 440	5083	3.3547	AlMg4.5Mn	N8
		Peraluman 500	5056	3.3555	AlMg5	N6
		Anticorodal 061	6061	3.3211	AlMg1SiCu	H20
		Anticorodal 100	6082	3.2315	AlMgSi 1	H30
		Aldrey 051	6101		EAlMgSi0.5	E91E
			6106		AlMgSiMn	
	6463					
	6262					
	7010		AlZn6MgCu	DTD5130		
	7020	3.4335	AlZn4.5Mg1	H17		
Ergal 55	7075	3.4365	AlZnMgCu1.5	2L95		

SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
4010	A4	L-3001	A1×3	9001/1			
4007	A5		A1×1	9001/2	AW-1050A	AA1050A	
	A7						
	A8						
4054		L-3811			AW-3103	AA3103	
	A-M1/3003		A3003		AW-3003	AA3003	
	AMG0.5			9003/4			
	AM1G	L-3820		9003/2			
	ASGPB						
4338	A-U4SG/2014	L-3130		9002/3	AW-2014	AA2014	
	AU2G			9002/1			
	AU4G	L-3120	A3×2	9002/2			
	AU4G1	L-3140	A3×4	9002/4			
4335	AU4Pb	L-3121	—	9002/8			
4355	A-U5PbBi/2011	L-3192	A2011	9002/5	AW-2011	AA2011	
4251					AC-46200	A13800	
4244	A-S7G		AC 4C	3599	AC-42000		
4103	A-GS/6060	L-3441		9006/1	AW-6060	AA6060	
4104,4107	A-GSUC/6061	L-3454	(A6063)		AW-6063	AA6005	
	AGSUC	L-3420	A2×4	9006/2			
4106	A-G0.6	L-3350		9005/1	AW-5005	AA5005	
				9005/7			
4120	AG2.5C	L-3360	A2×1	9005/2			
	AG2M	L-3361					
	AG3			9005/8			
	AG2.5MC	L-3391	A2×9	9005/3			
4140	AG4.5MC	L-3321	A2×7	9005/5			
	A-G5						
	AGSUC		A2×4	9006/2			
4212	ASGM 0.7	L-3451	—	9006/4			
	AGS/L						
				9007/4			
4425	AZ5G	L-3741	—	9007/1	AW-7020	AA7020	
	AZ5GU	L-3710	A34×6	9007/2	AW-7075	AA7075	

Gr.	Materials	Trade Mark	AISI-ASTM	W.-Nr	DIN	BS
N2	aluminium alloy > 12% Si		AMS 4442	3.5103	G-MgSe3Zn2Zr1	MAG6-TE
					G-AlSi2	
					G-AlSi4.5	DTD716A
			355.1		G-AlSi5	LM16
			A356	3.2371	G-AlSi7Mg	LM25
			A380		G-AlSi8Cu3	LM24
				3.2373	G-AlSi9Mg	
			A360	3.2381	G-AlSi10Mg	LM9
				3.2383	G-AlSi10Mg (Cu)	(LM9)
			A413.0	3.2582	GD-AlSi12	
			A413.1	3.2583	G-AlSi12(Cu)	LM20
			A413.2	3.2581	G-AlSi12	LM6
				3.3561	G-ALMg5	LM5
			319		G-AlSi6Cu4	LM21
			319.2		G-AlSi6Cu4	LM4
					—	LM2
			319.2		G-AlSi6Cu4	LM22
			204			AEA 24860
						LM28
			336.0			LM13
				3.5812	G-MgAl8Zn1	MAG1
				3.5312	G-MgAl3Zn	—
				3.5912	G-MgAl9Zn1	MAG7
				3.5101	G-MgZn4SE1Zr1	MAG5
				3.5102	G-MgZn5Th2Zr1	
				3.5106	G-MgAg3SE2Zr1	MAG 12
			AZ61A	3.5612	G-MgAl6Zn	MAG-E-121
			AZ80A	3.5812	G-MgAl8Zn	
				3.2315	ALMgSi1	H30
	B85	3.2381	G-AlSi10Mg	LM9		
	A413.2	3.2382	GD-AlSi12			
	B390.0					

SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
	ZRE1				MN65120	M12330	
					41000	—	
	AS4G					ALSi5Mg	
	AS4GU				45300	ALSi5Cu 1	
4244	A-S7G		AC4C		42000	ALSi7Mg	
4250	A-S9U3		AC4B		46500	Al Si9 Cu3 (Fe) (Zn)	
4253	A-S10G				43100	Al Si 10 Mg	
					43200		
4247							
4260	A-S12				47000	Al Si 12 (Cu)	
4261	A-S12U		AC3A		44100	Al Si 12	
4252	A-SU12		AC4A		51300	ALMg 6	
	A-S5UZ		AC2A		45000	Al Si 6 Cu 4	
	A-S5U3		AC2A		45200	Al Si 5 Cu 3 Mn	
			ADC12				
	A-S5U		AC2A		45400	Al Si 5 Cu 3	
	A-U5GT		AC1B		2100	Al Cu 4 Mg Ti	
						AlSi18Cu1Mg1Ni1	
	A-S12UN		AC8A			AlSi12Cu1Mg1Ni1	
	G-A9						
	G-A9Z1						
	G-Z4TR						
	G-Ag22.5						
	G-A6-Z1				MG-P-63	M11600	
	(G-A7-Z1)				MG-P-61		
4212	A-SGM0.7/6082				AW-6082	AA6082	
4253	A-S10G				AC-43400	A13600	
					AC-44200		
			ADC14				

Gr.	Materials	Trade Mark	AISI-ASTM	W.-Nr	DIN	BS		
N3	copper alloy			2.0060	E-Cu57	C101		
				2.0065	E-Cu58	—		
				2.0070	SE Cu	—		
							—	C102
							—	—
					2.0090	SF Cu	C106	
							—	C104
							—	C110
							—	C105
					2.0040	OF Cu	C103	
				CA952	2.0940-01	CuAl10Fe	AB1	
				CA955	2.0975-01	CuAl10Ni	AB2	
					2.0872	CuNi10Fe1Mn	CN102	
						CuNi10Zn45		
					2.0790	CuNi18Zn19Pb		
				CA937	2.1176	CuPb10Sn	LB2	
					2.1050-01	CuSn10	CT1	
					2.1087	CuSn10Zn		
					2.0240	CuZn15	CZ102	
					2.0321	CuZn37	CZ108	
					2.0530	CuZn38Sn1		
					2.0401	CuZn39Pb3	CZ121	
					2.0402	CuZn40Pb2	CZ120	
					2.1202	SB Cu	C107	
					2.1356	Cu Mn 3	—	
					2.1522	Cu Si2 Mn	—	
						—	C108	
						—	CC101	
						—	CC102	
						—	CC102	
					2.0857	—	—	
						—	CB101	
				—	C112			
				—	—			
				—	—			
				—	CS101			
				—	C109			
				—	C111			

SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
—	Cu/a1		C1100	E-Cu57	CW004A	C11000	
—	—		—	—	—	—	
—	—		—	—	CW021A	C10300	
—	—		—	—	CW005A	C11020	
—	—		—	—	CW023A	C12000	
—	Cu/b		C1220	—	CW024A	C12200	
—	—		—	—	CW006A	C12500	
—	—		—	—	CW009A	C10100	
—	—		—	—	—	—	
—	Cu/c1		C1020	—	CW008A	C10200	
5710	CuAl10Fe				CC331G	C95200	BrA9ZH3L
5716	CuAl10Ni5Fe5				CC333G	C95500	BrA10ZH4N4L
5667	CuNi10Fe1Mn					C70600	
	CuNi18Zn19Pb1					C76300	
5640	CuSn10Pb10				CW352H	C93700	
5443	CuSn10				CC480K	C90700	
5458						C90500	
5112	CuZn15		C2300		CW502L	C23000	L90
5150	CuZn37				CW508L	C27200	
					CW717R	C46400	LO60-1
5170	CuZn39Pb3				CW614N	C38500	
5168	CuZn39Pb2				CW612N	C37800	
—	—		—	—	—	C14200	
—	—		—	—	—	—	
—	—		—	—	—	—	
—	—		—	—	—	C16200	
—	—		—	—	CW105C	C18200	
—	—		—	—	CW106C	—	
—	—		—	—	CW111C	C70250	
—	—		—	—	CW112C	C70320	
—	—		—	—	CW101C	C17200	
—	—		—	—	CW104C	C17500	
—	—		—	—	CW120C	C15000	
—	—		—	—	CW115C	C65100	
—	—		—	—	CW116C	C65500	
—	—		—	—	CW118C	C14500	
—	—		—	—	CW114C	C14700	

Gr.	Materials	Trade Mark	AISI-ASTM	W.-Nr	DIN	BS	
N4	brass alloy and bronze alloy		C50700	2.1010	CuSn2	—	
			C51100	2.1016	CuSn4	PB101	
			C51000	—	CUSn5	PB102	
			C51900	2.1020	CuSn6	PB103	
			C52100	2.1030	CUSn8	PB104	
			C54400				
						CuSn10	
						CuSn12	
					2.1020	CuSn6	PB103
			AMPCO 18				
			AMPCO 21				
			AMPCO 22				
					2.0220	CuZn5	CZ125
					2.0230	CuZn10	Cz101
					2.0240	CuZn15	CZ102
					2.0250	CuZn20	CZ103
					2.0261	CuZn28	
					2.0265	CuZn30	CZ106
					2.0280	CuZn33	
					2.0335	CuZn36	CZ107
					2.0321	CuZn37	CZ108
					2.0360	CuZn40	CZ109
					2.0331	CuZn36Pb1.5	CZ119
					2.0331	CuZn36Pb1.5	CZ119
					2.0375	CuZn36Pb3	CZ124
					2.0371	CuZn38Pb1.5	CZ128
					2.0372	CuZn39Pb0.5	CZ123
						CuZn38Pb2	
					2.0380	CuZn39Pb2	CZ131 / (CZ128)
					2.0401	CuZn39Pb3	CZ121
					2.0402	CuZn40Pb2	CZ122
					2.0410	CuZn44Pb2	CZ130
					2.0470	CuZn28Sn1	CZ111
					2.0530	CuZn38Sn1	
					—	CuZn19Sn	
					2.0460	CuZn20Al2	CZ110
					2.0561	CuZn40Al1	
					2.0550	CuZn40Al2	
					—	CuZn20Al2As	
					2.0572	CuZn40Mn2	CZ136
					2.0932	CuAl8Fe3	
			2.0966	CuAl10Ni5Fe4	CA104		
N5	plastic	Polycarbonate (PC)					
N6	carbon fiber	T300					
		T700					
		T800					
		HTA					
	fiber-glass	Epoxy					
		PPS					
		PEEK					
		HX					
aramid fiber	E-glass						
	Kevlar						

SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
			—				
			C5111				
			C5102				
			C5191				
			C5212				
			C5441				
5428	CuSn6		C5191		CW452K	C51900	BrOF6.5-0.15
			C2100		CW500L	C21000	
			C2200		CW501L	C22000	
			C2300		CW502L	C23000	
			C2400		CW503L	C24000	
					CW504L		
			C2600		CW505L	C26000	
			C2680		CW506L	C26800	
			C2700		CW507L	C27000	
			C2700		CW508L	C27200	
			C2800		CW509L	C28000	
					CW601N	C34500	
			C3501		CW600N	C34000	
			C3601		CW603N	C36000	
						C35300	
					CW610N	C36500	
			C3771		CW612N	C37700	
			C3603		CW614N	C38500	
					CW617N	C38000	
						C44300	
						C68700	
					CW723R		
					CW303G	C61400	
					CW307G	C63000	

Gr.	Materials	Trade Mark	Structure	Machinability Index	AISI-ASTM	W.-Nr	DIN
S1	heat resistant super alloy (HRSA) good machinability (< 25 HRC)	Nickel 201	Nickel based superalloys	4.3			
		17-4 PH (solubilized)	Iron based superalloys	2.1			
		AM 350	Iron based superalloys	1.8			
		Lapelloy	Iron based superalloys	1.8			
		17-7 (precipitation)	Iron based superalloys	1.8			
		Hastelloy C (plate)	Nickel based superalloys	1.8	N10002		NiCr17Mo17FeW
		Hastelloy S	Nickel based superalloys	1.8			
		Inconel 625 (cast)	Nickel based superalloys	1.7	N06625	2.4856	NiCr22Mo9Nb
		A 286 (plate)	Iron based superalloys	1.4			
		IN 801	Iron based superalloys	1.4			
		M 308	Iron based superalloys	1.4			
		Hastelloy B-2	Nickel based superalloys	1.4		2.4617	
		Hastelloy C (cast)	Nickel based superalloys	1.4	N10002		NiCr17Mo17FeW
		Hastelloy C-22	Nickel based superalloys	1.4			
		Hastelloy N (forged)	Nickel based superalloys	1.4	N10003		
		Inconel 600	Nickel based superalloys	1.4	N06600	2.4816	
		Inconel 601	Nickel based superalloys	1.4	N06601	2.4851	NiCr23Fe
		Inconel 706	Nickel based superalloys	1.4			
		Inconel X750 (solubilized)	Nickel based superalloys	1.4	N07750	2.4669	NiCr 15 Fe 7 TiAl
S2	heat resistant super alloy (HRSA) medium machinability (25-35 HRC)	A 286 (Isolubilizzato)	Iron based superalloys	1.3			
		AM 350 (cast)	Iron based superalloys	1.3			
		Incoloy 800	Iron based superalloys	1.3	N08800	1.4876	X10NiCrAlTi32-21
		Incoloy 825	Iron based superalloys	1.3	N08825	2.4858	NiCr21Mo
		Hastelloy C-276	Nickel based superalloys	1.3			
		Hastelloy C-4	Nickel based superalloys	1.3			
		Hastelloy D	Nickel based superalloys	1.3			
		Hastelloy G	Nickel based superalloys	1.3			
		Hastelloy G-3	Nickel based superalloys	1.3			
		Hastelloy N (cast)	Nickel based superalloys	1.3	N10003		
		Hastelloy W	Nickel based superalloys	1.3			
		Hastelloy X	Nickel based superalloys	1.3	N06002	2.4665	NiCr22FeMo
		Inconel 625 (pipe)	Nickel based superalloys	1.3	N06625	2.4856	NiCr22Mo9Nb
		Inconel 708 (forged)	Nickel based superalloys	1.3			
		Nimonic 80	Nickel based superalloys	1.3	N06075	2.4630	NiCr20Ti
		Nimonic 105	Nickel based superalloys	1.3			
		A 286 (precipitation)	Iron based superalloys	1.1			
		AM 355	Iron based superalloys	1.1			
		IN 800	Iron based superalloys	1.1			
		N 155	Iron based superalloys	1.1			
		15-5 PH	Iron based superalloys	1.1			
		17-4 PH (Isolubilizzato)	Iron based superalloys	1.1			
		Incoloy 909	Iron based superalloys	1.1			
		Stellite 21	Cobalt based superalloys	1.1			
		Stellite 30	Cobalt based superalloys	1.1			
		Stellite 31	Cobalt based superalloys	1.1			
		Inconel 625 (forged)	Nickel based superalloys	1.1	N06625	2.4856	NiCr22Mo9Nb
		Inconel 713	Nickel based superalloys	1.1			
		Inconel 718 (cast)	Nickel based superalloys	1.1	N07718	2.4668	NiCr19Fe19NbMo
		Inconel 718 (pipe)	Nickel based superalloys	1.1	N07718	2.4668	NiCr19Fe19NbMo
Inconel 901	Nickel based superalloys	1.1					
Nimonic 81	Nickel based superalloys	1.1	N07080	2.4631	NiCr20TiAl		
Nimonic 263	Nickel based superalloys	1.1					
Waspalloy (cast)	Nickel based superalloys	1.1	N07001	2.4654	NiCr20Co14MoTi		

BS	SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
		NC17DWY						
		NC22DNb						
NiMo28		N10665						
		NC17DWY						
		NC15Fe						
HR505		NC19FeNb						
3075(NA15)								
		NC21FeDU						
HR6.204		NC22FeD						
		NC22DNb						
HR5.203-4		NC20T						
		NC22DNb						
Hr8		Nc19FeNb						
Hr8		Nc19FeNb						
HR401,601		NC20TA						
		NC20K14						

Gr.	Materials	Trade Mark	Structure	Machinability Index	AISI-ASTM	W.-Nr	DIN
S3	heat resistant super alloy (HRSA) low machinability (35-45 HRC)	Cobalt based superalloys	Haynes 188 (pipe)	1.0			
		Nickel based superalloys	Inconel X750 (precipitation)	1.0	N07750	2.4669	NiCr 15 Fe 7 TiAl
		Nickel based superalloys	Inconel 718 (forged)	1.0	N07718	2.4668	NiCr19Fe19NbMo
		Nickel based superalloys	Nimonic 115	1.0			
		Nickel based superalloys	Waspalloy (forged)	1.0	N07001	2.4654	NiCr20Co14MoTi
		Cobalt based superalloys	Haynes 25	0.9			
		Cobalt based superalloys	Haynes 188 (forged)	0.9			
		Nickel based superalloys	Udimet 500	0.9			NiCr18cCoMoAlTi
		Nickel based superalloys	Udimet 700	0.9			NiCo15Cr15MoAlTi
		Nickel based superalloys	Nimonic 90	0.7			
		Nickel based superalloys	Nimonic 91	0.7			
		Nickel based superalloys	Nimonic 101	0.7			
		Nickel based superalloys	Mar-M 247	0.7			NiCo10W10Cr9AlTi
		Nickel based superalloys	Mar-M 200	0.6			NIW13Co10Cr9AlTi
		Cobalt based superalloys	H 531	0.4			
		Nickel based superalloys	Rene 95	0.4			
Cobalt based superalloys	Air Resist	0.3					
S4	low and medium alloy Titanium good machinability		Grade 1		265-G1		TiAl2Sn4Zr2MoSi
			Grade 2		265-G2		TiAl2Sn4Zr6Mo
		13 HRC	Grade 3		265-G3	3.7055	Ti 99.6
		15 HRC	Grade 9			3.7195	Ti3Al2.5V
							TiAl7Mo4
						3.7115	TiAl5Sn2.5
						3.7124	TiCu2.5
						3.7155	TiAl6Zr5Mo0.5
						3.7164	TiAl6V4
						3.7165	TiAl6V4 ELI
						—	TiAl5Mo4Sn4Si0.5
						3.7175	TiAl6V6Sn2
						3.7185	TiAl4Mo4Sn2
						3.7025	Ti 99.8
				3.7035	Ti 99.7a		
S5	medium and high alloy Titanium medium machinability	23 HRC	Grade 4		265-G4		
		36 HRC	Grade 5			3.7164	
		36 HRC	Grade 6				Ti5Al2.5Sn
		34 HRC	6242		4975		TiAl2Sn4Zr2MoSi
		39 HRC	6246				TiAl2Sn4Zr6Mo
							TiV10Fe2Al3

BS	SS	AFNOR	UNE-IHA	JIS	UNI	EN	UNS	GOST
HR505		NC19FeNB						
Hr8		Nc19FeNb						
		NC20K14						
		NCK19DAT						
		NCKD20AT						
							R50250	
							R50400	
							R50550	
						Ti9	R56320	
TA14/17		T-A6V						
TA10-13/TA29		T-A5E						
TA11								
		TA 1						
		TA 2-5						
							R50700	
						TiAl6V4	R56400	
							R54250	
							R56260	

Gr.	Materials	Features	W.-Nr	DIN	BS	SS	AFNOR
H1	hardened general steel	(HRC 50-56)	1.7131	16 MnCr 5	527 M 17	2511	16 MC 5
			1.1201	42 CrMo 4	708 M40	2244	42 CD 4
			1.1231	Ck 67	060 A 67	1770	XC 68
			1.1248	Ck 75	060 A 78	1774, 1778	XC 75
			1.1274	Ck 101	060 A 96	1870	
			1.1545	C 105 W1		1880	Y1 105
			1.2550	60 WCrV 7			55 WC 20
		1.7176	55 Cr 3	527 A 60	2253	55 C 3	
		Mn steel	1.3401	X 120 Mn 12	BW 10	2183	Z 120 M 12
H2	hardened bearing steel	(HRC 54-62)	1.2210	115 CrV 3			100 C 3
			1.2510	100 MnCrW 4	BO 1	2140	90 MWCV 5
			1.2842	90 MnCrV 8	BO 2		90 MV 8
			1.3505	100 Cr 6	534 A 99	2258	100 C 6
H3	hardened tool steel	(HRC 60-65)	1.2344	X 40 CrMoV 5 1	BH 13	2242	Z 40 CDV 5
			1.2363	X 100 CrMoV 5 1	BA 2	2260	Z 100 CDV 5
			1.2379	X 155 CrVMo 12 1	BD 2		Z 160 CDV 12
			1.2436	X 210 CrW 12		2312	
			1.2601	X 165 CrMoV 12		2310	
			1.2713	55 NiCrMoV 6			55 NCDV 7
			1.3243	S 6-5-2-5		2723	Z 85 WDKCV 06-05-05-04-02
			1.3247	S 2-10-1-8	BM 42		Z 110 DKCWV 09-08-04
			1.3343	S 6-5-2	BM 2	2722	Z 85 WDCV 06-05-04-0
			1.3355	S 18-0-1	BT 1		Z 80 WCV 18-04-01
H4	hardened martensitic stainless steel	(HRC 50-55)	1.4021	X 20 Cr 13	420 S 37	2303	Z 20 C 13
			1.4109	X 65 CrMo 14			Z 70 D 14
			1.4112	X 90 CrMoV 18	409 S 19	2327	Z 2 CND 18 05
			1.4125	X 105 CrMo 17			Z 100 CD 17
			1.4534	X 3 CrNiMoAl 13 8 2			
			1.4542	X 5 CrNiCuNb 17 4			Z 6 CNU 17.4
			1.4568	X 7 CrNiAl 17 7	301 S 81	2388	Z 9 CAN 17.7
1.4943	X 4 NiCrTi 25 15	HR 51	2570	Z 6 NCTDV 25.15			
H5	hardened white cast iron	(HRC 48-55)	G-X330 NiCr 4 2	FB Ni4 Cr2 BC	Grade 2 A	05 12-00	Grade 2 A
			G-X260 NiCr 4 2	FB Ni4 Cr2 HC	Grade 2 B	05 13-00	Grade 2 B
			G-X300 CrNiSi 9 5 2	FB Cr9 Ni5	Grade 2 C, D, E	04 57-00	Grade 2 C, D, E

UNE-IHA	JIS	UNI	EN	UNS	GOST
	SCR 415	16 MnCr 5	16 MnCr 5	G51170	
	SCM 440 (H)	42 CrMo 4	42 CrMo 4	G41400	
		C 70	C 67S	G10700	
		C 75	C 75S	G10780	
	SUP 4		C 100S	G10950	
		C 100 KU	C 105U		
		55 WCrV 8 KU			
	SUP 9 (A)	55 Cr 3	55 Cr 3	G51550	
	SC MnH 1				
		107 CrV 3 KU	107 CrV 3	T61202	
	SKS 3	95 MnWCr 5 KU		T31501	
		90 MnVCr 8 KU	90 MnCrV 8	T31502	
	SUJ 2	100 Cr 6	100 Cr 6	G51986	
	SKD 61	X 40 CrMo 5 1 1 KU	X 40 CrMoV 5 1	T20813	
	SKD 12	X 100 CrMoV 5 1 KU	X 100 CrMoV 5	T30102	
	SKD 11	X 155 CrVMo 12 1 KU	X 155 CrVMo 12 1	T30402	
	SKD 2	X 215 CrW 12 1 KU			
		X 165 CrMoW 12 KU			
	SKT 4			T61206	
	SKH 55	HS 6-5-2-5	HS 6-5-2-5		
	SKH 51	HS 2-9-1-8	HS 2-10-1-8	T11342	
	SKH 9, SKH 51	HS 6-5-2	HS 6-5-2	T11302	
	SKH 2	HS 18-0-1	HS 18-0-1	T12001	
	SUS 420 J 1	X 20 Cr 13	X 20 Cr 13	S42000	
	SUS 440 A		X 70 CrMo 15	S44002	
	SUS 440 B	X CrTi 12	X 90 CrMoV 18	S44003	
	SUS 440 C	X 105 CrMo 17	X 105 CrMo 17	S44004	
			X 3 CrNiMoAl 13 8 2	S13800	
	SCS 24, SUS 630		X 5 CrNiCuNb 16 4	S17400	
	SUS 631	X 7 CrNiAl 17 7	X 7 CrNiAl 17 7	S17700	
	SUH 660		X 6 NiCrTiMoV 25 15	S66286	
			EN-GJN-HV520	F45001	
			EN-GJN-HV550	F45000	
			EN-GJN-HV600(XCr11)	F45003	

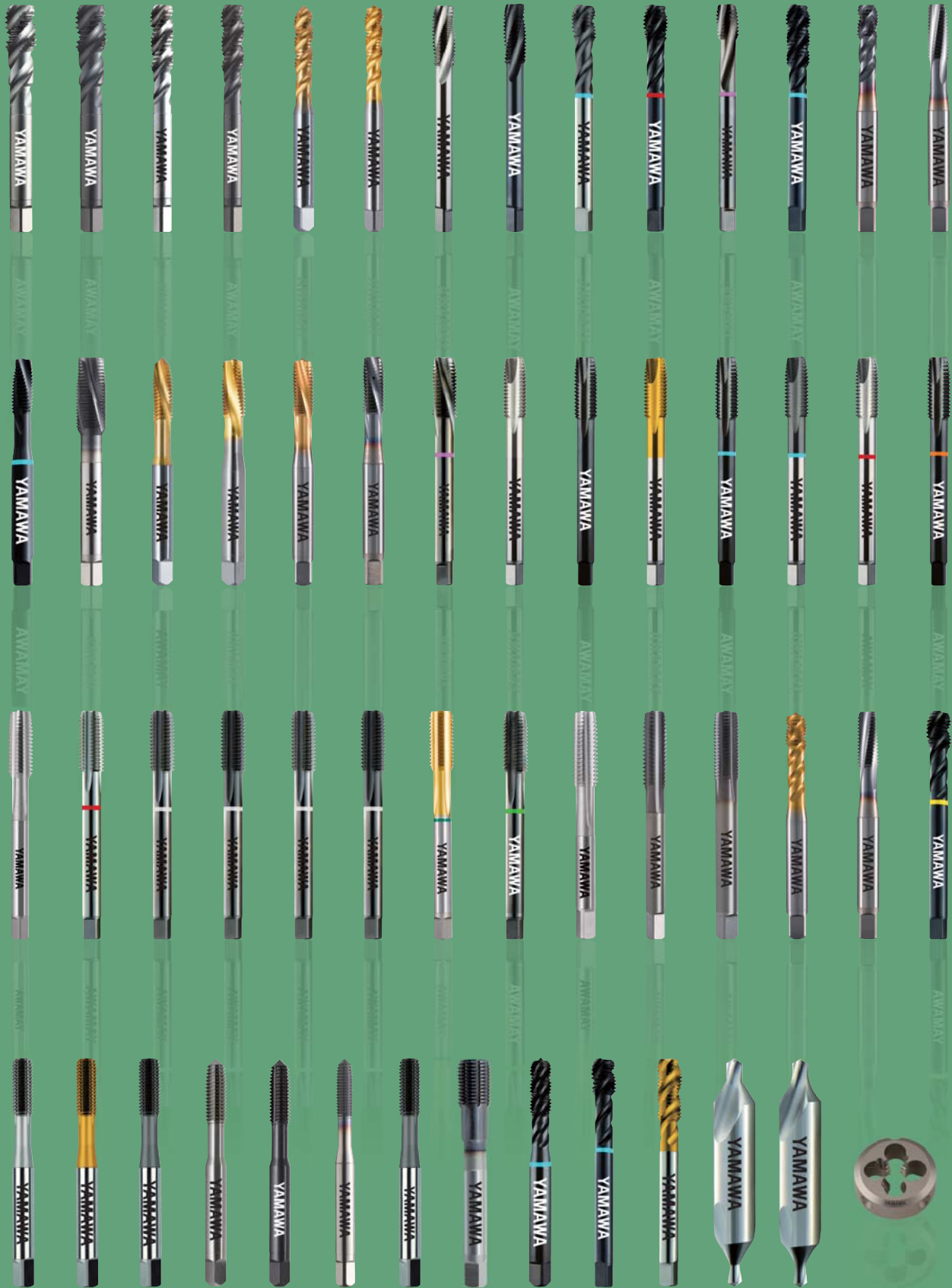
Selection chart of taps

Classification	Taps		Product symbol	Surface treatment	Drill hole shape		Feed function		Tapping direction		Page no		
	Application				For blind hole	For through hole	Holder		Vertical	Horizontal	Metric	Unified	G
							Synchronized	Non-Synchronized					
				Fixing	Floating								
Spiral Fluted Taps (For Blind Hole)	Full rigid	X Series Spiral Fluted Taps, Coated	AUXSP	Coating	○		○		○	○	SP-16		
		Spiral Fluted Taps for Tough Stainless Steels	SU2-SP	OX	○		○		○	○	SP-36		SP-36
		Spiral Fluted Taps for Nickel Base Alloys	ZEN-B	OX	○		○		○	○	SP-38	SP-39	
		Spiral Fluted Taps for Titanium Alloys	ZET-B	NI	○		○		○	○	SP-40	SP-41	
		Spiral Fluted Taps for High Speed Tapping	F-SP	Coating	○		○		○	○	SP-42		
		For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Carbon Steels	HFIHS	Coating	○		○		○		SP-43		
		For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Carbon Steels	HFISP	Coating	○		○		○	○	SP-44		
		For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Carbon Steels	HFAHS	Coating	○		○		○		SP-45		
		For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Carbon Steels	HFASP	Coating	○		○		○	○	SP-46		
		For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Steels	HDISP	Coating	○		○		○	○	SP-47		
	For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Steels	HDASP	Coating	○		○		○	○	SP-48			
		Spiral Fluted Taps	SP		○		○	○	○	○	SP-1	SP-4	SP-5
		Spiral Fluted Taps, Coated	SP (Coating)	Coating	○		○	○	○	○	SP-6		SP-7
		Spiral Fluted Taps, Oxided	SP OX	OX	○		○	○	○	○	SP-8	SP-11	SP-12
		Spiral Fluted Taps for Left Hand Threads	SP LH		○		○	○	○	○	SP-13		
		Plus Series Spiral Fluted Taps, Coated	AU+SP	Coating	○		○	○	○	○	SP-14		
		Spiral Fluted Taps for Aluminum	AL-SP	NI	○		○	○	○	○	SP-17		
			AL+SP	NI	○		○	○	○	○	SP-17		
		Low Spiral Fluted Taps	LO-SP		○		○	○	○	○	SP-19		SP-20
		Low Spiral Fluted Taps, Oxided	LO-SP OX	OX	○		○	○	○	○	SP-21		SP-23
		Spiral Fluted Taps for Hard-to-Machine Materials	PH-SP	OX	○		○	○	○	○	SP-24		SP-25
		Spiral Fluted Taps for Soft Structural Steels	E-SP	OX	○		○	○	○	○	SP-26		
		Spiral Fluted Taps for Stainless Steels	SP+VA	OX	○		○	○	○	○	SP-27		
		Spiral Fluted Taps for Stainless Steels	SP-VA	OX	○		○	○	○	○	SP-28	SP-29	SP-30
		Spiral Fluted Taps for Stainless Steels, Coated	SP-VA (Coating)	Coating	○		○	○	○	○	SP-31		
		Spiral Fluted Taps, Deep Hole Use	SP-BLF		○		○	○	○	○	SP-32		
		Spiral Fluted Taps, Deep Hole Use, Coated	SP-BLF (Coating)	Coating	○		○	○	○	○	SP-34		
		Spiral Fluted Taps, Deep Hole Use, Oxided	SP-BLF OX	OX	○		○	○	○	○	SP-35		
Spiral Fluted Taps (For Through Hole)		Full rigid	Spiral Fluted Taps for Carbon Steels of middle hardness, Through Hole Use (with LH spiral flutes)	MHSL	Coating		○	○		○	○	SL-3	
	X Series Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)		AUXSL	Coating		○	○		○	○	SL-7		
	Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)		ZET-P	NI		○	○		○	○	SL-8		
	Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)		F-SL	Coating		○	○		○	○	SL-9		
	Spiral Fluted Taps for Steels, For Dry Tapping and for Ultra High Speed Tapping, Through Hole Use (with LH spiral flutes)		HDISL	Coating		○	○		○	○	SL-10		
	Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)	SL+VA	OX		○	○		○	○	SL-1			
	Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)	AU+SL	Coating		○	○		○	○	SL-5			
Spiral Pointed Taps	Full rigid	Spiral Pointed Taps for Nickel Base Alloys	ZEN-P	NX		○	○		○	○	PO-18	PO-18	
		Spiral Pointed Taps	PO			○	○		○	○	PO-1	PO-4	PO-5
		Spiral Pointed Taps, Coated	PO (Coating)	Coating		○	○		○	○	PO-6		PO-7
		Spiral Pointed Taps, Oxided	PO OX	OX		○	○		○	○	PO-8	PO-11	PO-12
		Spiral Pointed Taps for Hard-to-Machine Materials	EH-PO		○	○		○	○	○	PO-13		
		Spiral Pointed Taps for Stainless Steels	PO-VA	OX	○		○	○	○	○	PO-14	PO-15	
		Spiral Pointed Taps for Stainless Steels, Coated	PO-VA (Coating)	Coating	○		○	○	○	○	PO-17		
Straight Fluted Taps	Full rigid	Carbide Taps for Hard Materials	EH-CT	Coating	○	○	○		○	○	CT-3		
		Carbide Taps for Ultra Hard Materials	UH-CT	Coating	○	○	○		○	○	CT-5		
	Straight Fluted Taps	HT		○	○	○	○	○	○	HT-1	HT-8	HT-10	
	Straight Fluted Taps for Hard-to-Machine Materials	EH-HT		○	○	○	○	○	○	HT-12		HT-13	
	Straight Fluted Taps for Cast Irons	GG-HT	NI	○	○	○	○	○	○	HT-14		HT-15	
	Straight Fluted Taps for Cast Irons, Coated	GG-HT (Coating)	Coating	○	○	○	○	○	○	HT-16		HT-17	
	Straight Fluted Taps for Cast Irons with Internal Coolant Hole	GG-HT-OH	NI	○	○	○	○	○	○	HT-18			
	Straight Fluted Taps for Cast Irons with Internal Coolant Hole, Coated	GG-HT-OH (Coating)	Coating	○	○	○	○	○	○	HT-19			
	Straight Fluted Taps for Die Cast Materials	LA-HT	NI	○	○	○	○	○	○	HT-20			
	AXE Straight Fluted Taps	AXE-HT	Coating	○	○	○	○	○	○	HT-21			
Carbide Taps for Cast Irons	CT-FC		○	○	○	○	○	○	CT-1		CT-1		
Roll Taps		Thread Forming Taps for Soft Structural Steel Sheets	R-D		○	○	○	○	○	○	RO-1		RO-1
		Thread Forming Taps for Soft Structural Steel Sheets, Coated	R-D (Coating)	Coating	○	○	○	○	○	○	RO-2		RO-2
		Thread Forming Taps for Soft Structural Steel Sheets, Coated	R-D (Coating)	Coating	○	○	○	○	○	○	RO-3		
		Thread Forming Taps for Non-Ferrous Materials	N+RS/N-RS	NI	○	○	○	○	○	○	RO-4		
		Thread Forming Taps for Steels	N+RZ/N-RZ	OX	○	○	○	○	○	○	RO-5		
		Thread Forming Taps for Dry Tapping, Coated	OL+RZ	Coating	○	○	○	○	○	○	RO-6		
		High Performance Thread Forming Taps, Coated	HP+RZ/HP-RZ	Coating	○	○	○	○	○	○	RO-7		
	Roll Taps for Carbon Steels of Middle Hardness	MHRZ	Coating	○	○	○	○	○	○	RO-9			

Most suitable	Suitable








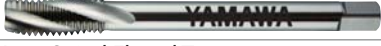
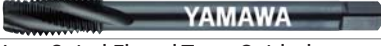
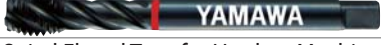
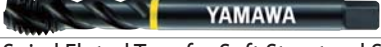

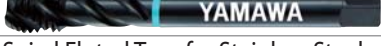
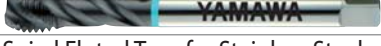

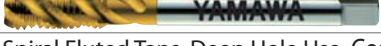
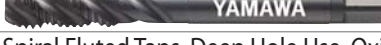
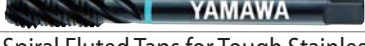
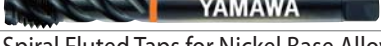
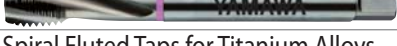
P1	P2	P3	P4	P5	P6	M1-M2	M3	M4	M5	K1	K2	K3	K4	N1	N2	N3	N4	S1-S2	S3	S5	T	Product symbol		
Free cutting and structural steel	Carbon steel and low alloy steel	Medium alloy steel and heat treated steel	High alloy steel	Tool steel	High tensile strength steel	Ferritic and austenitic stainless steel	Austenitic stainless steel	Martensitic stainless steel	PH stainless steel	Grey cast iron	Nodular cast iron	Austenitic cast iron	ADI cast iron	Aluminum alloy (<12% Si)	Aluminum alloy (>12% Si)	Copper alloy	Brass alloy and bronze alloy	Heat resistant super alloys (~35 HRC)	Heat resistant super alloys (35~45 HRC)	Titanium alloy	Hardened steel (45~55 HRC)		Hardened steel (55~63 HRC)	
N/mm2										HB				Si <12%	Si >12%	HRC								
~500	500~700	600~800	800~1000	900~1200	1200~1480	400~700	500~750	550~850	650~950	800~1250	150~250	150~350	120~260	250~500	~35	35~45	.	45~55	55~63	
																								AUXSP
																								SU2-SP
																								ZEN-B
																								ZET-B
																								F-SP
																								HFIHS
																								HFISP
																								HFAHS
																								HFASP
																								HDISP
																								HDASP
																								SP
																								SP (Coating)
																								SP OX
																								SP LH
																								AU+SP
																								AL-SP
																								AL+SP
																								LO-SP
																								LO-SP OX
																								PH-SP
																								E-SP
																								SP+VA
																								SP-VA
																								SP-VA (Coating)
																								SP-BLF
																								SP-BLF (Coating)
																								SP-BLF OX
																								MHSL
																								AUXSL
																								ZET-P
																								F-SL
																								HDISL
																								SL+VA
																								AU+SL
																								ZEN-P
																								PO
																								PO (Coating)
																								PO OX
																								EH-PO
																								PO-VA
																								PO-VA (Coating)
																								EH-CT
																								UH-CT
																								HT
																								EH-HT
																								GG-HT
																								GG-HT (Coating)
																								GG-HT-OH
																								GG-HT-OH (Coating)
																								LA-HT
																								AXE-HT
																								CT-FC
																								R-D
																								R-D (Coating)
																								R-D (Coating)
																								N+RS/N-RS
																								N+RZ/N-RZ
																								OL+RZ
																								HP+RZ/HP-RZ
																								MHRZ

YAMAWA PRODUCT LINE-UPS



Spiral Fluted Tap Series for blind hole




SP		DIN SP-1
	Spiral Fluted Taps	
SP (Coating)		DIN SP-6
	Spiral Fluted Taps, Coated	
SP OX		DIN SP-8
	Spiral Fluted Taps, Oxided	
SP(LH)		DIN SP-13
	Spiral Fluted Taps for Left Hand Threads	
AU+SP		DIN SP-14
	Plus Series Spiral Fluted Taps, Coated	
AUXSP		DIN SP-16
	X Series Spiral Fluted Taps, Coated	
AL+SP/ AL-SP		DIN SP-17
	Spiral Fluted Taps for Aluminum	
LO-SP		DIN SP-19
	Low Spiral Fluted Taps	
LO-SP OX		DIN SP-21
	Low Spiral Fluted Taps, Oxided	
PH-SP		DIN SP-24
	Spiral Fluted Taps for Hard-to-Machine Materials	
E-SP		DIN SP-26
	Spiral Fluted Taps for Soft Structural Steels	
SP+VA		DIN SP-27
	Spiral Fluted Taps for Stainless Steels	
SP-VA		DIN SP-28
	Spiral Fluted Taps for Stainless Steels	
SP-VA (Coating)		DIN SP-31
	Spiral Fluted Taps for Stainless Steels, Coated	
SP-BLF		DIN SP-32
	Spiral Fluted Taps, Deep Hole Use	
SP-BLF (Coating)		DIN SP-34
	Spiral Fluted Taps, Deep Hole Use, Coated	
SP-BLF OX		DIN SP-35
	Spiral Fluted Taps, Deep Hole Use, Oxided	
SU2-SP		DIN SP-36
	Spiral Fluted Taps for Tough Stainless Steels	
ZEN-B		DIN SP-38
	Spiral Fluted Taps for Nickel Base Alloys	
ZET-B		DIN SP-40
	Spiral Fluted Taps for Titanium Alloys	

F-SP		DIN SP-42
	Spiral Fluted Taps for High Speed Tapping	

HFIHS		DIN SP-43
	For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Carbon Steels	

HFISP		DIN SP-44
	For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Carbon Steels	

HFAHS		DIN SP-45
	For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Aluminum	

HFASP		DIN SP-46
	For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Aluminum	

HDISP		DIN SP-47
	For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Steels	

HDASP		DIN SP-48
	For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Aluminum	

Spiral Fluted Tap Series for through hole

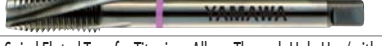


SL+VA		DIN SL-1
	Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)	

MHSL		DIN SL-3
	Spiral Fluted Taps for Carbon Steels of middle hardness, Through Hole Use (with LH spiral flutes)	

AU+SL		DIN SL-5
	Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)	

AUXSL		DIN SL-7
	X Series Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)	







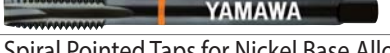
ZET-P		DIN SL-8
	Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)	

F-SL		DIN SL-9
	Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)	

HDISL		DIN SL-10
	Spiral Fluted Taps for Steels, for Dry Tapping and for Ultra High Speed Tapping, Through Hole Use (with LH spiral flutes)	






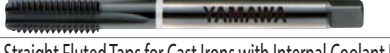


Spiral Pointed Tap Series



PO		DIN PO-1
Spiral Pointed Taps		
PO (Coating)		DIN PO-6
Spiral Pointed Taps, Coated		
PO OX		DIN PO-8
Spiral Pointed Taps, Oxided		
EH-PO		DIN PO-13
Spiral Pointed Taps for Hard-to-Machine Materials		
PO-VA		DIN PO-14
Spiral Pointed Taps for Stainless Steels		
PO-VA (Coating)		DIN PO-16
Spiral Pointed Taps for Stainless Steels, Coated		
ZEN-P		DIN PO-17
Spiral Pointed Taps for Nickel Base Alloys		

Hand Tap Series



HT		DIN HT-1
Straight Fluted Taps		
EH-HT		DIN HT-12
Straight Fluted Taps for Hard-to-Machine Materials		
GG-HT		DIN HT-14
Straight Fluted Taps for Cast Irons		
GG-HT (Coating)		DIN HT-16
Straight Fluted Taps for Cast Irons, Coated		
GG-HT-OH		DIN HT-18
Straight Fluted Taps for Cast Irons with Internal Coolant Hole		
GG-HT-OH (Coating)		DIN HT-19
Straight Fluted Taps for Cast Irons with Internal Coolant Hole, Coated		
LA-HT		DIN HT-20
Straight Fluted Taps for Die Cast Materials		
AXE-HT		DIN HT-21
AXE Straight Fluted Taps		

Cemented Carbide Tap Series

CT-FC		DIN CT-1
Carbide Taps for Cast Irons		
EH-CT		DIN CT-3
Carbide Taps for Hard Materials		
UH-CT		DIN CT-5
Carbide Taps for Ultra Hard Materials		

Roll Tap Series

R-D		DIN RO-1
Thread Forming Taps for Soft Structural Steel Sheets		
R-D (Coating)		DIN RO-2
Thread Forming Taps for Soft Structural Steel Sheets, Coated		
R-D (Coating)		DIN RO-3
Thread Forming Taps for Soft Structural Steel Sheets, Coated		
N+RS/ N-RS		DIN RO-4
Thread Forming Taps for Non-Ferrous Materials		
N+RZ/ N-RZ		DIN RO-5
Thread Forming Taps for Steels		
OL+RZ		DIN RO-6
Thread Forming Taps for Dry Tapping, Coated		
HP+RZ/ HP-RZ		DIN RO-7
High Performance Thread Forming Taps, Coated		
MHRZ		DIN RO-9
Roll Taps for Carbon Steels of Middle Hardness		
TA		DIN ANSI JIS ST-23
Tap Adapter		

Dies

DPO		DIN DI-1
HSS Spiral Pointed Dies		

Center Drills

CD-A		DIN CD-1
Low Helix Center Drills-Type A-60°		
CD-R		DIN CD-2
Low Helix Center Drills-Type R		

Spiral Fluted Tap Series for blind hole




ISP	 YAMAWA	ANSI SP-1
Spiral Fluted Taps for General Purpose		

SP	 YAMAWA	ANSI SP-2
Spiral Fluted Taps		

SP OX	 YAMAWA	ANSI SP-6
Spiral Fluted Taps, Oxided		

SP	 YAMAWA	ANSI SP-9
Spiral Fluted Taps for Alloy Steels		

LO-SP	 YAMAWA	ANSI SP-10
Low Spiral Fluted Taps for Alloy Steels		

AU+SP	 YAMAWA	ANSI SP-11
Plus Series Spiral Fluted Taps, Coated		

ZELX SS SP	 YAMAWA	ANSI SP-12
Spiral Fluted Taps for Stainless Steels		

ZELX SS SP 6"	 YAMAWA	ANSI SP-17
Long Shank Spiral Fluted Taps for Stainless Steels		

ZELX AL SP	 YAMAWA	ANSI SP-18
Spiral Fluted Taps for Aluminum		

ZELX ALS SP	 YAMAWA	ANSI SP-20
Spiral Fluted Taps for Aluminum		

SP STI	 YAMAWA	ANSI SP-22
Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts		

SP OX STI	 YAMAWA	ANSI SP-24
Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts, Oxided		

ZELX TI SP	 YAMAWA	ANSI SP-26
Spiral Fluted Taps for Titanium Alloys		

ZELX NI SP	 YAMAWA	ANSI SP-28
Spiral Fluted Taps for Nickel Base Alloys		

ZELX NI SP STI	 YAMAWA	ANSI SP-31
Spiral Fluted Taps for Nickel Base Alloys, for Helical Coil Wire Screw Thread Inserts		

ZELX FR	 YAMAWA	ANSI SP-33
Spiral Fluted Taps for High Speed Tapping		

Spiral Fluted Tap Series for through hole



ZELX TI LHSP	 YAMAWA	ANSI SL-1
Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)		

ZELX FR LHSP	 YAMAWA	ANSI SL-3
Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)		

MHSL	 YAMAWA	ANSI SL-4
Spiral Fluted Taps for Carbon Steels of middle hardness, Through Hole Use (with LH spiral flutes)		

Spiral Pointed Tap Series



IPO	 YAMAWA	ANSI PO-1
Spiral Pointed Taps for General Purpose		

PO	 YAMAWA	ANSI PO-2
Spiral Pointed Taps		

PO OX	 YAMAWA	ANSI PO-5
Spiral Pointed Taps, Oxided		

ZELX SS PO	 YAMAWA	ANSI PO-8
Spiral Pointed Taps for Stainless Steels		

ZELX SS PO 6"	 YAMAWA	ANSI PO-12
Long Shank Spiral Pointed Taps for Stainless Steels		

ZELX AL PO	 YAMAWA	ANSI PO-13
Spiral Pointed Taps for Aluminum		

PO STI	 YAMAWA	ANSI PO-15
Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts		

PO OX STI	 YAMAWA	ANSI PO-17
Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts, Oxided		

ZELX NI PO	 YAMAWA	ANSI PO-19
Spiral Pointed Taps for Nickel Base Alloys		

ZELX NI PO STI	 YAMAWA	ANSI PO-22
Spiral Pointed Taps for Nickel Base Alloys for Helical Coil Wire Screw Thread Inserts		

Hand Tap Series



IHT		ANSI HT-1
	Hand Taps for General Purpose	

HT		ANSI HT-3
	Hand Taps	

HT OX		ANSI HT-8
	Hand Taps, Oxided	

HT-CI		ANSI HT-13
	Hand Taps for Cast Irons	

AXE-HT		ANSI HT-15
	AXE Hand Taps	

HT STI		ANSI HT-16
	Hand Taps for Helical Coil Wire Screw Thread Inserts	

HT OX STI		ANSI HT-18
	Hand Taps for Helical Coil Wire Screw Thread Inserts, Oxided	

ZELX MOLD		ANSI HT-20
	Hand Taps for Hard-to-Machine Materials	

EH-HT		ANSI HT-21
	Hand Taps for Hard-to-Machine Materials	

Cemented Carbide Tap Series

ZELX CARB AL		ANSI CT-1
	Carbide Taps for Light Alloys	

ZELX CARB CI		ANSI CT-4
	Carbide Taps for Cast Irons	

Roll Tap Series

N-RZ		ANSI RO-1
	Thread Forming Taps for Steels	

N-RS		ANSI RO-5
	Thread Forming Taps for Non-Ferrous Materials	

OL-RZ		ANSI RO-9
	Thread Forming Taps for Dry Tapping, Coated	


HP-RZ		ANSI RO-10
	High Performance Thread Forming Taps, Coated	

MHRZ		ANSI RO-13
	Roll Taps for Carbon Steels of Middle Hardness	

Check Pin Series

CPC-S		ANSI ST-1
	Check Pins for Bored Hole in thread cut tapping (Straight Type)	

CPC-T		ANSI ST-4
	Check Pins for Bored Holes in thread cut tapping (Taper Type)	

TA		DIN ANSI JIS ST-23
	Tap Adapter	

Pipe Tap Series

ZELX 55 NPT		ANSI Pipe-1
	Taps for American Taper Pipe Threads	

ZELX 55 NPTF		ANSI Pipe-2
	Taps for American Dryseal Taper Pipe Threads	

ZELX MOLD NPT		ANSI Pipe-3
	Hand Taps for Hard-to-Machine Materials For American Taper Pipe Threads	

NPT		ANSI Pipe-4
	Hand Taps for American Taper Pipe Threads	

INT-NPT		ANSI Pipe-5
	Interrupted Taps for American Taper Pipe Threads	

NPT-CI		ANSI Pipe-6
	Hand Taps for American Taper Pipe Threads for Cast Irons	

NPTF		ANSI Pipe-7
	Hand Taps for American Dryseal Taper Pipe Threads	


NPTF-CI		ANSI Pipe-8
	Hand Taps for American Dryseal Taper Pipe Threads, for Cast Irons	

NPS		ANSI Pipe-9
	Hand Taps for American Parallel Pipe Threads	

NPSF		ANSI Pipe-10
	Hand Taps for American Dryseal Parallel Pipe Threads	

Dies

PO-D		ANSI Di-1
	HSS Spiral Pointed Dies	

RD-DA		ANSI Di-2
	Die Attachment (for Solid Dies)	

Spiral Fluted Tap Series for blind hole



ISP	 YAMAWA Spiral Fluted Taps for General Purpose	JIS SP-1	HC+SP/ HC-SP	 YAMAWA Spiral Fluted Taps for High Carbon Steels	JIS SP-46
SP	 YAMAWA Spiral Fluted Taps	JIS SP-3	HC+SP OX/ HC-SP OX	 YAMAWA Spiral Fluted Taps for High Carbon Steels, Oxided	JIS SP-48
SP I.5P	 YAMAWA Spiral Fluted Taps 1.5P	JIS SP-11	AL+SP/ AL-SP	 YAMAWA Spiral Fluted Taps for Aluminum	JIS SP-49
+SP	 YAMAWA Plus Series Spiral Fluted Taps	JIS SP-13	AL-SP I.5P	 YAMAWA Spiral Fluted Taps for Aluminum 1.5P	JIS SP-51
XSP	 YAMAWA X Series Spiral Fluted Taps	JIS SP-15	LO-SP	 YAMAWA Low Spiral Fluted Taps	JIS SP-52
SP OX	 YAMAWA Spiral Fluted Taps, Oxided	JIS SP-16	LS-LO-SP	 YAMAWA Long Shank Low Spiral Fluted Taps	JIS SP-53
+SP OX	 YAMAWA Plus Series Spiral Fluted Taps, Oxided	JIS SP-19	MC-SP	 YAMAWA Spiral Fluted Taps with Internal Coolant Hole	JIS SP-54
SP LH	 YAMAWA Spiral Fluted Taps for Left Hand Threads	JIS SP-20	ZET-B	 YAMAWA Spiral Fluted Taps for Titanium Alloys	JIS SP-55
SP V	 YAMAWA Spiral Fluted Taps, Coated	JIS SP-22	ZEN-B	 YAMAWA Spiral Fluted Taps for Nickel Base Alloys	JIS SP-56
AU+SP	 YAMAWA Plus Series Spiral Fluted Taps, Optimum Coating for the tapping	JIS SP-23	F-SP	 YAMAWA Spiral Fluted Taps for High Speed Tapping	JIS SP-57
AUXSP	 YAMAWA X Series Spiral Fluted Taps, Coated	JIS SP-25	HFIHS	 YAMAWA For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Carbon Steels	JIS SP-58
LS-SP	 YAMAWA Long Shank Spiral Fluted Taps	JIS SP-26	HFISP	 YAMAWA For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Carbon Steels	JIS SP-59
LS-SP LH	 YAMAWA Long Shank Spiral Fluted Taps for Left Hand Threads	JIS SP-30	HFAHS	 YAMAWA For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Aluminum	JIS SP-60
LS-SP V	 YAMAWA Long Shank Spiral Fluted Taps, Coated	JIS SP-31	HFASP	 YAMAWA For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Aluminum	JIS SP-61
SU+SP/ SU-SP	 YAMAWA Spiral Fluted Taps for Stainless Steels	JIS SP-33	HDISP	 YAMAWA For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Steels	JIS SP-62
SUXSP	 YAMAWA X Series Spiral Fluted Taps for Stainless Steels	JIS SP-38	HDASP	 YAMAWA For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Aluminum	JIS SP-63
SU2-SP	 YAMAWA Spiral Fluted Taps for Tough Stainless Steels	JIS SP-39			
SU-S-SP	 YAMAWA Spiral Fluted Taps for Stainless Steels, Deep Hole Use	JIS SP-41			
S-SP	 YAMAWA Short Spiral Fluted Taps, Deep Hole Use	JIS SP-42			
E-SP	 YAMAWA Spiral Fluted Taps for Soft Structural Steels	JIS SP-44			

Spiral Fluted Tap Series for through hole



XSL		JIS SL-1
	X Series Spiral Fluted Taps, Through Hole Use (with LH spiral flutes)	

AU+SL		JIS SL-2
	Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)	

AUXSL		JIS SL-3
	X Series Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)	

SU+SL		JIS SL-5
	Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)	

SUXSL		JIS SL-7
	X Series Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)	

ZET-P		JIS SL-8
	Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)	

F-SL		JIS SL-9
	Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)	

HDISL		JIS SL-10
	Spiral Fluted Taps for Steels, for Dry Tapping and for Ultra High Speed Tapping, Through Hole Use (with LH spiral flutes)	

MHSL		JIS SL-11
	Spiral Fluted Taps for Carbon Steels of middle hardness, Through Hole Use (with LH spiral flutes)	

Spiral Pointed Tap Series



IPO		JIS PO-1
	Spiral Pointed Taps for General Purpose	

PO		JIS PO-3
	Spiral Pointed Taps	

+PO		JIS PO-10
	Plus Series Spiral Pointed Taps	


PO OX		JIS PO-11
	Spiral Pointed Taps, Oxidized	

+PO OX		JIS PO-13
	Plus Series Spiral Pointed Taps, Oxidized	

PO LH		JIS PO-14
	Spiral Pointed Taps for Left Hand Threads	

PO V		JIS PO-16
	Spiral Pointed Taps, Coated	


LS-PO		JIS PO-17
	Long Shank Spiral Pointed Taps	

LS-PO V		JIS PO-21
	Long Shank Spiral Pointed Taps, Coated	

SU+PO/ SU-PO		JIS PO-22
	Spiral Pointed Taps for Stainless Steels	

S-PO		JIS PO-25
	Short Spiral Pointed Taps for Deep Hole Use	

HC+PO/ HC-PO		JIS PO-27
	Spiral Pointed Taps for High Carbon Steels	

MC-PO		JIS PO-29
	Spiral Pointed Taps with Internal Coolant	

EH-PO		JIS PO-30
	Spiral Pointed Taps for Hard-to-Machine Materials	





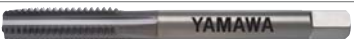
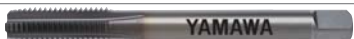




ZEN-P		JIS PO-31
	Spiral Pointed Taps for Nickel Base Alloys	

Hand Tap Series













IHT		JIS HT-1
	Hand Taps for General Purpose	
HT		JIS HT-3
	Hand Taps	
HT LH		JIS HT-18
	Hand Taps for Left Hand Threads	
LS-HT		JIS HT-21
	Long Shank Hand Taps	
LS-HT LH		JIS HT-29
	Long Shank Hand Taps for Left Hand Threads	
LS-HT V		JIS HT-31
	Long Shank Hand Taps, Coated	
SU-HT		JIS HT-33
	Hand Taps for Stainless Steels	
FC-HT		JIS HT-36
	Hand Taps for Cast Irons	
LA-HT		JIS HT-38
	Hand Taps for Die Cast Materials	
AXE-HT		JIS HT-40
	AXE Hand Taps	
MG-HT		JIS HT-41
	Hand Taps with Short Chamfer for Magnesium Alloy Castings	
AL-HT		JIS HT-42
	Hand Taps for Helical Coil Wire Screw Thread Inserts	
PL1		JIS HT-45
	Hand Taps for Plastics	
MC-HT		JIS HT-46
	Hand Taps with Internal Coolant Hole	
EH-HT		JIS HT-49
	Hand Taps for Hard-to-Machine Materials	











Cemented Carbide Tap Series

N-CT LA		JIS CT-1
	Carbide Taps for Light Alloys	
N-CT FC		JIS CT-4
	Carbide Taps for Cast Irons	
N-CT-PO		JIS CT-8
	Spiral Pointed Carbide Taps	
MC-AD-CT		JIS CT-9
	Carbide Taps with Oil Hole	
EH-CT		JIS CT-11
	Carbide Taps for Hard Materials	
UH-CT		JIS CT-12
	Carbide Taps for Ultra Hard Materials	
HFACT-P		JIS CT-13
	Carbide Taps for Ultra Fast Tappings, Through Hole Use, for Aluminum	
HFACT-B		JIS CT-14
	Carbide Taps for Ultra Fast Tappings, Blind Hole Use, for Aluminum	
HFICT-P		JIS CT-15
	Carbide Taps for Ultra Fast Tappings, Through Hole Use, for Cast Irons	
HFICT-B		JIS CT-16
	Carbide Taps for Ultra Fast Tappings, Blind Hole Use, for Cast Irons	

Roll Tap Series


N+RZ/ N-RZ		JIS RO-1
Thread Forming Taps for Steels		
LS-N-RZ		JIS RO-6
Long Shank Thread Forming Taps for Steels		
N+RS/ N-RS		JIS RO-7
Thread Forming Taps for Non-Ferrous Materials		
LS-N-RS		JIS RO-13
Long Shank Thread Forming Taps for Non-Ferrous Materials		
R+V		JIS RO-15
Thread Forming Taps, Coated		
OL+RZ/ OL-RZ		JIS RO-17
Thread Forming Taps for Dry Tapping, Coated		
HP+RZ/ HP-RZ		JIS RO-19
High Performance Thread Forming Taps, Coated		
SC-TL-RZ		JIS RO-23
Torqueless Thread Forming Taps with short chamfer		
SURZ		JIS RO-25
SU Thread Forming Taps		
MHRZ		JIS RO-27
Roll Taps for Carbon Steels of Middle Hardness		

Special Thread Taps / Simple Inspection Tools







MS+RS		JIS ST-1
Roll Taps for Miniature Threads		
HPsRZ		JIS ST-1
High Performance Roll Taps for Miniature Threads		
SIT		JIS ST-3
Simple Thread Inspection Tools		
SITD (Tandem Type)		JIS ST-9
Simple Thread Inspection Tools, Tandem Type		
CPC-S		JIS ST-15
Check Pins for Bored Hole in thread cut tapping (Straight Type)		
CPC-T		JIS ST-17
Check Pins for Bored Holes in thread cut tapping (Taper Type)		
CPR-S		JIS ST-18
Check Pins for Bored Hole in thread form tapping (Straight Type)		
CPR-T		JIS ST-20
Check Pins for Bored Holes in thread form tapping (Taper Type)		
SA		JIS ST-22
Shank Adjusters		
TA		DIN ANSI JIS ST-23
Tap Adapter		

Pipe Tap Series

Rc		JIS Pipe-1	SU-S-PT		JIS Pipe-21
	Hand Taps for Taper Pipe Threads			Hand Taps for Taper Pipe Threads, Short (lg) Type, for Stainless Steels	
PT		JIS Pipe-2	FC-PT		JIS Pipe-22
	Hand Taps for Taper Pipe Threads, Long (lg) Type			Hand Taps for Taper Pipe Threads, Long (lg) Type, for Cast Irons	
PT LH		JIS Pipe-3	FC-S-PT		JIS Pipe-23
	Hand Taps for Taper Pipe Threads, Long (lg) Type, for LH Threads			Hand Taps for Taper Pipe Threads, Short (lg) Type, for Cast Irons	
PT-X		JIS Pipe-4	CT-PT		JIS Pipe-24
	X Series Hand Taps for Taper Pipe Threads, Short (lg) Type			Carbide Taps for Taper Pipe Threads, Long (lg) Type, for Cast Irons	
S-PT		JIS Pipe-5	CT-S-PT		JIS Pipe-25
	Hand Taps for Taper Pipe Threads, Short (lg) Type			Carbide Taps for Taper Pipe Threads, Short (lg) Type, for Cast Irons	
S-PT LH		JIS Pipe-6	Rp		JIS Pipe-26
	Hand Taps for Taper Pipe Threads, Short (lg) Type, for LH Threads			Hand Taps for Parallel Pipe Threads	
LS-PT		JIS Pipe-7	PS		JIS Pipe-27
	Long Shank Hand Taps for Taper Pipe Threads, Long (lg) Type			Hand Taps for Parallel Pipe Threads	
LS-S-PT		JIS Pipe-8	PS LH		JIS Pipe-28
	Long Shank Hand Taps for Taper Pipe Threads, Short (lg) Type			Hand Taps for Parallel Pipe Threads, for LH Threads	
SP-PT		JIS Pipe-9	LS-PS		JIS Pipe-29
	Spiral Fluted Taps for Taper Pipe Threads, Long (lg) Type			Long Shank Taps for Parallel Pipe Threads	
SP-S-PT		JIS Pipe-10	SP-PS		JIS Pipe-30
	Spiral Fluted Taps for Taper Pipe Threads, Short (lg) Type			Spiral Fluted Taps for Parallel Pipe Threads	
SP-PT-X		JIS Pipe-11	LS-SP-PS		JIS Pipe-31
	X Series Spiral Fluted Taps for Taper Pipe Threads, Short (lg) Type			Long Shank Spiral Fluted Taps for Parallel Pipe Threads	
LS-SP-PT		JIS Pipe-12	CT-PS		JIS Pipe-32
	Long Shank Spiral Fluted Taps for Taper Pipe Threads, Long (lg) Type			Carbide Taps for Parallel Pipe Threads	
LS-SP-S-PT		JIS Pipe-13	G		JIS Pipe-33
	Long Shank Spiral Fluted Taps for Taper Pipe Threads, Short (lg) Type			Hand Taps for Parallel Pipe Threads	
INT-PT		JIS Pipe-14	PF		JIS Pipe-34
	Interrupted Taps for Taper Pipe Threads, Long (lg) Type			Hand Taps for Parallel Pipe Threads	
INT-S-PT		JIS Pipe-15	PF LH		JIS Pipe-35
	Interrupted Taps for Taper Pipe Threads, Short (lg) Type			Hand Taps for Parallel Pipe Threads, for LH Threads	
LS-INT-PT		JIS Pipe-16	LS-PF		JIS Pipe-36
	Long Shank Interrupted Taps for Taper Pipe Threads, Long (lg) Type			Long Shank Hand Taps for Parallel Pipe Threads	
LS-INT-S-PT		JIS Pipe-17	SP-PF		JIS Pipe-37
	Long Shank Interrupted Taps for Taper Pipe Threads, Short (lg) Type			Spiral Fluted Taps for Parallel Pipe Threads	
LC-PT		JIS Pipe-18	LS-SP-PF		JIS Pipe-38
	Hand Taps for Taper Pipe Threads, Long (lg) Type, for Low Carbon Steels			Long Shank Spiral Fluted Taps for Parallel Pipe Threads	
LC-S-PT		JIS Pipe-19	SU-PF		JIS Pipe-39
	Hand Taps for Taper Pipe Threads, Short (lg) Type, for Low Carbon Steels			Hand Taps for Parallel Pipe Threads, for Stainless Steels	
SU-PT		JIS Pipe-20	FC-PF		JIS Pipe-40
	Hand Taps for Taper Pipe Threads, Long (lg) Type, for Stainless Steels			Hand Taps for Parallel Pipe Threads, for Cast Irons	

















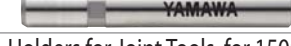






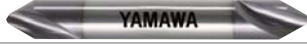






CT-PF		JIS Pipe-41	Carbide Taps for Parallel Pipe Threads
NPT		JIS Pipe-42	Hand Taps for American Taper Pipe Threads
S-NPT		JIS Pipe-43	Hand Taps for American Taper Pipe Threads, Short (lg) Type
LS-NPT		JIS Pipe-44	Long Shank Hand Taps for American Taper Pipe Threads
SP-NPT		JIS Pipe-45	Spiral Fluted Taps for American Taper Pipe Threads
LS-SP-S-NPT		JIS Pipe-46	Long Shank Spiral Fluted Taps for American Taper Pipe Threads, Short (lg) Type
INT-NPT		JIS Pipe-47	Interrupted Taps for American Taper Pipe Threads
INT-S-NPT		JIS Pipe-48	Interrupted Taps for American Taper Pipe Threads, Short (lg) Type
NPTF		JIS Pipe-49	Hand Taps for American Dryseal Taper Pipe Threads
LS-NPTF		JIS Pipe-50	Long Shank Hand Taps for American Dryseal Taper Pipe Threads
NPS		JIS Pipe-51	Hand Taps for American Parallel Pipe Threads
NPSF		JIS Pipe-52	Hand Taps for American Dryseal Parallel Pipe Threads

Thread Mills

MC-CSLC		JIS MC-1	Carbide Thread Mills for Metric Internal Threads
MC-CSLC		JIS MC-2	Carbide Thread Mills for Taper pipe Threads
MC-CSLC		JIS MC-3	Carbide Thread Mills for Parallel pipe Threads
MC-HLC		JIS MC-4	Thread Mills for Metric Internal Threads
MC-HLC		JIS MC-5	Thread Mills for Taper pipe Threads
MC-HLC		JIS MC-6	Thread Mills for parallel pipe Threads

Dies			
D		Solid Round Dies	JIS DI-1
D LH		Solid Round Dies for Left Hand Threads	JIS DI-10
D PF		Solid Round Dies for Parallel Pipe Threads	JIS DI-13
D PF LH		Solid Round Dies for Parallel Pipe Threads, for Left Hand Threads	JIS DI-14
D NPSM		Solid Round Dies for American Parallel Pipe Threads	JIS DI-15
D PT		Solid Round Dies for Taper Pipe Threads	JIS DI-16
D PT LH		Solid Round Dies for Taper Pipe Threads, for Left Hand Threads	JIS DI-17
D NPT		Solid Round Dies for American Taper Pipe Threads	JIS DI-18
D NPTF		Solid Round Dies for American Dryseal Taper Pipe Threads	JIS DI-19
MS-RS-D/ RS-D		Rolling Dies	JIS DI-20
N-RSD		New Rolling Dies	JIS DI-22
RD-DH		Die Holders for Solid Dies	JIS DI-23
RD-DC		Die Collets for Die Holders	JIS DI-24
RD-DA		Die attachment (Designed Specially for Solid Round Dies)	JIS DI-25

Center Drills/Centering Tools		
CESA		JIS CE-1 High Helix Center Drills-JIS Type A 60°
CE-S		JIS CE-2 High Helix Center Drills-Type A 60°
CD-S		JIS CE-3 Low Helix Center Drills-Type A 60°
CD-S LH		JIS CE-4 Low Helix Center Drills-Type A 60°, Left Hand Cut
CE-S V		JIS CE-5 High Helix Center Drills-Type A 60°, Coated
C-CD-S		JIS CE-6 Carbide Center Drills-Type A 60°
CE-SL		JIS CE-7 Long Shank High Helix Center Drills-Type A 60°
CD-SL		JIS CE-8 Long Shank Low Helix Center Drills-Type A 60°
CE-SL V		JIS CE-9 Long Shank High Helix Center Drills-Type A 60°, Coated
CD-SL V		JIS CE-10 Long Shank Low Helix Center Drills-Type A 60°, Coated
C-CD-SL		JIS CE-11 Long Shank Carbide Center Drills-Type A 60°
CEQA		JIS CE-12 High Helix Center Drills-JIS Type A 90°
CE-Q		JIS CE-13 High Helix Center Drills-Type A 90°
CD-Q		JIS CE-14 Low Helix Center Drills-Type A 90°
CD-Q LH		JIS CE-15 Low Helix Center Drills - Type A 90°, Left Hand Cut
CE-Q V		JIS CE-16 High Helix Center Drills-Type A 90°, Coated
CD-Q V		JIS CE-17 Low Helix Center Drills-Type A 90°, Coated
C-CD-Q		JIS CE-18 Low Helix Carbide Center Drills-Type A 90°
CE-QL		JIS CE-19 Long Shank High Helix Center Drills-Type A 90°
CE-QL V		JIS CE-20 Long Shank High Helix Center Drills-Type A 90°, Coated

C-CD-QL		JIS CE-21	Long Shank Low Helix Carbide Center Drills-Type A 90°
CEIR		JIS CE-22	High Helix Center Drills-JIS Type R
CD-R		JIS CE-23	Low Helix Center Drills-Type R
CE5B		JIS CE-24	High Helix Center Drills-JIS Type B 60°
CE5C		JIS CE-25	High Helix Center Drills-JIS Type C 60°
MHCDS		JIS CE-27	Center Drills for Carbon Steels of Middle Hardness for running at High Speed
JO-CES		JIS CE-30	Joint- High Helix Center Drills-Type A 60°
JO-CES V		JIS CE-31	Joint- High Helix Center Drills-Type A 60°, Coated
JO-CDS		JIS CE-32	Joint- Low Helix Center Drills-Type A 60°
JO-CDS V		JIS CE-33	Joint- Low Helix Center Drills-Type A 60°, Coated
JO-C-CDS		JIS CE-34	Joint- Low Helix Carbide Center Drills-Type A 60°
JO-PEQ		JIS CE-35	Joint- Point Drills 90°
JO-PEQ V		JIS CE-36	Joint- Point Drills 90°, Coated
JO-C-PEQ V		JIS CE-37	Joint- Carbide Point Drills 90°, Coated
JO-NCSD V		JIS CE-38	Joint- NC Starting Drills for Beveling, Coated
JO-CSQM		JIS CE-39	Joint- Countersinks 90°, Drilling Machine Use
JO-HOLDER		JIS CE-40	Holders for Joint Tools, for 150mm and for 200mm
PE-Q		JIS CE-42	Point Drills 90°
PE-Q V		JIS CE-43	Point Drills 90°, Coated
C-PE-Q V		JIS CE-44	Carbide Point Drills 90°, Coated
PE-QL V		JIS CE-45	Long Shank Point Drills 90°, Coated
PE-S		JIS CE-46	Point Drills 60°
PE-S V		JIS CE-47	Point Drills 60°, Coated
C-PE-S V		JIS CE-48	Carbide Point Drills 60°, Coated
PE-SL V		JIS CE-49	Long Shank Point Drills 60°, Coated
NC-SD V		JIS CE-51	NC Starting Drills for Center Positioning (90°), Coated
NC-SD		JIS CE-51	NC Starting Drills for Center Positioning (125°)
CS-Q		JIS CE-53	Countersinks 90°, Machining Center Use
CS-QM		JIS CE-54	Countersinks 90° and 60°, Drilling Machine Use
CS-G		JIS CE-55	Submarine Gate Cutter, 20°, 30°

Explanation of icons

HSS	High speed steel	Coating	Coated		Spiral pointed tap through hole use
HSS-Co	High speed steel (Cobalt HSS)		For blind hole with through coolant hole		Hand tap
HSS-P	Powder HSS		For through hole with radial coolant hole		Spiral fluted tap through hole use
HF	Ultra micro grain cemented carbide	LH Left hand	For left hand thread		Spiral fluted tap blind hole use
Alloy steel	Alloy steel	Synchro nized	For synchronized feeding		Low spiral fluted tap blind hole use
Tool steel	Tool steel	5	Number of threads on chamfer		Low spiral fluted tap blind hole use specially for horizontal tapping
OX Oxide	Oxidizing	Front face 2~2.5	Number of threads on chamfer (for Round Die)		Specification Tapping Speeds
NI Nitride	Nitriding	LH	Center drills left hand cut		
NX Nitride+Oxide	Nitriding/Oxidizing	<2D	Cutting length		

COLOUR RINGS		
YELLOW	for sticky and soft steel $\leq 500\text{N/mm}^2$	
BLUE (VA)	for stainless steel and general steel	
RED	for hard steel 30~45 HRC	
WHITE	for cast iron	
ORANGE	for nickel base alloy, alloy steel (CrMo, NiCrMo) and stainless steel (V4A)	
PINK	for titanium alloy, alloy steel (CrMo, NiCrMo) $\geq 950\text{N/mm}^2$	
GREEN	for aluminium casting and diecasting ($\text{Si} \leq 12\%$)	

DIN LINE UP

SPIRAL FLUTED TAP SERIES FOR BLIND HOLE



<u>SP</u>	<u>SP-1</u>	<u>SP-BLF</u>	<u>SP-32</u>
<u>SP(Coating)</u>	<u>SP-6</u>	<u>SP-BLF(Coating)</u>	<u>SP-34</u>
<u>SP OX</u>	<u>SP-8</u>	<u>SP-BLF OX</u>	<u>SP-35</u>
<u>SP(LH)</u>	<u>SP-13</u>	<u>SU2-SP</u>	<u>SP-36</u>
<u>AU+SP</u>	<u>SP-14</u>	<u>ZEN-B</u>	<u>SP-38</u>
<u>AUXSP</u>	<u>SP-16</u>	<u>ZET-B</u>	<u>SP-40</u>
<u>AL+SP/AL-SP</u>	<u>SP-17</u>	<u>F-SP</u>	<u>SP-42</u>
<u>LO-SP</u>	<u>SP-19</u>	<u>HFIHS</u>	<u>SP-43</u>
<u>LO-SP OX</u>	<u>SP-21</u>	<u>HFISP</u>	<u>SP-44</u>
<u>PH-SP</u>	<u>SP-24</u>	<u>HFAHS</u>	<u>SP-45</u>
<u>E-SP</u>	<u>SP-26</u>	<u>HFASP</u>	<u>SP-46</u>
<u>SP+VA</u>	<u>SP-27</u>	<u>HDISP</u>	<u>SP-47</u>
<u>SP-VA</u>	<u>SP-28</u>	<u>HDASP</u>	<u>SP-48</u>
<u>SP-VA(Coating)</u>	<u>SP-31</u>		

SP

Spiral Fluted Taps

Specification

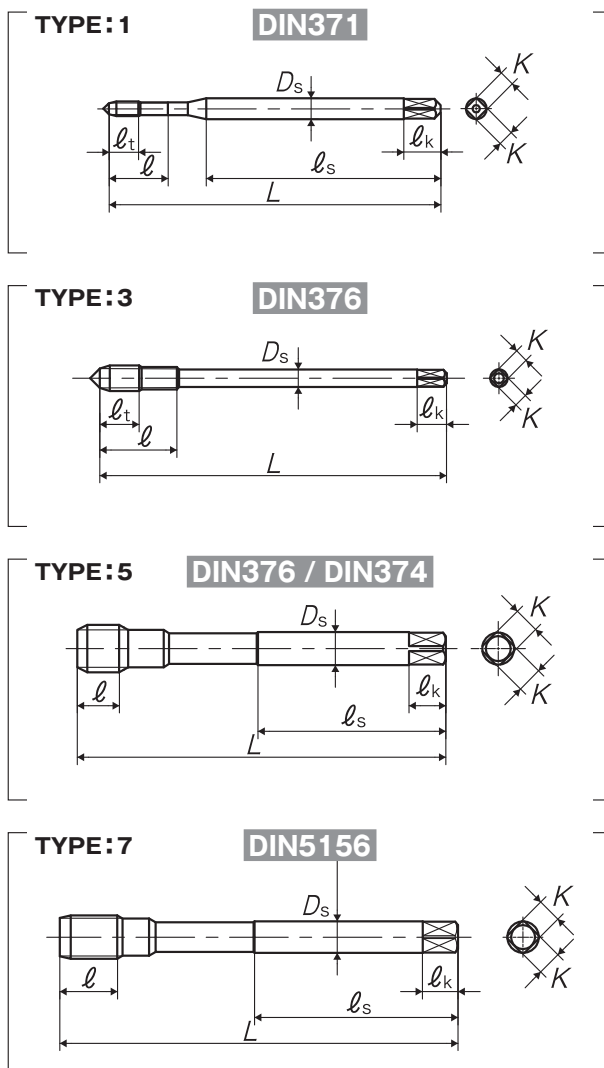


Recommended Tapping Speeds depending on Materials

Carbon steel and low alloy steel
ISO P2
5~10
(m/min)

For icon explanation, refer to P.50

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools



Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Oversize
Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M2 × 0.4	ISO2	SD2.0EANEB	2.5P	45	4	8	-	32	2.8	2.1	5	2	1	●
M2.2 × 0.45	ISO2	SD2.2FANEB	2.5P	45	4	9	-	32	2.8	2.1	5	2	1	
M2.5 × 0.45	ISO2	SD2.5FANEB	2.5P	50	4	8	15	33	2.8	2.1	5	2	2	●
M2.6 × 0.45	ISO2	SD2.6FANEB	2.5P	50	4	8	15	33	2.8	2.1	5	2	2	●
M3 × 0.5	ISO2	SD3.0GANEB	2.5P	56	5	9	18	34	3.5	2.7	6	3	2	●
	ISO3	SD3.0GMNEB	2.5P	56	5	9	18	34	3.5	2.7	6	3	2	●
	ISO2+100	96403.0+100	2.5P	56	5	9	18	34	3.5	2.7	6	3	2	●
M3.5 × 0.6	ISO2	SD3.5HANEB	2.5P	56	7	11	20	32	4	3	6	3	2	●
M4 × 0.7	ISO2	SD4.0IANEB	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	●
		SG4.0IANEB	2.5P	63	7	13	-	-	2.8	2.1	5	3	3	
	ISO3	SD4.0IMNEB	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	●
	ISO2+100	96404.0+100	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	●
M5 × 0.8	ISO2	SD5.0KANEB	2.5P	70	9	14	25	39	6	4.9	8	3	2	●
		SG5.0KANEB	2.5P	70	9	14	-	-	3.5	2.7	6	3	3	●
	ISO3	SD5.0KMNEB	2.5P	70	9	14	25	39	6	4.9	8	3	2	●
	ISO2+100	96405.0+100	2.5P	70	9	14	25	39	6	4.9	8	3	2	●
M6 × 1	ISO2	SD6.0MANEB	2.5P	80	11	15	30	45	6	4.9	8	3	2	●
		SG6.0MANEB	2.5P	80	11	15	-	-	4.5	3.4	6	3	3	●
	ISO3	SD6.0MMNEB	2.5P	80	11	15	30	45	6	4.9	8	3	2	●
	ISO2+50	N96406.0+50	2.5P	80	11	15	30	45	6	4.9	8	3	2	●
ISO2+100	96406.0+100	2.5P	80	11	15	30	45	6	4.9	8	3	2	●	
M7 × 1	ISO2	SD7.0MANEB	2.5P	80	-	11	30	45	7	5.5	8	3	4	●
M7 × 0.75	ISO2	SM7.0JANEB	2.5P	80	-	8	-	41	5.5	4.3	7	3	5	
M7 × 0.5	ISO2	SM7.0GANEB	2.5P	80	-	8	-	41	5.5	4.3	7	3	5	
M8 × 1.25	ISO2	SD8.0NANEB	2.5P	90	-	12	35	47	8	6.2	9	3	4	●
		SG8.0NANEB	2.5P	90	-	12	-	46	6	4.9	8	3	5	●
	ISO3	SD8.0NMNEB	2.5P	90	-	12	35	47	8	6.2	9	3	4	●
	ISO2+50	N96408.0+50	2.5P	90	-	12	35	47	8	6.2	9	3	4	●
	ISO2+100	96408.0+100	2.5P	90	-	12	35	47	8	6.2	9	3	4	●
M8 × 1	ISO2	SM8.0MANEB	2.5P	90	-	12	-	46	6	4.9	8	3	5	●
M8 × 0.75	ISO2	SM8.0JANEB	2.5P	80	-	12	-	41	6	4.9	8	3	5	
M8 × 0.5	ISO2	SM8.0GANEB	2.5P	80	-	12	-	41	6	4.9	8	3	5	
M9 × 1.25	ISO2	SD9.0NANEB	2.5P	90	-	12	35	48	9	7	10	3	4	
	ISO2	SM9.0NANEB	2.5P	90	-	12	-	46	7	5.5	8	3	5	
M9 × 1	ISO2	SM9.0MANEB	2.5P	90	-	12	-	46	7	5.5	8	3	5	
M10 × 1.5	ISO2	SD0100ANEB	2.5P	100	-	13	39	52	10	8	11	3	4	●
		SG0100ANEB	2.5P	100	-	13	-	51	7	5.5	8	3	5	●
	ISO3	SD0100MNEB	2.5P	100	-	13	39	52	10	8	11	3	4	●
	ISO2+50	N9640010+50	2.5P	100	-	13	39	52	10	8	11	3	4	●
	ISO2+100	9640010+100	2.5P	100	-	13	39	52	10	8	11	3	4	●
M10 × 1.25	ISO2	SM010NANEB	2.5P	100	-	13	-	51	7	5.5	8	3	5	●
M10 × 1	ISO2	SM010MANEB	2.5P	90	-	13	-	46	7	5.5	8	3	5	●
M10 × 0.75	ISO2	SM010JANEB	2.5P	90	-	13	-	46	7	5.5	8	3	5	
M11 × 1.5	ISO2	SM0110ANEB	2.5P	100	-	13	-	51	8	6.2	9	3	5	
M12 × 1.75	ISO2	SG012PANEB	2.5P	110	-	15	-	56	9	7	10	3	6	●
	ISO3	SG012PMNEB	2.5P	110	-	15	-	56	9	7	10	3	6	●
	ISO2+100	9740012+100	2.5P	110	-	15	-	56	9	7	10	3	6	●
M12 × 1.5	ISO2	SM0120ANEB	2.5P	100	-	15	-	51	9	7	10	3	5	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.25	IS02	SM012NANEB	2.5P	100	-	15	-	51	9	7	10	3	5	●
M12 × 1	IS02	SM012MANEB	2.5P	100	-	15	-	51	9	7	10	3	5	●
M14 × 2	IS02	SG014QANEB	2.5P	110	-	18	-	56	11	9	12	3	6	●
	IS03	SG014QMNEB	2.5P	110	-	18	-	56	11	9	12	3	6	
M14 × 1.5	IS02	SM0140ANEB	2.5P	100	-	14	-	51	11	9	12	3	5	●
M14 × 1.25	IS02	SM014NANEB	2.5P	100	-	14	-	51	11	9	12	3	5	
M14 × 1	IS02	SM014MANEB	2.5P	100	-	14	-	51	11	9	12	3	5	
M16 × 2	IS02	SG016QANEB	2.5P	110	-	18	-	56	12	9	12	3	6	●
	IS03	SG016QMNEB	2.5P	110	-	18	-	56	12	9	12	3	6	●
M16 × 1.5	IS02	SM0160ANEB	2.5P	100	-	14	-	51	12	9	12	3	5	●
M16 × 1	IS02	SM016MANEB	2.5P	100	-	14	-	51	12	9	12	3	5	
M18 × 2.5	IS02	SG018RANEB	2.5P	125	-	20	-	64	14	11	14	4	6	●
M18 × 2	IS02	SM018QANEB	2.5P	125	-	18	-	64	14	11	14	4	5	
M18 × 1.5	IS02	SM0180ANEB	2.5P	110	-	14	-	56	14	11	14	4	5	●
M18 × 1	IS02	SM018MANEB	2.5P	110	-	14	-	56	14	11	14	4	5	
M20 × 2.5	IS02	SG020RANEB	2.5P	140	-	20	-	71	16	12	15	4	6	●
M20 × 2	IS02	SM020QANEB	2.5P	140	-	18	-	71	16	12	15	4	5	
M20 × 1.5	IS02	SM0200ANEB	2.5P	125	-	14	-	64	16	12	15	4	5	●
M20 × 1	IS02	SM020MANEB	2.5P	125	-	14	-	64	16	12	15	4	5	
M22 × 2.5	IS02	SG022RANEB	2.5P	140	-	20	-	71	18	14.5	17	4	6	●
M22 × 2	IS02	SM022QANEB	2.5P	140	-	18	-	71	18	14.5	17	4	5	
M22 × 1.5	IS02	SM0220ANEB	2.5P	125	-	14	-	64	18	14.5	17	4	5	
M22 × 1	IS02	SM022MANEB	2.5P	125	-	14	-	64	18	14.5	17	4	5	
M24 × 3	IS02	SG024SANEB	2.5P	160	-	25	-	82	18	14.5	17	4	6	●
M24 × 2	IS02	SM024QANEB	2.5P	140	-	18	-	71	18	14.5	17	4	5	
M24 × 1.5	IS02	SM0240ANEB	2.5P	140	-	18	-	71	18	14.5	17	4	5	
M24 × 1	IS02	SM024MANEB	2.5P	140	-	18	-	71	18	14.5	17	4	5	
M25 × 1.5	IS02	SM0250ANEB	2.5P	140	-	18	-	71	18	14.5	17	4	5	
M26 × 1.5	IS02	SM0260ANEB	2.5P	140	-	18	-	71	18	14.5	17	4	5	
M27 × 3	IS02	SG027SANEB	2.5P	160	-	25	-	82	20	16	19	4	6	●
M27 × 2	IS02	SM027QANEB	2.5P	140	-	20	-	71	20	16	19	4	5	
M27 × 1.5	IS02	SM0270ANEB	2.5P	140	-	20	-	71	20	16	19	4	5	
M27 × 1	IS02	SM027MANEB	2.5P	140	-	20	-	71	20	16	19	4	5	
M28 × 2	IS02	SM028QANEB	2.5P	140	-	20	-	71	20	16	19	4	5	
M28 × 1.5	IS02	SM0280ANEB	2.5P	140	-	20	-	71	20	16	19	4	5	
M28 × 1	IS02	SM028MANEB	2.5P	140	-	20	-	71	20	16	19	4	5	
M30 × 3.5	IS02	SG030TANEB	2.5P	180	-	30	-	92	22	18	21	4	6	●
M30 × 2	IS02	SM030QANEB	2.5P	150	-	20	-	77	22	18	21	4	5	
M30 × 1.5	IS02	SM0300ANEB	2.5P	150	-	20	-	77	22	18	21	4	5	
M30 × 1	IS02	SM030MANEB	2.5P	150	-	20	-	77	22	18	21	4	5	
M32 × 2	IS02	SM032QANEB	2.5P	150	-	20	-	77	22	18	21	4	5	
M32 × 1.5	IS02	SM0320ANEB	2.5P	150	-	20	-	77	22	18	21	4	5	
M32 × 1	IS02	SM032MANEB	2.5P	150	-	20	-	77	22	18	21	4	5	
M33 × 3.5	IS02	SG033TANEB	2.5P	180	-	30	-	92	25	20	23	4	6	●
M33 × 2	IS02	SM033QANEB	2.5P	160	-	20	-	82	25	20	23	4	5	
M33 × 1.5	IS02	SM0330ANEB	2.5P	160	-	20	-	82	25	20	23	4	5	
M33 × 1	IS02	SM033MANEB	2.5P	160	-	20	-	82	25	20	23	4	5	
M36 × 4	IS02	SG036UANEB	2.5P	200	-	40	-	102	28	22	25	4	6	●
M36 × 3	IS02	SG036SANEB	2.5P	200	-	30	-	102	28	22	25	4	5	
M36 × 2	IS02	SM036QANEB	2.5P	170	-	20	-	87	28	22	25	4	5	

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M36 × 1.5	IS02	SM0360ANEB	2.5P	170	-	20	-	87	28	22	25	4	5	
M36 × 1	IS02	SM036MANEB	2.5P	170	-	20	-	87	28	22	25	4	5	
M39 × 4	IS02	SG039UANEB	2.5P	200	-	40	-	102	32	24	27	4	6	●
M39 × 2	IS02	SM039QANEB	2.5P	170	-	20	-	87	32	24	27	4	5	
M39 × 1.5	IS02	SM0390ANEB	2.5P	170	-	20	-	87	32	24	27	4	5	
M39 × 1	IS02	SM039MANEB	2.5P	170	-	20	-	87	32	24	27	4	5	
M42 × 4.5	IS02	SG042VANEB	2.5P	200	-	40	-	102	32	24	27	4	6	●
M42 × 2	IS02	SM042QANEB	2.5P	170	-	20	-	87	32	24	27	4	5	
M42 × 1.5	IS02	SM0420ANEB	2.5P	170	-	20	-	87	32	24	27	4	5	
M42 × 1	IS02	SM042MANEB	2.5P	170	-	20	-	87	32	24	27	4	5	
M45 × 4.5	IS02	SG045VANEB	2.5P	220	-	45	-	112	36	29	32	4	6	●
M45 × 3	IS02	SM045SANEB	2.5P	200	-	40	-	102	36	29	32	4	5	
M45 × 2	IS02	SM045QANEB	2.5P	180	-	25	-	92	36	29	32	4	5	
M45 × 1.5	IS02	SM0450ANEB	2.5P	180	-	25	-	92	36	29	32	4	5	
M45 × 1	IS02	SM045MANEB	2.5P	180	-	25	-	92	36	29	32	4	5	
M48 × 5	IS02	SG048WANEB	2.5P	250	-	45	-	128	36	29	32	4	6	●
M48 × 3	IS02	SM048SANEB	2.5P	225	-	40	-	115	36	29	32	4	5	
M48 × 2	IS02	SM048QANEB	2.5P	190	-	25	-	97	36	29	32	4	5	
M48 × 1.5	IS02	SM0480ANEB	2.5P	190	-	25	-	97	36	29	32	4	5	
M48 × 1	IS02	SM048MANEB	2.5P	190	-	25	-	97	36	29	32	4	5	
Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads														
No.4-40UNC	2B	SDUN4HXNEB	2.5P	56	5	9	18	34	3.5	2.7	6	2	2	●
No.4-48UNF	2B	SDUN4FXNEB	2.5P	56	5	9	18	34	3.5	2.7	6	2	2	
No.5-40UNC	2B	SDUN5HXNEB	2.5P	56	5	11	18	34	3.5	2.7	6	2	2	
No.5-44UNF	2B	SDUN5GXNEB	2.5P	56	5	11	18	34	3.5	2.7	6	2	2	
No.6-32UNC	2B	SDUN6JXNEB	2.5P	56	7	11	19	32	4	3	6	3	2	●
No.6-40UNF	2B	SDUN6HXNEB	2.5P	56	7	11	19	32	4	3	6	3	2	●
No.8-32UNC	2B	SDUN8JXNEB	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	●
No.8-36UNF	2B	SDUN8IXNEB	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	
No.10-24UNC	2B	SDUNAMXNEB	2.5P	70	9	14	24	39	6	4.9	8	3	2	●
No.10-32UNF	2B	SDUNAJXNEB	2.5P	70	9	14	24	39	6	4.9	8	3	2	●
No.12-24UNC	2B	SDUNCMXNEB	2.5P	80	9	15	28	45	6	4.9	8	3	2	
No.12-28UNF	2B	SDUNCCKXNEB	2.5P	80	9	15	28	45	6	4.9	8	3	2	
1/4-20UNC	2B	SDU04NXNEB	2.5P	80	11	15	30	42	7	5.5	8	3	2	●
1/4-28UNF	2B	SDU04KXNEB	2.5P	80	11	15	30	42	7	5.5	8	3	2	●
5/16-18UNC	2B	SDU050XNEB	2.5P	90	-	12	35	47	8	6.2	9	3	4	●
5/16-24UNF	2B	SMU05MXNEB	2.5P	90	-	12	-	46	6	4.9	8	3	5	●
3/8-16UNC	2B	SDU06PXNEB	2.5P	100	-	13	39	54	9	7	10	3	4	●
3/8-24UNF	2B	SMU06MXNEB	2.5P	100	-	13	-	51	7	5.5	8	3	5	●
7/16-14UNC	2B	SGU07QXNEB	2.5P	100	-	13	-	51	8	6.2	9	3	6	●
7/16-20UNF	2B	SMU07NXNEB	2.5P	100	-	13	-	51	8	6.2	9	3	5	●
1/2-13UNC	2B	SGU08RXNEB	2.5P	110	-	15	-	56	9	7	10	3	6	●
1/2-20UNF	2B	SMU08NXNEB	2.5P	100	-	15	-	51	9	7	10	3	5	●
9/16-12UNC	2B	SGU09SXNEB	2.5P	110	-	18	-	56	11	9	12	3	6	●
9/16-18UNF	2B	SMU090XNEB	2.5P	100	-	14	-	51	11	9	12	3	5	●
5/8-11UNC	2B	SGU10UXNEB	2.5P	110	-	18	-	56	12	9	12	3	6	●
5/8-18UNF	2B	SMU100XNEB	2.5P	100	-	14	-	51	12	9	12	3	5	●
3/4-10UNC	2B	SGU12VXNEB	2.5P	125	-	20	-	64	14	11	14	4	6	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
3/4-16UNF	2B	SMU12PXNEB	2.5P	110	-	14	-	56	14	11	14	4	5	●
7/8-9UNC	2B	SGU14WXNEB	2.5P	140	-	20	-	71	18	14.5	17	4	6	●
7/8-14UNF	2B	SMU14QXNEB	2.5P	125	-	20	-	64	18	14.5	17	4	5	●
1-8UNC	2B	SGU16XXNEB	2.5P	160	-	25	-	82	18	14.5	17	4	6	●
1-12UNF	2B	SMU16SXNEB	2.5P	140	-	18	-	71	18	14.5	17	4	5	●
1 1/8-7UNC	2B	SGU18YXNEB	2.5P	180	-	30	-	92	22	18	21	4	6	
1 1/8-12UNF	2B	SMU18SXNEB	2.5P	150	-	20	-	77	22	18	21	4	5	
1 1/4-7UNC	2B	SGU20YXNEB	2.5P	180	-	30	-	92	22	18	21	4	6	
1 1/4-12UNF	2B	SMU20SXNEB	2.5P	150	-	20	-	77	22	18	21	4	5	
1 3/8-6UNC	2B	SGU22ZXNEB	2.5P	200	-	40	-	102	28	20	23	4	6	
1 3/8-12UNF	2B	SMU22SXNEB	2.5P	170	-	20	-	87	28	20	23	4	5	
1 1/2-6UNC	2B	SGU24ZXNEB	2.5P	200	-	40	-	102	32	24	27	4	6	
1 1/2-12UNF	2B	SMU24SXNEB	2.5P	170	-	20	-	87	32	24	27	4	5	
1 3/4-5UNC	2B	SGU287XNEB	2.5P	220	-	45	-	112	36	29	32	4	6	
1 3/4-12UN	2B	SMU28SXNEB	2.5P	180	-	20	-	92	36	29	32	4	5	
Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads														
G1/16-28	-	SVG0010NEB	2.5P	90	-	12	-	46	6	4.9	8	3	7	
G1/8-28	-	SVG0020NEB	2.5P	90	-	12	-	46	7	5.5	8	3	7	●
G1/4-19	-	SVG0040NEB	2.5P	100	-	14	-	51	11	9	12	3	7	●
G3/8-19	-	SVG0060NEB	2.5P	100	-	14	-	51	12	9	12	3	7	●
G1/2-14	-	SVG0080NEB	2.5P	125	-	18	-	64	16	12	15	4	7	●
G3/4-14	-	SVG0120NEB	2.5P	140	-	20	-	71	20	16	19	4	7	●
G7/8-14	-	SVG0140NEB	2.5P	150	-	20	-	77	22	18	21	4	7	
G1-11	-	SVG0160NEB	2.5P	160	-	20	-	82	25	20	23	4	7	●
G1 1/8-11	-	SVG0180NEB	2.5P	170	-	20	-	87	28	22	25	4	7	
G1 1/4-11	-	SVG0200NEB	2.5P	170	-	20	-	87	32	24	27	4	7	
G1 1/2-11	-	SVG0240NEB	2.5P	190	-	25	-	97	36	29	32	4	7	

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple inspection tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

SP(Coating)

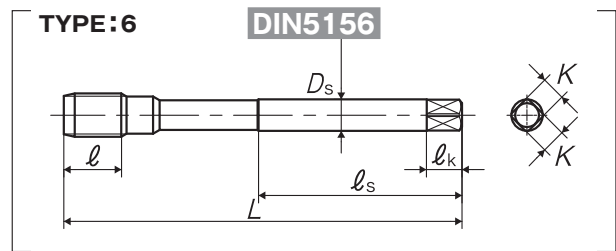
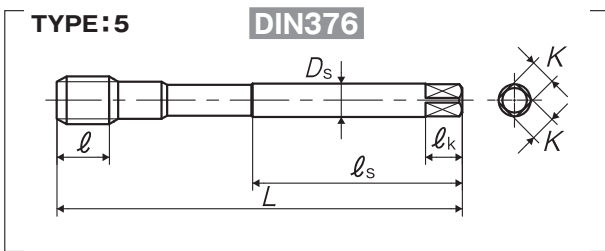
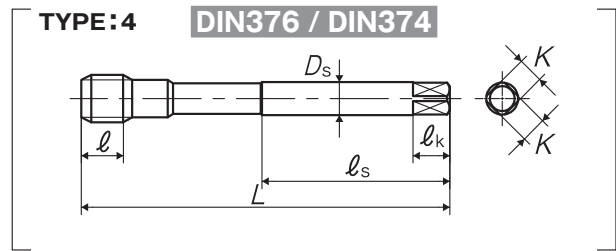
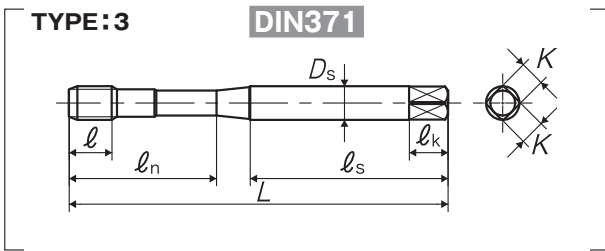
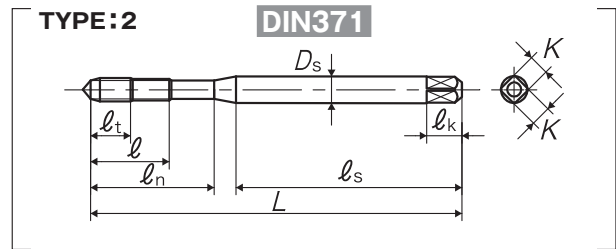
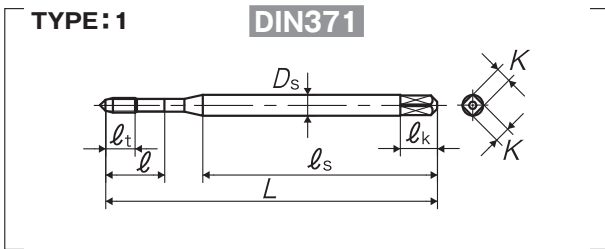
Spiral Fluted Taps, Coated
Specification



Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 10~20 (m/min)	Carbon steel and low alloy steel ISO P2 10~20 (m/min)	Medium alloy steel and heat treated steel ISO P3 10~20 (m/min)	High alloy steel ISO P4 10~20 (m/min)
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For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

SP(Coating) Spiral Fluted Taps, Coated

Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ _t (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads														
M2 × 0.4	IS02	96402.0TI	2.5P	45	4	8	-	32	2.8	2.1	5	2	1	
M3 × 0.5	IS02	96403.0TI	2.5P	56	5	9	18	34	3.5	2.7	6	3	2	●
M4 × 0.7	IS02	96404.0TI	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	●
M5 × 0.8	IS02	96405.0TI	2.5P	70	9	14	25	39	6	4.9	8	3	2	●
M6 × 1	IS02	96406.0TI	2.5P	80	11	15	30	45	6	4.9	8	3	2	●
M8 × 1.25	IS02	96408.0TI	2.5P	90	-	12	35	47	8	6.2	9	3	3	●
M8 × 1	IS02	98408.0MTI	2.5P	90	-	12	-	46	6	4.9	8	3	4	●
M10 × 1.5	IS02	9640010TI	2.5P	100	-	13	39	52	10	8	11	3	3	●
M10 × 1.25	IS02	9840010NTI	2.5P	100	-	13	-	51	7	5.5	8	3	4	●
M10 × 1	IS02	9840010MTI	2.5P	90	-	13	-	46	7	5.5	8	3	4	●
M12 × 1.75	IS02	9740012TI	2.5P	110	-	15	-	56	9	7	10	3	5	●
M12 × 1.5	IS02	98400120TI	2.5P	100	-	15	-	51	9	7	10	3	4	●
M12 × 1.25	IS02	9840012NTI	2.5P	100	-	15	-	51	9	7	10	3	4	●
M14 × 2	IS02	9740014TI	2.5P	110	-	18	-	56	11	9	12	3	5	●
M14 × 1.5	IS02	98400140TI	2.5P	100	-	14	-	51	11	9	12	3	4	●
M16 × 2	IS02	9740016TI	2.5P	110	-	18	-	56	12	9	12	3	5	●
M16 × 1.5	IS02	98400160TI	2.5P	100	-	14	-	51	12	9	12	3	4	●
M18 × 2.5	IS02	9740018TI	2.5P	125	-	20	-	64	14	11	14	4	5	●
M18 × 1.5	IS02	98400180TI	2.5P	110	-	14	-	56	14	11	14	4	4	●
M20 × 2.5	IS02	9740020TI	2.5P	140	-	20	-	71	16	12	15	4	5	●
M20 × 1.5	IS02	98400200TI	2.5P	125	-	14	-	64	16	12	15	4	4	●
M22 × 2.5	IS02	9740022TI	2.5P	140	-	20	-	71	18	14.5	17	4	5	●
M22 × 1.5	IS02	98400220TI	2.5P	125	-	14	-	64	18	14.5	17	4	4	●
M24 × 3	IS02	9740024TI	2.5P	160	-	25	-	82	18	14.5	17	4	5	●
For G Threads														
G1/8-28	-	9940R02TI	2.5P	90	-	12	-	46	7	5.5	8	3	6	●
G1/4-19	-	9940R04TI	2.5P	100	-	14	-	51	11	9	12	3	6	●
G3/8-19	-	9940R06TI	2.5P	100	-	14	-	51	12	9	12	3	6	●
G1/2-14	-	9940R08TI	2.5P	125	-	18	-	64	16	12	15	4	6	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	l _t	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SP OX

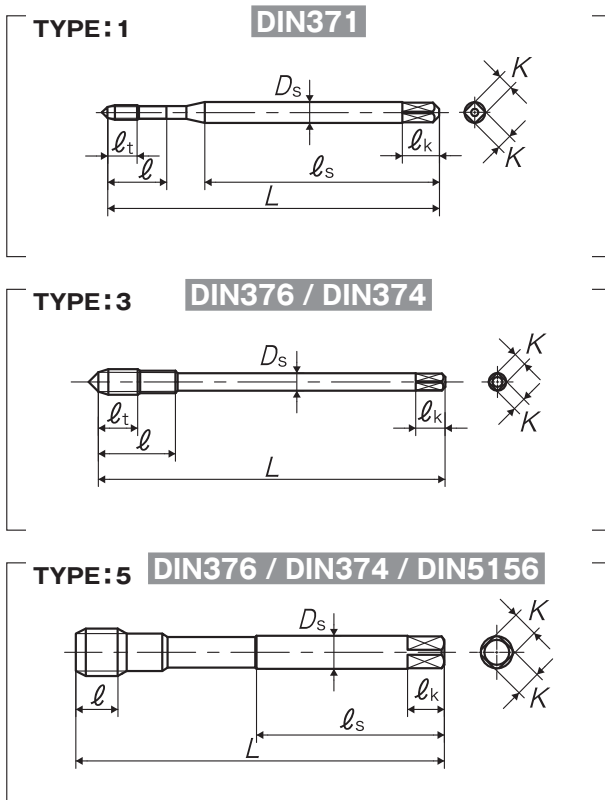
Spiral Fluted Taps, Oxided
Specification



Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 5~10 (m/min)	Carbon steel and low alloy steel ISO P2 5~10 (m/min)
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For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps, Oxidized

○ Oversize

Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M2 × 0.4	IS02	SD2.0EANEX	2.5P	45	4	8	-	32	2.8	2.1	5	2	1	
M2.2 × 0.45	IS02	SD2.2FANEX	2.5P	45	4	9	-	32	2.8	2.1	5	2	1	
M2.3 × 0.4	IS02	SD2.3EANEX	2.5P	45	4	9	-	32	2.8	2.1	5	2	1	
M2.5 × 0.45	IS02	SD2.5FANEX	2.5P	50	4	8	15	33	2.8	2.1	5	2	2	
M2.6 × 0.45	IS02	SD2.6FANEX	2.5P	50	4	8	15	33	2.8	2.1	5	2	2	
M3 × 0.5	IS02	SD3.0GANEX	2.5P	56	5	9	18	34	3.5	2.7	6	3	2	
	IS03	SD3.0GMNEX	2.5P	56	5	9	18	34	3.5	2.7	6	3	2	
M3.5 × 0.6	IS02	SD3.5HANEX	2.5P	56	7	11	20	32	4	3	6	2	2	
M4 × 0.7	IS02	SD4.0IANEX	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	
	IS03	SD4.0IMNEX	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	
M4 × 0.5	IS02	SM4.0GANEX	2.5P	63	5	9	-	-	2.8	2.1	5	3	3	●
M4.5 × 0.75	IS02	SD4.5JANEX	2.5P	70	9	14	24	39	6	4.9	8	3	2	
M5 × 0.8	IS02	SD5.0KANEX	2.5P	70	9	14	25	39	6	4.9	8	3	2	
	IS03	SD5.0KMNEX	2.5P	70	9	14	25	39	6	4.9	8	3	2	
M5 × 0.5	IS02	SM5.0GANEX	2.5P	70	6	11	-	-	3.5	2.7	6	3	3	●
M6 × 1	IS02	SD6.0MANEX	2.5P	80	11	15	30	45	6	4.9	8	3	2	
	IS03	SD6.0MMNEX	2.5P	80	11	15	30	45	6	4.9	8	3	2	
M6 × 0.75	IS02	SM6.0JANEX	2.5P	80	8	13	-	-	4.5	3.4	6	3	3	●
M6 × 0.5	IS02	SM6.0GANEX	2.5P	80	8	13	-	-	4.5	3.4	6	3	3	●
M7 × 1	IS02	SD7.0MANEX	2.5P	80	-	11	30	45	7	5.5	8	3	4	
M7 × 0.75	IS02	SM7.0JANEX	2.5P	80	-	8	-	41	5.5	4.3	7	3	5	
M7 × 0.5	IS02	SM7.0GANEX	2.5P	80	-	8	-	41	5.5	4.3	7	3	5	
M8 × 1.25	IS02	SD8.0NANEX	2.5P	90	-	12	35	47	8	6.2	9	3	4	
	IS03	SD8.0NMNEX	2.5P	90	-	12	35	47	8	6.2	9	3	4	
M8 × 1	IS02	SM8.0MANEX	2.5P	90	-	12	-	46	6	4.9	8	3	5	●
M8 × 0.75	IS02	SM8.0JANEX	2.5P	80	-	12	-	41	6	4.9	8	3	5	●
M8 × 0.5	IS02	SM8.0GANEX	2.5P	80	-	12	-	41	6	4.9	8	3	5	●
M9 × 1.25	IS02	SD9.0NANEX	2.5P	90	-	12	35	48	9	7	10	3	4	
	IS02	SM9.0NANEX	2.5P	90	-	12	-	46	7	5.5	8	3	5	
M9 × 1	IS02	SM9.0MANEX	2.5P	90	-	12	-	46	7	5.5	8	3	5	
M10 × 1.5	IS02	SD0100ANEX	2.5P	100	-	13	39	52	10	8	11	3	4	
	IS03	SD0100MNEX	2.5P	100	-	13	39	52	10	8	11	3	4	
M10 × 1.25	IS02	SM010ANEX	2.5P	100	-	13	-	51	7	5.5	8	3	5	●
M10 × 1	IS02	SM010MANEX	2.5P	90	-	13	-	46	7	5.5	8	3	5	●
M10 × 0.75	IS02	SM010JANEX	2.5P	90	-	13	-	46	7	5.5	8	3	5	●
M11 × 1.5	IS02	SM0110ANEX	2.5P	100	-	13	-	51	8	6.2	9	3	5	
M12 × 1.75	IS02	SG012PANEX	2.5P	110	-	15	-	56	9	7	10	3	5	
	IS03	SG012PMNEX	2.5P	110	-	15	-	56	9	7	10	3	5	
M12 × 1.5	IS02	SM0120ANEX	2.5P	100	-	15	-	51	9	7	10	3	5	●
M12 × 1.25	IS02	SM012NANEX	2.5P	100	-	15	-	51	9	7	10	3	5	●
M12 × 1	IS02	SM012MANEX	2.5P	100	-	15	-	51	9	7	10	3	5	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps, Oxided

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M14 × 2	ISO2	SG014QANEX	2.5P	110	-	18	-	56	11	9	12	3	5	
	ISO3	SG014QMEX	2.5P	110	-	18	-	56	11	9	12	3	5	
M14 × 1.5	ISO2	SM0140ANEX	2.5P	100	-	14	-	51	11	9	12	3	5	●
M14 × 1.25	ISO2	SM014NANEX	2.5P	100	-	14	-	51	11	9	12	3	5	●
M14 × 1	ISO2	SM014MANEX	2.5P	100	-	14	-	51	11	9	12	3	5	●
M16 × 2	ISO2	SG016QANEX	2.5P	110	-	18	-	56	12	9	12	3	5	
	ISO3	SG016QMEX	2.5P	110	-	18	-	56	12	9	12	3	5	
M16 × 1.5	ISO2	SM0160ANEX	2.5P	100	-	14	-	51	12	9	12	3	5	●
M16 × 1	ISO2	SM016MANEX	2.5P	100	-	14	-	51	12	9	12	3	5	●
M18 × 2.5	ISO2	SG018RANEX	2.5P	125	-	20	-	64	14	11	14	4	5	
M18 × 2	ISO2	SM018QANEX	2.5P	125	-	18	-	64	14	11	14	4	5	●
M18 × 1.5	ISO2	SM0180ANEX	2.5P	110	-	14	-	56	14	11	14	4	5	●
M18 × 1	ISO2	SM018MANEX	2.5P	110	-	14	-	56	14	11	14	4	5	●
M20 × 2.5	ISO2	SG020RANEX	2.5P	140	-	20	-	71	16	12	15	4	5	
M20 × 2	ISO2	SM020QANEX	2.5P	140	-	18	-	71	16	12	15	4	5	●
M20 × 1.5	ISO2	SM0200ANEX	2.5P	125	-	14	-	64	16	12	15	4	5	●
M20 × 1	ISO2	SM020MANEX	2.5P	125	-	14	-	64	16	12	15	4	5	●
M22 × 2.5	ISO2	SG022RANEX	2.5P	140	-	20	-	71	18	14.5	17	4	5	
M22 × 2	ISO2	SM022QANEX	2.5P	140	-	18	-	71	18	14.5	17	4	5	●
M22 × 1.5	ISO2	SM0220ANEX	2.5P	125	-	14	-	64	18	14.5	17	4	5	●
M22 × 1	ISO2	SM022MANEX	2.5P	125	-	14	-	64	18	14.5	17	4	5	●
M24 × 3	ISO2	SG024SANEX	2.5P	160	-	25	-	82	18	14.5	17	4	5	
M24 × 2	ISO2	SM024QANEX	2.5P	140	-	18	-	71	18	14.5	17	4	5	●
M24 × 1.5	ISO2	SM0240ANEX	2.5P	140	-	18	-	71	18	14.5	17	4	5	●
M24 × 1	ISO2	SM024MANEX	2.5P	140	-	18	-	71	18	14.5	17	4	5	●
M25 × 1.5	ISO2	SM0250ANEX	2.5P	140	-	18	-	71	18	14.5	17	4	5	●
M26 × 1.5	ISO2	SM0260ANEX	2.5P	140	-	18	-	71	18	14.5	17	4	5	●
M27 × 3	ISO2	SG027SANEX	2.5P	160	-	25	-	82	20	16	19	4	5	
M27 × 2	ISO2	SM027QANEX	2.5P	140	-	20	-	71	20	16	19	4	5	●
M27 × 1.5	ISO2	SM0270ANEX	2.5P	140	-	20	-	71	20	16	19	4	5	●
M27 × 1	ISO2	SM027MANEX	2.5P	140	-	20	-	71	20	16	19	4	5	
M28 × 2	ISO2	SM028QANEX	2.5P	140	-	20	-	71	20	16	19	4	5	●
M28 × 1.5	ISO2	SM0280ANEX	2.5P	140	-	20	-	71	20	16	19	4	5	●
M28 × 1	ISO2	SM028MANEX	2.5P	140	-	20	-	71	20	16	19	4	5	
M30 × 3.5	ISO2	SG030TANEX	2.5P	180	-	30	-	92	22	18	21	4	5	
M30 × 2	ISO2	SM030QANEX	2.5P	150	-	20	-	77	22	18	21	4	5	●
M30 × 1.5	ISO2	SM0300ANEX	2.5P	150	-	20	-	77	22	18	21	4	5	●
M30 × 1	ISO2	SM030MANEX	2.5P	150	-	20	-	77	22	18	21	4	5	
M32 × 2	ISO2	SM032QANEX	2.5P	150	-	20	-	77	22	18	21	4	5	
M32 × 1.5	ISO2	SM0320ANEX	2.5P	150	-	20	-	77	22	18	21	4	5	●
M32 × 1	ISO2	SM032MANEX	2.5P	150	-	20	-	77	22	18	21	4	5	
M33 × 3.5	ISO2	SG033TANEX	2.5P	180	-	30	-	92	25	20	23	4	5	
M33 × 2	ISO2	SM033QANEX	2.5P	160	-	20	-	82	25	20	23	4	5	●
M33 × 1.5	ISO2	SM0330ANEX	2.5P	160	-	20	-	82	25	20	23	4	5	
M33 × 1	ISO2	SM033MANEX	2.5P	160	-	20	-	82	25	20	23	4	5	
M35 × 1.5	ISO2	SM0350ANEX	2.5P	170	-	20	-	87	28	22	25	4	5	●
M36 × 4	ISO2	SG036UANEX	2.5P	200	-	40	-	102	28	22	25	4	5	
M36 × 3	ISO2	SM036SANEX	2.5P	200	-	30	-	102	28	22	25	4	5	●
M36 × 2	ISO2	SM036QANEX	2.5P	170	-	20	-	87	28	22	25	4	5	●
M36 × 1.5	ISO2	SM0360ANEX	2.5P	170	-	20	-	87	28	22	25	4	5	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps, Oxidized

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M36 × 1	IS02	SM036MANEX	2.5P	170	-	20	-	87	28	22	25	4	5	
M39 × 4	IS02	SG039UANEX	2.5P	200	-	40	-	102	32	24	27	4	5	
M39 × 2	IS02	SM039QANEX	2.5P	170	-	20	-	87	32	24	27	4	5	
M39 × 1.5	IS02	SM0390ANEX	2.5P	170	-	20	-	87	32	24	27	4	5	
M39 × 1	IS02	SM039MANEX	2.5P	170	-	20	-	87	32	24	27	4	5	
M42 × 4.5	IS02	SG042VANEX	2.5P	200	-	40	-	102	32	24	27	4	5	
M42 × 2	IS02	SM042QANEX	2.5P	170	-	20	-	87	32	24	27	4	5	
M42 × 1.5	IS02	SM0420ANEX	2.5P	170	-	20	-	87	32	24	27	4	5	
M42 × 1	IS02	SM042MANEX	2.5P	170	-	20	-	87	32	24	27	4	5	
M45 × 4.5	IS02	SG045VANEX	2.5P	220	-	45	-	112	36	29	32	4	5	
M45 × 3	IS02	SM045SANEX	2.5P	200	-	40	-	102	36	29	32	4	5	
M45 × 2	IS02	SM045QANEX	2.5P	180	-	25	-	92	36	29	32	4	5	
M45 × 1.5	IS02	SM0450ANEX	2.5P	180	-	25	-	92	36	29	32	4	5	
M45 × 1	IS02	SM045MANEX	2.5P	180	-	25	-	92	36	29	32	4	5	
M48 × 5	IS02	SG048WANEX	2.5P	250	-	45	-	128	36	29	32	4	5	
M48 × 3	IS02	SM048SANEX	2.5P	225	-	40	-	115	36	29	32	4	5	
M48 × 2	IS02	SM048QANEX	2.5P	190	-	25	-	97	36	29	32	4	5	
M48 × 1.5	IS02	SM0480ANEX	2.5P	190	-	25	-	97	36	29	32	4	5	
M48 × 1	IS02	SM048MANEX	2.5P	190	-	25	-	97	36	29	32	4	5	
Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads														
No.4-40UNC	2B	SDUN4HXNEX	2.5P	56	5	9	18	34	3.5	2.7	6	2	2	
No.4-48UNF	2B	SDUN4FXNEX	2.5P	56	5	9	18	34	3.5	2.7	6	2	2	
No.5-40UNC	2B	SDUN5HXNEX	2.5P	56	5	11	18	34	3.5	2.7	6	2	2	
No.5-44UNF	2B	SDUN5GXNEX	2.5P	56	5	11	18	34	3.5	2.7	6	2	2	
No.6-32UNC	2B	SDUN6JXNEX	2.5P	56	7	11	19	32	4	3	6	3	2	
No.6-40UNF	2B	SDUN6HXNEX	2.5P	56	7	11	19	32	4	3	6	3	2	
No.8-32UNC	2B	SDUN8JXNEX	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	
No.8-36UNF	2B	SDUN8IXNEX	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	
No.10-24UNC	2B	SDUNAMXNEX	2.5P	70	9	14	24	39	6	4.9	8	3	2	
No.10-32UNF	2B	SDUNAJXNEX	2.5P	70	9	14	24	39	6	4.9	8	3	2	
No.12-24UNC	2B	SDUNCMXNEX	2.5P	80	9	15	28	45	6	4.9	8	3	2	
No.12-28UNF	2B	SDUNCXNEX	2.5P	80	9	15	28	45	6	4.9	8	3	2	
1/4-20UNC	2B	SDU04NXNEX	2.5P	80	11	15	30	42	7	5.5	8	3	2	
1/4-28UNF	2B	SDU04KXNEX	2.5P	80	11	15	30	42	7	5.5	8	3	2	
5/16-18UNC	2B	SDU050XNEX	2.5P	90	-	12	35	47	8	6.2	9	3	4	
5/16-24UNF	2B	SMU05MXNEX	2.5P	90	-	12	-	46	6	4.9	8	3	5	
3/8-16UNC	2B	SDU06PXNEX	2.5P	100	-	13	39	54	9	7	10	3	4	
3/8-24UNF	2B	SMU06MXNEX	2.5P	100	-	13	-	51	7	5.5	8	3	5	
7/16-14UNC	2B	SGU07QXNEX	2.5P	100	-	13	-	51	8	6.2	9	3	5	
7/16-20UNF	2B	SMU07NXNEX	2.5P	100	-	13	-	51	8	6.2	9	3	5	
1/2-13UNC	2B	SGU08RXNEX	2.5P	110	-	15	-	56	9	7	10	3	5	
1/2-20UNF	2B	SMU08NXNEX	2.5P	100	-	15	-	51	9	7	10	3	5	
9/16-12UNC	2B	SGU09SXNEX	2.5P	110	-	18	-	56	11	9	12	3	5	
9/16-18UNF	2B	SMU090XNEX	2.5P	100	-	14	-	51	11	9	12	3	5	
5/8-11UNC	2B	SGU10UXNEX	2.5P	110	-	18	-	56	12	9	12	3	5	
5/8-18UNF	2B	SMU100XNEX	2.5P	100	-	14	-	51	12	9	12	3	5	
3/4-10UNC	2B	SGU12VXNEX	2.5P	125	-	20	-	64	14	11	14	4	5	
3/4-16UNF	2B	SMU12PXNEX	2.5P	110	-	14	-	56	14	11	14	4	5	
7/8-9UNC	2B	SGU14WXNEX	2.5P	140	-	20	-	71	18	14.5	17	4	5	

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps, Oxidized

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
7/8-14UNF	2B	SMU14QXNEX	2.5P	125	-	20	-	64	18	14.5	17	4	5	
1-8UNC	2B	SGU16XXNEX	2.5P	160	-	25	-	82	18	14.5	17	4	5	
1-12UNF	2B	SMU16SXNEX	2.5P	140	-	18	-	71	18	14.5	17	4	5	
1 1/8-7UNC	2B	SGU18YXNEX	2.5P	180	-	30	-	92	22	18	21	4	5	
1 1/8-12UNF	2B	SMU18SXNEX	2.5P	150	-	20	-	77	22	18	21	4	5	
1 1/4-7UNC	2B	SGU20YXNEX	2.5P	180	-	30	-	92	22	18	21	4	5	
1 1/4-12UNF	2B	SMU20SXNEX	2.5P	150	-	20	-	77	22	18	21	4	5	
1 3/8-6UNC	2B	SGU22ZXNEX	2.5P	200	-	40	-	102	28	20	23	4	5	
1 3/8-12UNF	2B	SMU22SXNEX	2.5P	170	-	20	-	87	28	20	23	4	5	
1 1/2-6UNC	2B	SGU24ZXNEX	2.5P	200	-	40	-	102	32	24	27	4	5	
1 1/2-12UNF	2B	SMU24SXNEX	2.5P	170	-	20	-	87	32	24	27	4	5	
1 3/4-5UNC	2B	SGU287XNEX	2.5P	220	-	45	-	112	36	29	32	4	5	
1 3/4-12UN	2B	SMU28SXNEX	2.5P	180	-	20	-	92	36	29	32	4	5	
Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads														
G1/16-28	-	SVG0010NEX	2.5P	90	-	12	-	46	6	4.9	8	3	5	
G1/8-28	-	SVG0020NEX	2.5P	90	-	12	-	46	7	5.5	8	3	5	●
G1/4-19	-	SVG0040NEX	2.5P	100	-	14	-	51	11	9	12	3	5	●
G3/8-19	-	SVG0060NEX	2.5P	100	-	14	-	51	12	9	12	3	5	●
G1/2-14	-	SVG0080NEX	2.5P	125	-	18	-	64	16	12	15	4	5	●
G5/8-14	-	SVG0100NEX	2.5P	125	-	18	-	64	18	14.5	17	4	5	●
G3/4-14	-	SVG0120NEX	2.5P	140	-	20	-	71	20	16	19	4	5	●
G7/8-14	-	SVG0140NEX	2.5P	150	-	20	-	77	22	18	21	4	5	
G1-11	-	SVG0160NEX	2.5P	160	-	20	-	82	25	20	23	4	5	●
G1 1/8-11	-	SVG0180NEX	2.5P	170	-	20	-	87	28	22	25	4	5	
G1 1/4-11	-	SVG0200NEX	2.5P	170	-	20	-	87	32	24	27	4	5	●
G1 1/2-11	-	SVG0240NEX	2.5P	190	-	25	-	97	36	29	32	4	5	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

SP (LH)

Spiral Fluted Taps for Left Hand Threads

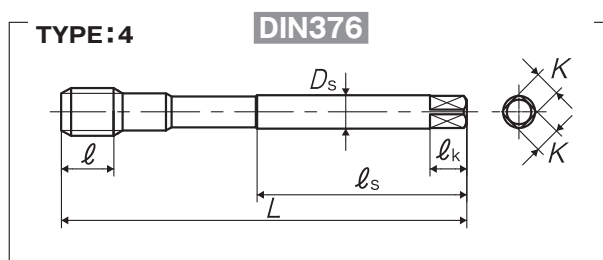
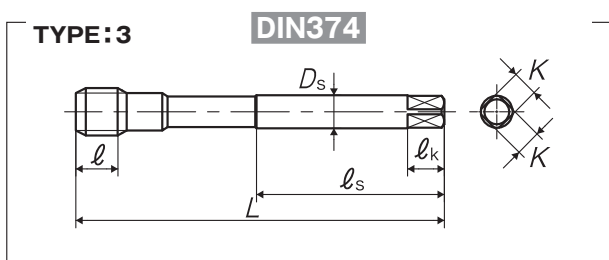
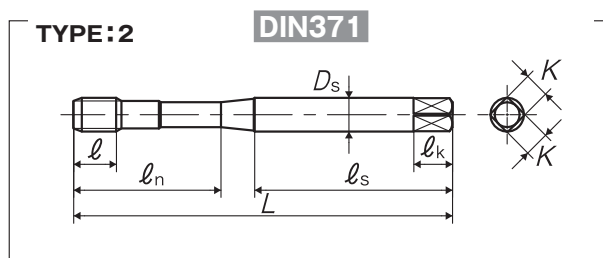
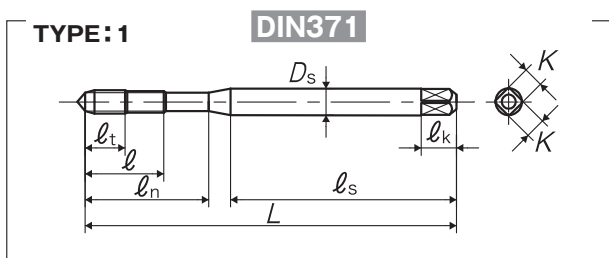
Specification



Recommended Tapping Speeds depending on Materials

Carbon steel and low alloy steel
ISO P2
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M4 × 0.7	ISO2	HD4.0IANEB	2.5P	63	7	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2	HD5.0KANEB	2.5P	70	9	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2	HD6.0MANEB	2.5P	80	11	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2	HD8.0NANEB	2.5P	90	-	12	35	47	8	6.2	9	3	2	●
M8 × 1	ISO2	HM8.0MANEB	2.5P	90	-	12	-	46	6	4.9	8	3	3	
M10 × 1.5	ISO2	HD0100ANEB	2.5P	100	-	13	39	52	10	8	11	3	2	●
M12 × 1.75	ISO2	HG012PANEB	2.5P	110	-	15	-	56	9	7	10	3	4	●
M14 × 2	ISO2	HG014QANEB	2.5P	110	-	18	-	56	11	9	12	3	4	●
M14 × 1.5	ISO2	HM0140ANEB	2.5P	100	-	14	-	51	11	9	12	3	3	
M16 × 2	ISO2	HG016QANEB	2.5P	110	-	18	-	56	12	9	12	3	4	●
M16 × 1.5	ISO2	HM0160ANEB	2.5P	100	-	14	-	51	12	9	12	3	3	
M18 × 2.5	ISO2	HG018RANEB	2.5P	125	-	20	-	64	14	11	14	4	4	
M20 × 2.5	ISO2	HG020RANEB	2.5P	140	-	20	-	71	16	12	15	4	4	●

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

AU+SP

Plus Series Spiral Fluted Taps, Coated
Specification



Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 10~20 (m/min)	Carbon steel and low alloy steel ISO P2 10~20 (m/min)	Medium alloy steel and heat treated steel ISO P3 10~20 (m/min)	High alloy steel ISO P4 10~20 (m/min)
Ferritic and austenitic stainless steel ISO M1~M3 5~10 (m/min)	Aluminum alloy (<12% Si) ISO N1 20~30 (m/min)	Aluminum alloy (>12% Si) ISO N2 20~30 (m/min)	

For icon explanation, refer to P.50

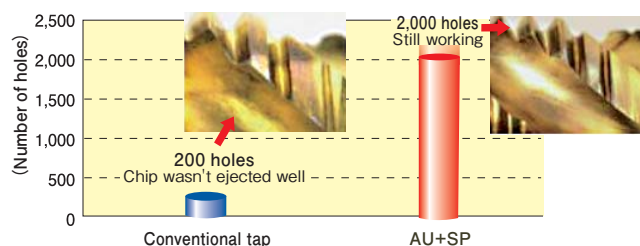
Tapping data

Tapping condition (M6×1)

Work material	42 CrMo 4
Tapping speed	10m/min
Hole diameter	φ5.0
Tapping length	9mm, blind hole
Machine	Machining center vertical type (Floating holder used)
Tapping fluid	Water soluble cutting oil (Chlorine-free, 20 fold dilution)



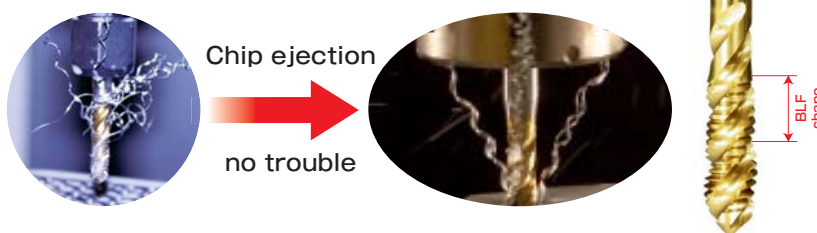
Obtainable from
Video site shown in right



Product features

BLF (thread portion of special design) + proprietary flute design :
Great improvement in chip ejection efficiency.

- AU+SP has a special thread portion design with thread crests ground off and a few full threads after chamfer left unchanged.
- Effects of AU+SP are as follows:
 - Prevention of chipping trouble at full thread portion
 - Reduction of tapping torque and tapping friction
 - Good chip ejection



Change of marking position from shank into square portion

Laser marking can roughen the shank surface.

In order to keep high accuracy of shank circularity and diameter, marking has been transferred from shank to square portion.



For wide range of materials

Adopting the flute of special design which enables the coating (features: wear resistance, heat resistance, and welding resistance) to work most efficiently, AU+SP is suitable for the wide range of materials and is well applicable under water soluble oil.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

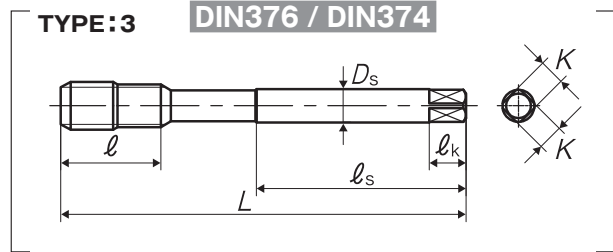
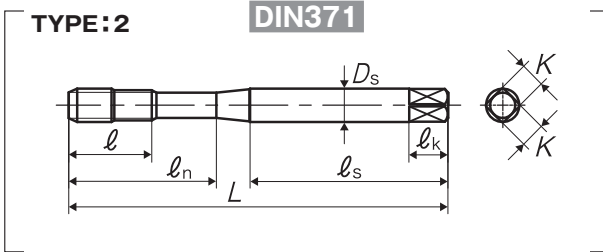
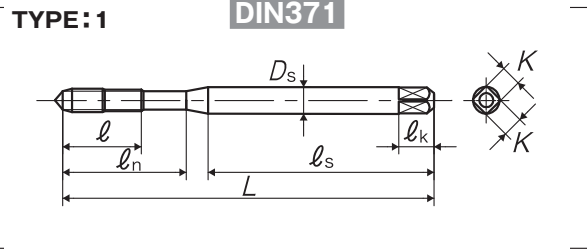
Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02	SE3.0GANEV	2.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02	SE4.0IANEV	2.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02	SE5.0KANEV	2.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02	SE6.0MANEV	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02	SE8.0NANEV	2.5P	90	19	35	47	8	6.2	9	3	2	●
M8 × 1	IS02	SN8.0MANEV	2.5P	90	19	-	46	6	4.9	8	3	3	●
M10 × 1.5	IS02	SE0100ANEV	2.5P	100	23	39	52	10	8	11	4	2	●
M10 × 1.25	IS02	SN010NANEV	2.5P	100	23	-	51	7	5.5	8	4	3	●
M10 × 1	IS02	SN010MANEV	2.5P	90	19	-	46	7	5.5	8	4	3	●
M12 × 1.75	IS02	SH012PANEV	2.5P	110	26	-	56	9	7	10	4	3	●
M12 × 1.5	IS02	SN0120ANEV	2.5P	100	21	-	51	9	7	10	4	3	●
M12 × 1.25	IS02	SN012NANEV	2.5P	100	21	-	51	9	7	10	4	3	●
M14 × 2	IS02	SH014QANEV	2.5P	110	26	-	56	11	9	12	4	3	●
M14 × 1.5	IS02	SN0140ANEV	2.5P	100	21	-	51	11	9	12	4	3	●
M16 × 2	IS02	SH016QANEV	2.5P	110	26	-	56	12	9	12	4	3	●
M16 × 1.5	IS02	SN0160ANEV	2.5P	100	21	-	51	12	9	12	4	3	●
M18 × 2.5	IS02	SH018RANEV	2.5P	125	33	-	64	14	11	14	4	3	●
M18 × 1.5	IS02	SN0180ANEV	2.5P	110	24	-	56	14	11	14	4	3	●
M20 × 2.5	IS02	SH020RANEV	2.5P	140	33	-	71	16	12	15	4	3	●
M20 × 1.5	IS02	SN0200ANEV	2.5P	125	24	-	64	16	12	15	4	3	●

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

AUXSP

X Series Spiral Fluted Taps, Coated Specification

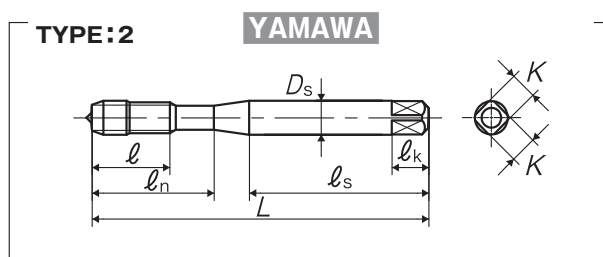
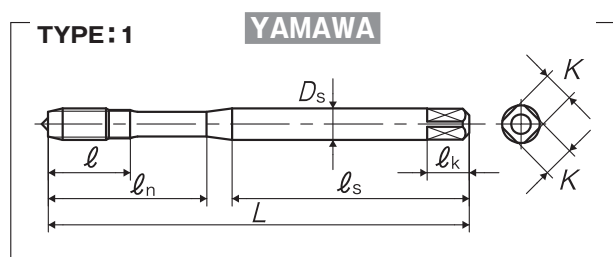


■ Applying the blanks of high toughness and high accuracy, AUXSP derives the maximum performance from high facility machining centers and high precision toolings. Special thread portion design with thread crests ground off and a few full threads left unchanged. Combination of this design and the special flute geometry maintains good chip ejection and reduces friction. The Spiral Fluted Tap is adopting the optimum coating for the tapping condition.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 10~25 (m/min)	Carbon steel and low alloy steel ISO P2 10~25 (m/min)	Medium alloy steel and heat treated steel ISO P3 10~25 (m/min)	High alloy steel ISO P4 10~25 (m/min)
Ferritic and austenitic stainless steel ISO M1~M3 10~15 (m/min)	Aluminum alloy (<12% Si) ISO N1 20~30 (m/min)	Aluminum alloy (>12% Si) ISO N2 20~30 (m/min)	

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	ISO2	SX6.0MANEV	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2	SX8.0NANEV	2.5P	90	19	35	48	8	6.2	9	3	1	●
M8 × 1	ISO2	SX8.0MANEV	2.5P	90	15	35	48	8	6.2	9	3	2	
M10 × 1.5	ISO2	SX0100ANEV	2.5P	100	23	39	53	10	8	11	4	1	●
M10 × 1.25	ISO2	SX010NANEV	2.5P	100	19	39	53	10	8	11	4	2	
M10 × 1	ISO2	SX010MANEV	2.5P	100	15	39	53	10	8	11	4	2	
M12 × 1.75	ISO2	SX012PANEV	2.5P	110	26	45	56	12	9	12	4	1	●
M12 × 1.5	ISO2	SX0120ANEV	2.5P	110	23	45	56	12	9	12	4	2	
M12 × 1.25	ISO2	SX012NANEV	2.5P	110	19	45	56	12	9	12	4	2	



Obtainable from
Video site shown in right

AL+SP/AL-SP

Spiral Fluted Taps for Aluminum

Specification



■ In aluminum die casting and aluminum casting tapping, AL+SP/AL-SP solves such problems as chip jamming, chip clogging, and torn threads.

Recommended Tapping Speeds depending on Materials

Aluminum alloy (<12% Si) ISO N1 10~25 (m/min)	Aluminum alloy (>12% Si) ISO N2 10~25 (m/min)	Copper alloy ISO N3 10~25 (m/min)	Brass alloy and bronze alloy ISO N4 10~25 (m/min)
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AL+SP	~ M6
AL-SP	M8 ~

For icon explanation, refer to P.50

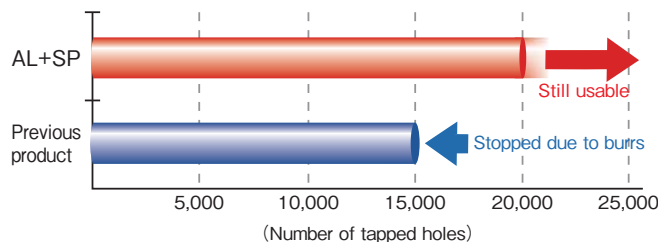
Product features

- AL+SP ensures the consistent tapping even in high speed cutting area, in forged workpieces of light alloys such as aluminum die castings and aluminum castings.
- Having optimum cutting edge design, AL+SP does not produce burrs in minor diameter which usually tend to come out during tapping light alloys, and results in cutting of stable and clean internal threads.

Tapping data

Tapping condition (M6×1)

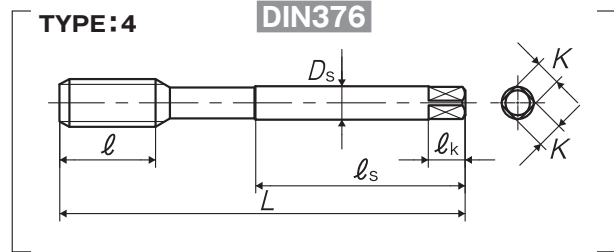
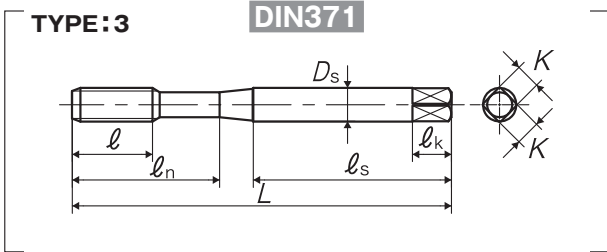
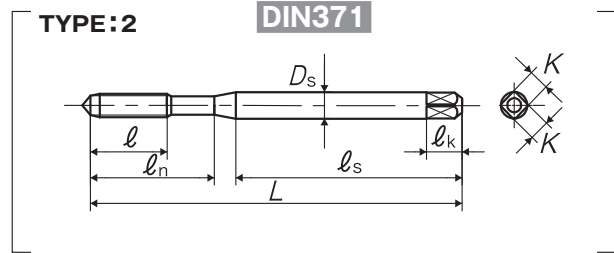
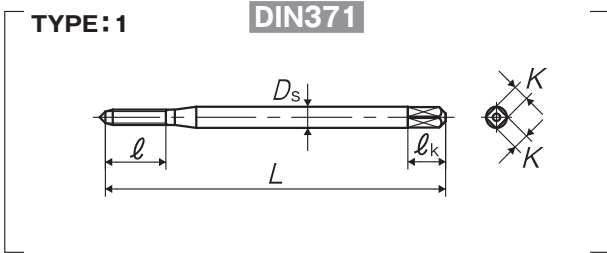
Work material	DIN G-AISI7Mg
Tapping speed	20m/min
Hole size	φ5.0
Tapping length	9mm, blind hole
Machine	Machining center, vertical type
Tapping fluid	Water soluble oil (chlorine free, 20 fold dilution rate)



AL+SP	Previous product
<p>Internal thread by AL+SP</p> <p>Cross section of internal threads tapped</p> <p>Good finish in minor diameter without burrs</p>	<p>Internal thread by Previous product</p> <p>Cross section of internal threads tapped</p> <p>Burrs in minor diameter</p>

- Compared with previous product, AL+SP assures internal threads of better quality and longer tool life.

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	IS02	SE2.0EALEN	2.5P	45	8	-	-	2.8	2.1	5	2	1	●
M2.5 × 0.45	IS02	SE2.5FALEN	2.5P	50	8	15	33	2.8	2.1	5	2	2	●
M3 × 0.5	IS02	SE3.0GALEN	2.5P	56	9	18	34	3.5	2.7	6	3	2	●
M4 × 0.7	IS02	SE4.0IALEN	2.5P	63	13	21	38	4.5	3.4	6	3	2	●
M5 × 0.8	IS02	SE5.0KALEN	2.5P	70	14	25	39	6	4.9	8	3	2	●
M6 × 1	IS02	SE6.0MALEN	2.5P	80	15	30	45	6	4.9	8	3	2	●
M8 × 1.25	IS02	SD8.0NALEN	2.5P	90	19	35	47	8	6.2	9	3	3	●
M10 × 1.5	IS02	SD0100ALEN	2.5P	100	23	39	52	10	8	11	3	3	●
M12 × 1.75	IS02	SG012PALEN	2.5P	110	26	-	56	9	7	10	3	4	●
M14 × 2	IS02	SG014QALEN	2.5P	110	26	-	56	11	9	12	3	4	●
M16 × 2	IS02	SG016QALEN	2.5P	110	26	-	56	12	9	12	3	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LO-SP

Low Spiral Fluted Taps

Specification

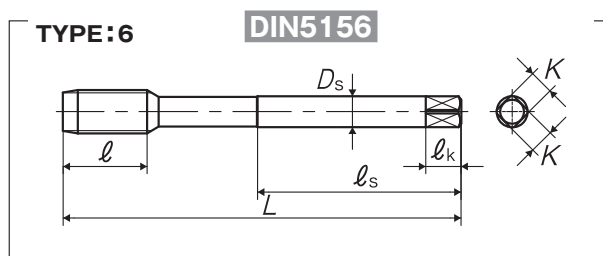
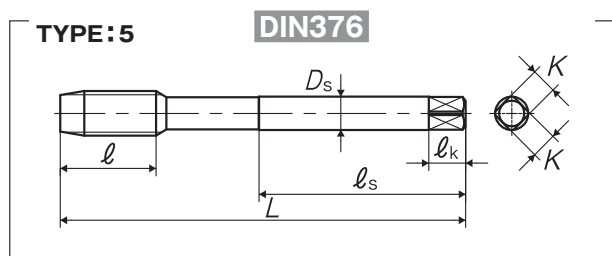
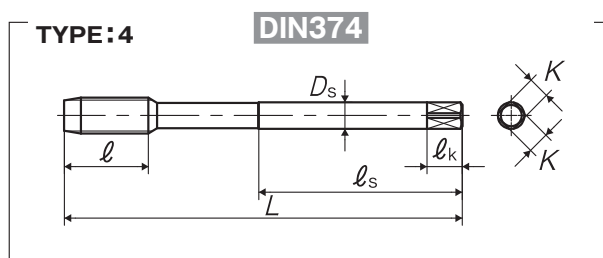
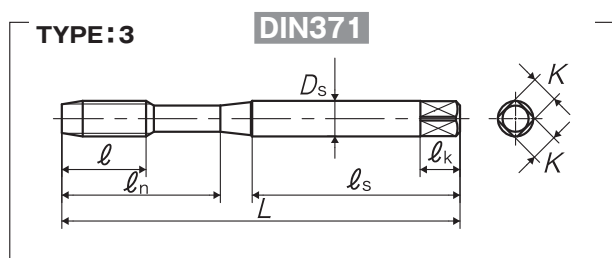
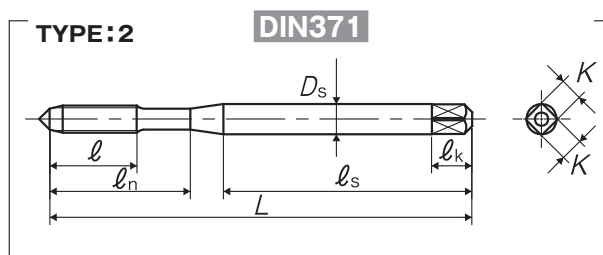
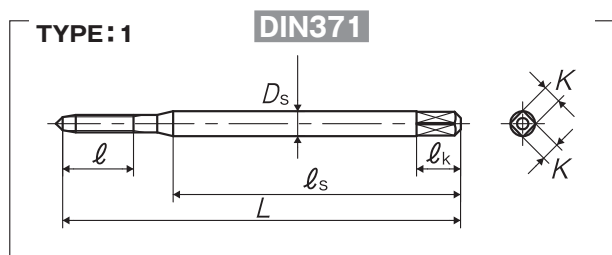


■ Spiral flutes with low helix can break down chips and can eject them smoothly. Suitable for thermal refined high carbon steels and alloy tool steels. Effective in horizontal tapping.

Recommended Tapping Speeds depending on Materials

Carbon steel and low alloy steel ISO P2 5~10 (m/min)	Medium alloy steel and heat treated steel ISO P3 5~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	ISO2	SD2.0EANE BH	3.5P	45	8	-	32	2.8	2.1	5	2	1	
M2.3 × 0.4	ISO2	SD2.3EANE BH	3.5P	45	9	-	32	2.8	2.1	5	2	1	
M2.5 × 0.45	ISO2	SD2.5FANE BH	3.5P	50	8	15	33	2.8	2.1	5	2	2	
M2.6 × 0.45	ISO2	SD2.6FANE BH	3.5P	50	8	15	33	2.8	2.1	5	2	2	
M3 × 0.5	ISO2	SD3.0GANE BH	3.5P	56	9	18	34	3.5	2.7	6	2	2	●
M3.5 × 0.6	ISO2	SD3.5HANE BH	3.5P	56	11	20	32	4	3	6	3	2	
M4 × 0.7	ISO2	SD4.0IANE BH	3.5P	63	13	21	38	4.5	3.4	6	3	2	●
M5 × 0.8	ISO2	SD5.0KANE BH	3.5P	70	14	25	39	6	4.9	8	3	2	●
M6 × 1	ISO2	SD6.0MANE BH	3.5P	80	15	30	45	6	4.9	8	3	2	●
M8 × 1.25	ISO2	SD8.0NANE BH	3.5P	90	19	35	47	8	6.2	9	3	3	●
M8 × 1	ISO2	SM8.0MANE BH	3.5P	90	19	-	46	6	4.9	8	3	4	●
M10 × 1.5	ISO2	SD0100ANE BH	3.5P	100	23	39	52	10	8	11	3	3	●

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LO-SP Low Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M10 × 1.25	IS02	SM010NANE BH	3.5P	100	23	-	51	7	5.5	8	3	4	●
M10 × 1	IS02	SM010MANEBH	3.5P	90	19	-	46	7	5.5	8	3	4	●
M12 × 1.75	IS02	SG012PANE BH	3.5P	110	26	-	56	9	7	10	3	5	●
M12 × 1.5	IS02	SM0120ANE BH	3.5P	100	21	-	51	9	7	10	3	4	●
M12 × 1.25	IS02	SM012NANE BH	3.5P	100	21	-	51	9	7	10	3	4	●
M12 × 1	IS02	SM012MANEBH	3.5P	100	21	-	51	9	7	10	3	4	
M14 × 2	IS02	SG014QANE BH	3.5P	110	26	-	56	11	9	12	3	5	●
M14 × 1.5	IS02	SM0140ANE BH	3.5P	100	21	-	51	11	9	12	3	4	●
M16 × 2	IS02	SG016QANE BH	3.5P	110	26	-	56	12	9	12	3	5	●
M16 × 1.5	IS02	SM0160ANE BH	3.5P	100	21	-	51	12	9	12	3	4	●
M16 × 1	IS02	SM016MANEBH	3.5P	100	21	-	51	12	9	12	3	4	
M18 × 1.5	IS02	SM0180ANE BH	3.5P	110	24	-	56	14	11	14	4	4	
M20 × 2.5	IS02	SG020RANE BH	3.5P	140	33	-	71	16	12	15	4	5	●
M24 × 3	IS02	SG024SANE BH	3.5P	160	37	-	82	18	14.5	17	4	5	
M24 × 1.5	IS02	SM0240ANE BH	3.5P	140	27	-	71	18	14.5	17	4	4	
M30 × 3.5	IS02	SG030TANE BH	3.5P	180	44	-	92	22	18	21	4	5	
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads													
G1/8-28	-	SVG0020NEBH	3.5P	90	19	-	46	7	5.5	8	3	6	●
G1/4-19	-	SVG0040NEBH	3.5P	100	21	-	51	11	9	12	3	6	●
G3/8-19	-	SVG0060NEBH	3.5P	100	21	-	51	12	9	12	3	6	●
G1/2-14	-	SVG0080NEBH	3.5P	125	24	-	64	16	12	15	4	6	●
G1-11	-	SVG0160NEBH	3.5P	160	29	-	82	25	20	23	4	6	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

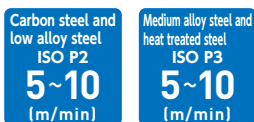
Centering Tools

LO-SP OX

Low Spiral Fluted Taps, Oxidized
Specification



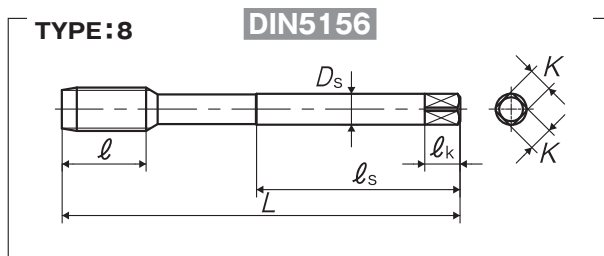
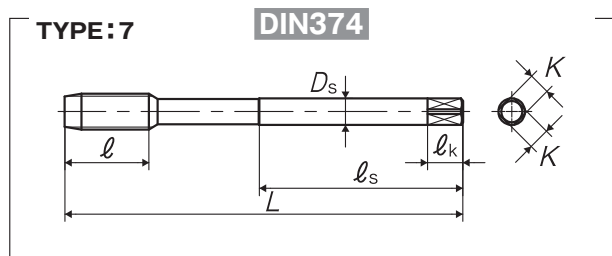
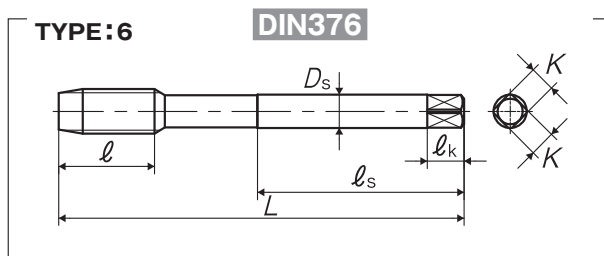
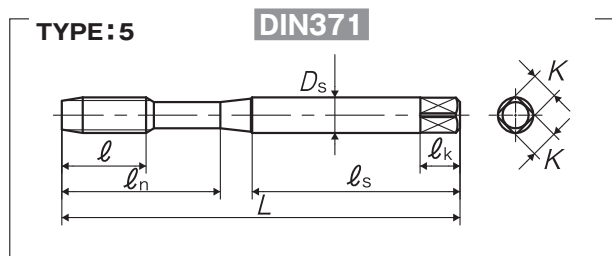
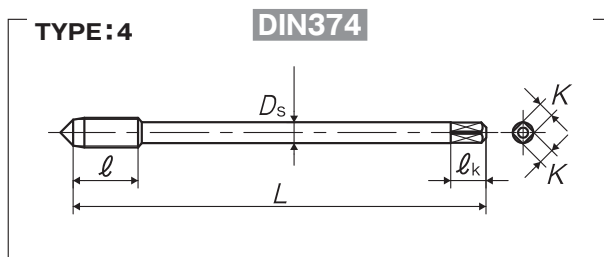
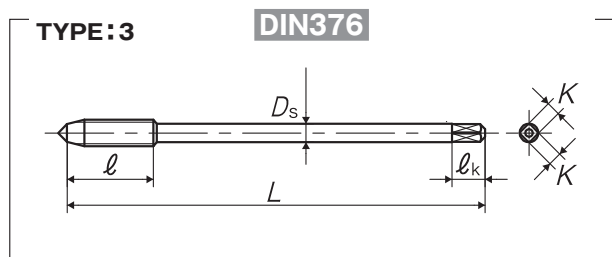
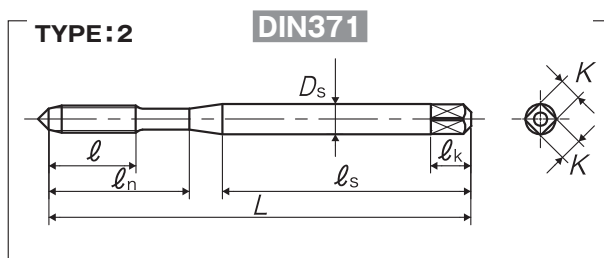
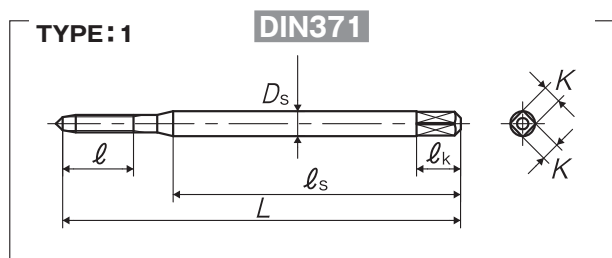
Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



■ Spiral flutes with low helix can break down chips and can eject them smoothly. Suitable for thermal refined high carbon steels and alloy tool steels. Effective in horizontal tapping.



Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

LO-SP OX Low Spiral Fluted Taps, Oxidized

○ Oversize
 Segment : 1D

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	ISO2	SD2.0EANEXH	3.5P	45	8	-	32	2.8	2.1	5	2	1	
M2.5 × 0.45	ISO2	SD2.5FANEXH	3.5P	50	8	15	33	2.8	2.1	5	2	2	
M2.6 × 0.45	ISO2	SD2.6FANEXH	3.5P	50	8	15	33	2.8	2.1	5	2	2	
M3 × 0.5	ISO2	SD3.0GANEXH	3.5P	56	9	18	34	3.5	2.7	6	2	2	●
	ISO3	SD3.0GMNEXH	3.5P	56	9	18	34	3.5	2.7	6	2	2	
M4 × 0.7	ISO2	SD4.0IANEXH	3.5P	63	13	21	38	4.5	3.4	6	3	2	
		SG4.0IANEXH	3.5P	63	13	-	-	2.8	2.1	5	3	3	
	ISO3	SD4.0IMNEXH	3.5P	63	13	21	38	4.5	3.4	6	3	2	
M5 × 0.8	ISO2	SD5.0KANEXH	3.5P	70	14	25	39	6	4.9	8	3	2	●
		SG5.0KANEXH	3.5P	70	14	-	-	3.5	2.7	6	3	3	
	ISO3	SD5.0KMNEXH	3.5P	70	14	25	39	6	4.9	8	3	2	
M5 × 0.5	ISO2	SM5.0GANEXH	3.5P	70	11	-	-	3.5	2.7	6	3	4	
M6 × 1	ISO2	SD6.0MANEXH	3.5P	80	15	30	45	6	4.9	8	3	2	●
		SG6.0MANEXH	3.5P	80	15	-	-	4.5	3.4	6	3	3	
	ISO3	SD6.0MMNEXH	3.5P	80	15	30	45	6	4.9	8	3	2	
M6 × 0.75	ISO2	SM6.0JANEXH	3.5P	80	13	-	-	4.5	3.4	6	3	4	
M7 × 1	ISO2	SD7.0MANEXH	3.5P	80	15	30	45	7	5.5	8	3	5	
M8 × 1.25	ISO2	SD8.0NANEXH	3.5P	90	19	35	47	8	6.2	9	3	5	●
		SG8.0NANEXH	3.5P	90	19	-	46	6	4.9	8	3	6	
	ISO3	SD8.0NMNEXH	3.5P	90	19	35	47	8	6.2	9	3	5	
M8 × 1	ISO2	SM8.0MANEXH	3.5P	90	19	-	46	6	4.9	8	3	7	●
M8 × 0.75	ISO2	SM8.0JANEXH	3.5P	80	19	-	41	6	4.9	8	3	7	
M10 × 1.5	ISO2	SD0100ANEXH	3.5P	100	23	39	52	10	8	11	3	5	●
		SG0100ANEXH	3.5P	100	23	-	51	7	5.5	8	3	6	
	ISO3	SD0100MNEXH	3.5P	100	23	39	52	10	8	11	3	5	
M10 × 1.25	ISO2	SM010NANEXH	3.5P	100	23	-	51	7	5.5	8	3	7	●
M10 × 1	ISO2	SM010MANEXH	3.5P	90	19	-	46	7	5.5	8	3	7	●
M10 × 0.75	ISO2	SM010JANEXH	3.5P	90	19	-	46	7	5.5	8	3	7	
M12 × 1.75	ISO2	SG012PANEXH	3.5P	110	26	-	56	9	7	10	3	6	●
	ISO3	SG012PMNEXH	3.5P	110	26	-	56	9	7	10	3	6	
M12 × 1.5	ISO2	SM0120ANEXH	3.5P	100	21	-	51	9	7	10	3	7	●
M12 × 1.25	ISO2	SM012NANEXH	3.5P	100	21	-	51	9	7	10	3	7	●
M12 × 1	ISO2	SM012MANEXH	3.5P	100	21	-	51	9	7	10	3	7	●
M14 × 2	ISO2	SG014QANEXH	3.5P	110	26	-	56	11	9	12	3	6	●
	ISO3	SG014QMNEXH	3.5P	110	26	-	56	11	9	12	3	6	
M14 × 1.5	ISO2	SM0140ANEXH	3.5P	100	21	-	51	11	9	12	3	7	●
M14 × 1	ISO2	SM014MANEXH	3.5P	100	21	-	51	11	9	12	3	7	
M16 × 2	ISO2	SG016QANEXH	3.5P	110	26	-	56	12	9	12	3	6	●
	ISO3	SG016QMNEXH	3.5P	110	26	-	56	12	9	12	3	6	
M16 × 1.5	ISO2	SM0160ANEXH	3.5P	100	21	-	51	12	9	12	3	7	●
M16 × 1	ISO2	SM016MANEXH	3.5P	100	21	-	51	12	9	12	3	7	
M18 × 2.5	ISO2	SG018RANEXH	3.5P	125	33	-	64	14	11	14	4	6	
M18 × 1.5	ISO2	SM0180ANEXH	3.5P	110	24	-	56	14	11	14	4	7	●
M20 × 2.5	ISO2	SG020RANEXH	3.5P	140	33	-	71	16	12	15	4	6	●
M20 × 2	ISO2	SM020QANEXH	3.5P	140	33	-	71	16	12	15	4	7	
M20 × 1.5	ISO2	SM0200ANEXH	3.5P	125	24	-	64	16	12	15	4	7	●
M20 × 1	ISO2	SM020MANEXH	3.5P	125	24	-	64	16	12	15	4	7	
M22 × 2.5	ISO2	SG022RANEXH	3.5P	140	33	-	71	18	14.5	17	4	6	●

Spiral Fluted Taps
 (for blind hole)

Spiral Fluted Taps
 (for through hole)

Spiral Pointed Taps
 (for through hole)

Hand Taps

Cemented
 Carbide Taps

Roll Taps

Special Thread Taps
 Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LO-SP OX Low Spiral Fluted Taps, Oxidized

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M22 × 1.5	IS02	SM0220ANEXH	3.5P	125	24	-	64	18	14.5	17	4	7	●
M22 × 1	IS02	SM022MANEXH	3.5P	125	24	-	64	18	14.5	17	4	7	
M24 × 3	IS02	SG024SANEXH	3.5P	160	37	-	82	18	14.5	17	4	6	●
M24 × 2	IS02	SM024QANEXH	3.5P	140	27	-	71	18	14.5	17	4	7	●
M24 × 1.5	IS02	SM0240ANEXH	3.5P	140	27	-	71	18	14.5	17	4	7	●
M24 × 1	IS02	SM024MANEXH	3.5P	140	27	-	71	18	14.5	17	4	7	
M25 × 1.5	IS02	SM0250ANEXH	3.5P	140	27	-	71	18	14.5	17	4	7	
M27 × 3	IS02	SG027SANEXH	3.5P	160	37	-	82	20	16	19	4	6	
M27 × 2	IS02	SM027QANEXH	3.5P	140	27	-	71	20	16	19	4	7	●
M28 × 1.5	IS02	SM0280ANEXH	3.5P	140	27	-	71	20	16	19	4	7	
M28 × 1	IS02	SM028MANEXH	3.5P	140	27	-	71	20	16	19	4	7	
M30 × 3.5	IS02	SG030TANEXH	3.5P	180	44	-	92	22	18	21	4	6	
M30 × 2	IS02	SM030QANEXH	3.5P	150	27	-	77	22	18	21	4	7	●
M30 × 1.5	IS02	SM0300ANEXH	3.5P	150	27	-	77	22	18	21	4	7	
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads													
G1/8-28	-	SVG0020NEXH	3.5P	90	19	-	46	7	5.5	8	3	8	●
G1/4-19	-	SVG0040NEXH	3.5P	100	21	-	51	11	9	12	3	8	●
G3/8-19	-	SVG0060NEXH	3.5P	100	21	-	51	12	9	12	3	8	●
G1/2-14	-	SVG0080NEXH	3.5P	125	24	-	64	16	12	15	4	8	●
G3/4-14	-	SVG0120NEXH	3.5P	140	27	-	71	20	16	19	4	8	●
G1-11	-	SVG0160NEXH	3.5P	160	29	-	82	25	20	23	4	8	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

PH-SP

Spiral Fluted Taps for Hard-to-Machine Materials

Specification

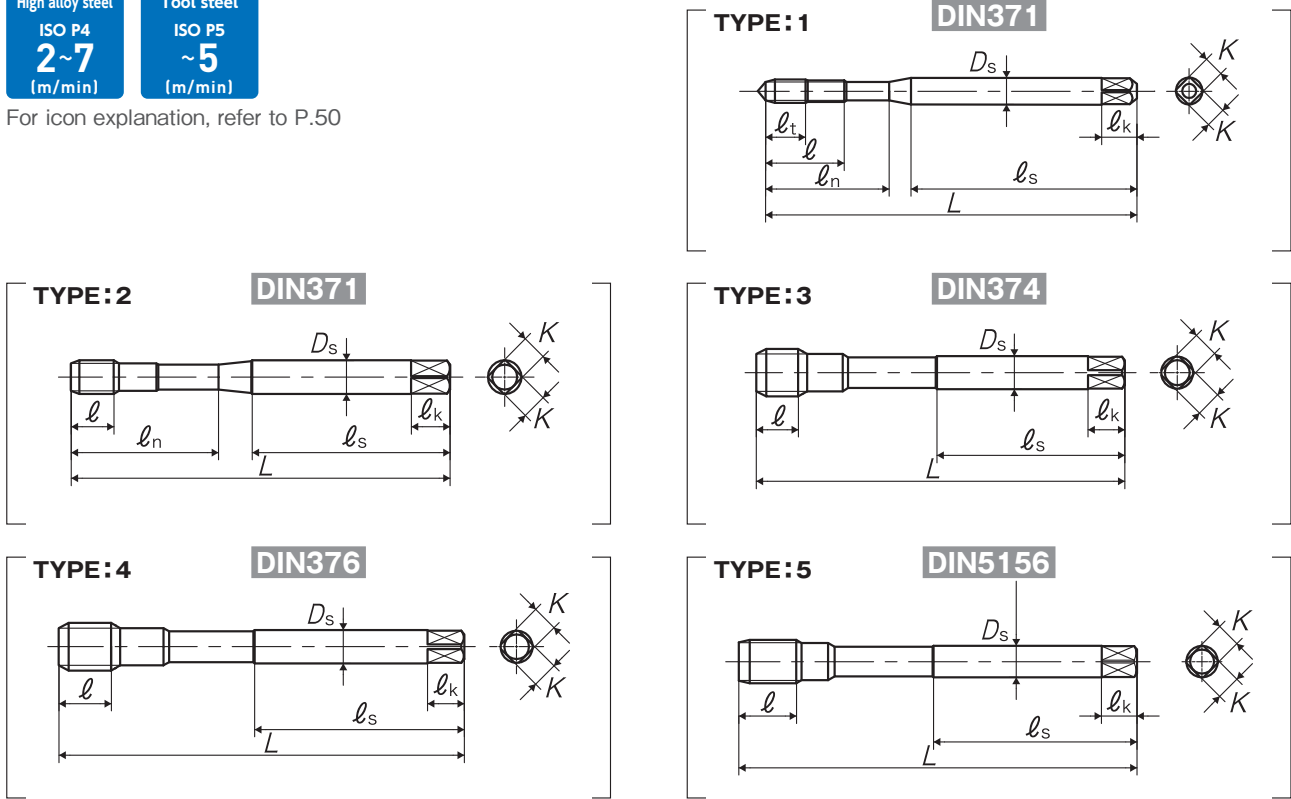


■ Suitable for hard steels up to 38HRC such high carbon and alloy forged and thermal refined steels as well as die steels.

Recommended Tapping Speeds depending on Materials

High alloy steel ISO P4 2~7 (m/min)	Tool steel ISO P5 ~5 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	IS02	SD3.0GAEEEX	3P	56	5	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02	SD4.0IAEEEX	3P	63	7	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02	SD5.0KAEEEX	3P	70	9	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02	SD6.0MAEEEX	3P	80	11	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02	SD8.0NAEEEX	3P	90	-	12	35	47	8	6.2	9	3	2	●
M8 × 1	IS02	SM8.0MAEEEX	3P	90	-	12	-	46	6	4.9	8	3	3	●
M10 × 1.5	IS02	SD0100AEEEX	3P	100	-	13	39	52	10	8	11	3	2	●
M10 × 1.25	IS02	SM010NAEEEX	3P	100	-	13	-	51	7	5.5	8	3	3	●
M10 × 1	IS02	SM010MAEEEX	3P	90	-	13	-	46	7	5.5	8	3	3	●
M12 × 1.75	IS02	SG012PAEEEX	3P	110	-	15	-	56	9	7	10	4	4	●
M12 × 1.5	IS02	SM0120AEEEX	3P	100	-	15	-	51	9	7	10	4	3	●
M12 × 1.25	IS02	SM012NAEEEX	3P	100	-	15	-	51	9	7	10	4	3	●
M14 × 2	IS02	SG014QAEEEX	3P	110	-	18	-	56	11	9	12	4	4	●
M14 × 1.5	IS02	SM0140AEEEX	3P	100	-	14	-	51	11	9	12	4	3	●
M16 × 2	IS02	SG016QAEEEX	3P	110	-	18	-	56	12	9	12	4	4	●
M16 × 1.5	IS02	SM0160AEEEX	3P	100	-	14	-	51	12	9	12	4	3	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

PH-SP Spiral Fluted Taps for Hard-to-Machine Materials

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M18 × 2.5	IS02	SG018RAEEX	3P	125	-	20	-	64	14	11	14	4	4	●
M18 × 1.5	IS02	SM0180AEEX	3P	110	-	14	-	56	14	11	14	4	3	●
M20 × 2.5	IS02	SG020RAEEX	3P	140	-	20	-	71	16	12	15	4	4	●
M20 × 1.5	IS02	SM0200AEEX	3P	125	-	14	-	64	16	12	15	4	3	●
M22 × 2.5	IS02	SG022RAEEX	3P	140	-	20	-	71	18	14.5	17	5	4	●
M22 × 1.5	IS02	SM0220AEEX	3P	125	-	14	-	64	18	14.5	17	5	3	●
M24 × 3	IS02	SG024SAEEX	3P	160	-	25	-	82	18	14.5	17	5	4	●
M24 × 2	IS02	SM024QAEEX	3P	140	-	18	-	71	18	14.5	17	5	3	●
M24 × 1.5	IS02	SM0240AEEX	3P	140	-	18	-	71	18	14.5	17	5	3	●
M27 × 3	IS02	SG027SAEEX	3P	160	-	25	-	82	20	16	19	5	4	●
M27 × 2	IS02	SM027QAEEX	3P	140	-	20	-	71	20	16	19	5	3	●
M30 × 3.5	IS02	SG030TAEEX	3P	180	-	30	-	92	22	18	21	5	4	●
M30 × 2	IS02	SM030QAEEX	3P	150	-	20	-	77	22	18	21	5	3	●
M30 × 1.5	IS02	SM0300AEEX	3P	150	-	20	-	77	22	18	21	5	3	
Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads														
G1/8-28	-	SVG0020EEX	3P	90	-	12	-	46	7	5.5	8	3	5	●
G1/4-19	-	SVG0040EEX	3P	100	-	14	-	51	11	9	12	4	5	●
G3/8-19	-	SVG0060EEX	3P	100	-	14	-	51	12	9	12	4	5	●
G1/2-14	-	SVG0080EEX	3P	125	-	18	-	64	16	12	15	4	5	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

E-SP

Spiral Fluted Taps for Soft Structural Steels

Specification

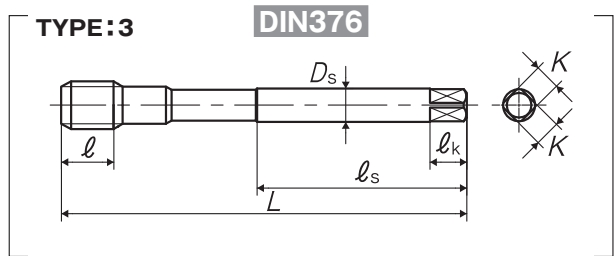
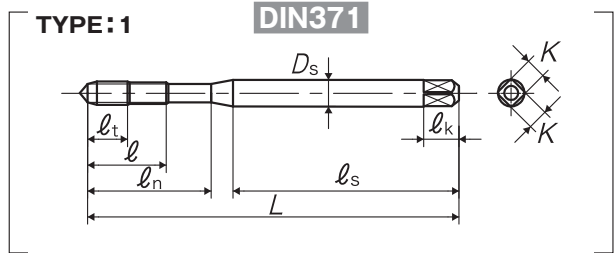
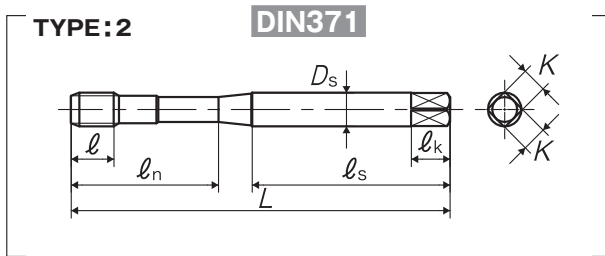


■ Suitable particularly for soft steels.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel
ISO P1
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	ISO2	SD3.0GAHEX	2.5P	56	5	9	18	34	3.5	2.7	6	3	1	
M4 × 0.7	ISO2	SD4.0IAHEX	2.5P	63	7	13	21	38	4.5	3.4	6	3	1	
M5 × 0.8	ISO2	SD5.0KAHEX	2.5P	70	9	14	25	39	6	4.9	8	3	1	
M6 × 1	ISO2	SD6.0MAHEX	2.5P	80	11	15	30	45	6	4.9	8	3	1	
M8 × 1.25	ISO2	SD8.0NAHEX	2.5P	90	-	12	35	47	8	6.2	9	3	2	
M10 × 1.5	ISO2	SD0100AHEX	2.5P	100	-	13	39	52	10	8	11	3	2	
M12 × 1.75	ISO2	SG012PAHEX	2.5P	110	-	15	-	56	9	7	10	3	3	
M14 × 2	ISO2	SG014QAHEX	2.5P	110	-	18	-	56	11	9	12	3	3	
M16 × 2	ISO2	SG016QAHEX	2.5P	110	-	18	-	56	12	9	12	3	3	
M18 × 2.5	ISO2	SG018RAHEX	2.5P	125	-	20	-	64	14	11	14	4	3	
M20 × 2.5	ISO2	SG020RAHEX	2.5P	140	-	20	-	71	16	12	15	4	3	
M22 × 2.5	ISO2	SG022RAHEX	2.5P	140	-	20	-	71	18	14.5	17	4	3	
M24 × 3	ISO2	SG024SAHEX	2.5P	160	-	25	-	82	18	14.5	17	4	3	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SP+VA

Spiral Fluted Taps for Stainless Steels

Specification

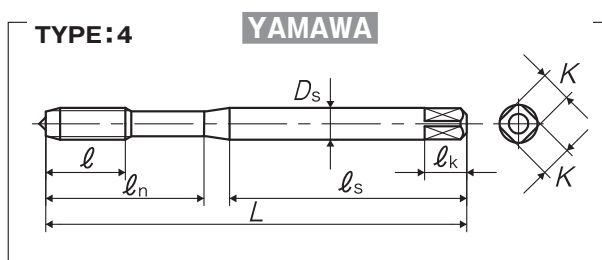
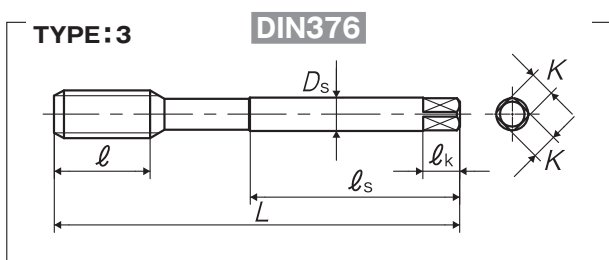
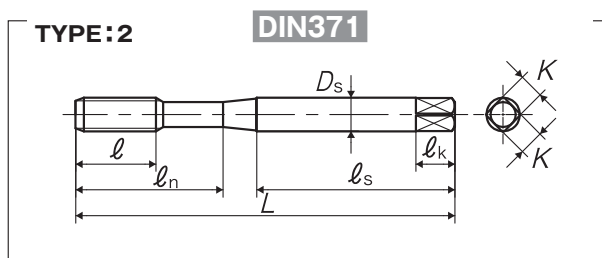
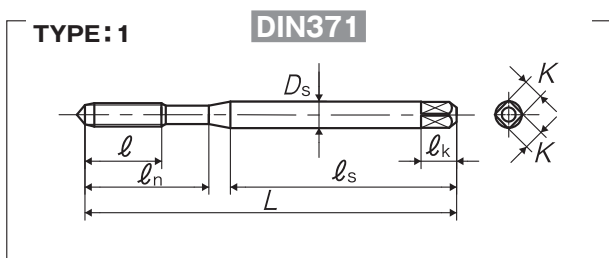


■ Applying the blanks of high toughness and high accuracy, SP+VA derives the maximum performance from high facility machining centers and high precision toolings, blind hole use.

Recommended Tapping Speeds depending on Materials

High alloy steel ISO P4 ~10 (m/min)	Ferritic and austenitic stainless steel ISO M1~M2 ~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	ISO2	SE3.0GAGEX	2.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	ISO2	SE4.0IAGEX	2.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2	SE5.0KAGEX	2.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2	SE6.0MAGEX	2.5P	80	15	30	45	6	4.9	8	3	1	
		SZ6.0MAGEX	2.5P	80	15	30	45	6	4.9	8	3	4	●
M8 × 1.25	ISO2	SE8.0NAGEX	2.5P	90	19	35	47	8	6.2	9	3	2	
		SZ8.0NAGEX	2.5P	90	19	35	48	8	6.2	9	3	4	●
M10 × 1.5	ISO2	SE0100AGEX	2.5P	100	23	39	52	10	8	11	4	2	
		SZ0100AGEX	2.5P	100	23	39	53	10	8	11	4	4	●
M12 × 1.75	ISO2	SH012PAGEX	2.5P	110	26	-	56	9	7	10	4	3	
		SZ012PAGEX	2.5P	110	26	45	56	12	9	12	4	4	●

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

SP-VA

Spiral Fluted Taps for Stainless Steels Specification

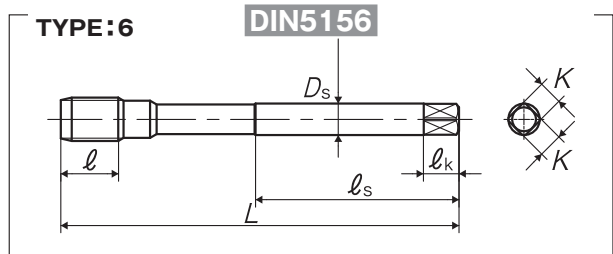
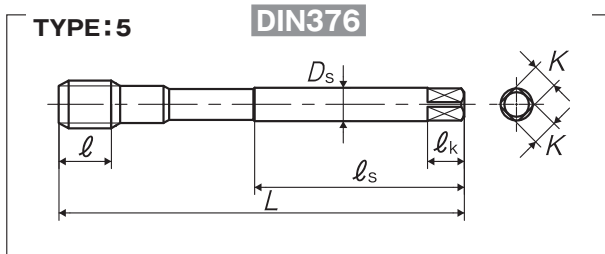
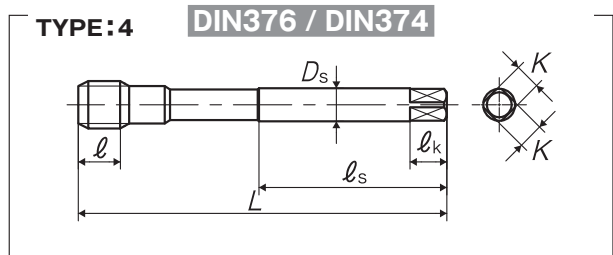
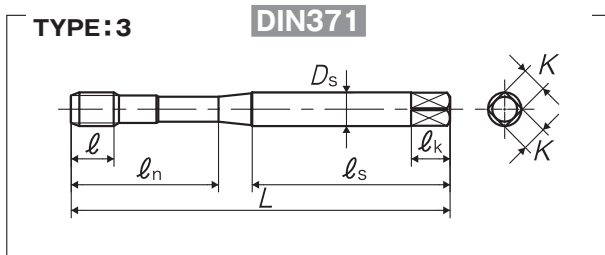
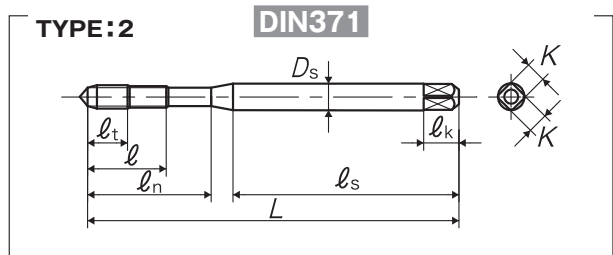
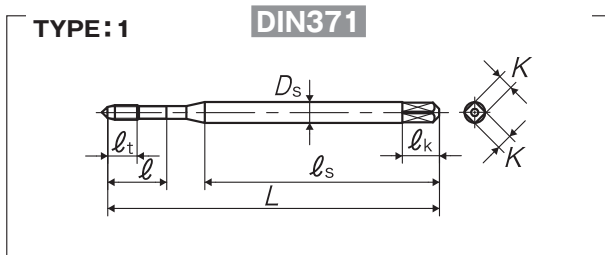


■ Most suitable for stainless steels, sticky and tending to work-harden, as well as chrome steels and molybdenum steels, blind hole use.

Recommended Tapping Speeds depending on Materials

High alloy steel ISO P4 ~10 (m/min)	Ferritic and austenitic stainless steel ISO M1~M2 ~10 (m/min)
--	--

For icon explanation, refer to P.50



■ Oversize
Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M2 × 0.4	ISO2	SD2.0EAGEX	2.5P	45	4	8	-	32	2.8	2.1	5	2	1	●
M2.5 × 0.45	ISO2	SD2.5FAGEX	2.5P	50	4	8	15	33	2.8	2.1	5	2	2	●
M3 × 0.5	ISO2	SD3.0GAGEX	2.5P	56	5	9	18	34	3.5	2.7	6	2	2	●
	ISO3	SD3.0MGEX	2.5P	56	5	9	18	34	3.5	2.7	6	2	2	●
M4 × 0.7	ISO2	SD4.0IAGEX	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	●
	ISO3	SD4.0IMGEX	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	●
M5 × 0.8	ISO2	SD5.0KAGEX	2.5P	70	9	14	25	39	6	4.9	8	3	2	●
	ISO3	SD5.0KMGEX	2.5P	70	9	14	25	39	6	4.9	8	3	2	●
M6 × 1	ISO2	SD6.0MAGEX	2.5P	80	11	15	30	45	6	4.9	8	3	2	●
	ISO3	SD6.0MMGEX	2.5P	80	11	15	30	45	6	4.9	8	3	2	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

SP-VA Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M8 × 1.25	ISO2	SD8.0NAGEX	2.5P	90	-	12	35	47	8	6.2	9	3	3	●
		SG8.0NAGEX	2.5P	90	-	12	-	46	6	4.9	8	3	4	●
	ISO3	SD8.0NMGEX	2.5P	90	-	12	35	47	8	6.2	9	3	3	●
M8 × 1	ISO2	SM8.0MAGEX	2.5P	90	-	12	-	46	6	4.9	8	3	4	●
M10 × 1.5	ISO2	SD0100AGEX	2.5P	100	-	13	39	52	10	8	11	3	3	●
		SG0100AGEX	2.5P	100	-	13	-	51	7	5.5	8	3	4	●
	ISO3	SD0100MGEX	2.5P	100	-	13	39	52	10	8	11	3	3	●
M10 × 1.25	ISO2	SM010NAGEX	2.5P	100	-	13	-	51	7	5.5	8	3	4	●
M10 × 1	ISO2	SM010MAGEX	2.5P	90	-	13	-	46	7	5.5	8	3	4	●
M12 × 1.75	ISO2	SG012PAGEX	2.5P	110	-	15	-	56	9	7	10	3	5	●
	ISO3	SG012PMGEX	2.5P	110	-	15	-	56	9	7	10	3	5	●
M12 × 1.5	ISO2	SM0120AGEX	2.5P	100	-	15	-	51	9	7	10	3	4	●
M12 × 1.25	ISO2	SM012NAGEX	2.5P	100	-	15	-	51	9	7	10	3	4	●
M12 × 1	ISO2	SM012MAGEX	2.5P	100	-	15	-	51	9	7	10	3	4	●
M14 × 2	ISO2	SG014QAGEX	2.5P	110	-	18	-	56	11	9	12	3	5	●
M14 × 1.5	ISO2	SM0140AGEX	2.5P	100	-	14	-	51	11	9	12	3	4	●
M14 × 1	ISO2	SM014MAGEX	2.5P	100	-	14	-	51	11	9	12	3	4	●
M16 × 2	ISO2	SG016QAGEX	2.5P	110	-	18	-	56	12	9	12	3	5	●
M16 × 1.5	ISO2	SM0160AGEX	2.5P	100	-	14	-	51	12	9	12	3	4	●
M18 × 2.5	ISO2	SG018RAGEX	2.5P	125	-	20	-	64	14	11	14	4	5	●
M18 × 1.5	ISO2	SM0180AGEX	2.5P	110	-	14	-	56	14	11	14	4	4	●
M20 × 2.5	ISO2	SG020RAGEX	2.5P	140	-	20	-	71	16	12	15	4	5	●
M20 × 1.5	ISO2	SM0200AGEX	2.5P	125	-	14	-	64	16	12	15	4	4	●
M22 × 2.5	ISO2	SG022RAGEX	2.5P	140	-	20	-	71	18	14.5	17	4	5	●
M22 × 1.5	ISO2	SM0220AGEX	2.5P	125	-	14	-	64	18	14.5	17	4	4	●
M24 × 3	ISO2	SG024SAGEX	2.5P	160	-	25	-	82	18	14.5	17	4	5	●
M24 × 1.5	ISO2	SM0240AGEX	2.5P	140	-	18	-	71	18	14.5	17	4	4	●
M27 × 3	ISO2	SG027SAGEX	2.5P	160	-	25	-	82	20	16	19	4	5	●
M30 × 3.5	ISO2	SG030TAGEX	2.5P	180	-	30	-	92	22	18	21	4	5	●
M36 × 4	ISO2	SG036UAGEX	2.5P	200	-	40	-	102	28	22	25	4	5	●
Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads														
NO.4-40UNC	2B	SDUN4HXGEX	2.5P	56	5	9	18	34	3.5	2.7	6	2	2	●
NO.6-32UNC	2B	SDUN6JXGEX	2.5P	56	7	11	19	32	4	3	6	3	2	●
NO.8-32UNC	2B	SDUN8JXGEX	2.5P	63	7	13	21	38	4.5	3.4	6	3	2	●
NO.10-24UNC	2B	SDUNAMXGEX	2.5P	70	9	14	24	39	6	4.9	8	3	2	●
NO.10-32UNF	2B	SDUNAJXGEX	2.5P	70	9	14	24	39	6	4.9	8	3	2	●
1/4-20UNC	2B	SDU04NXGEX	2.5P	80	11	15	30	42	7	5.5	8	3	2	●
1/4-28UNF	2B	SDU04KXGEX	2.5P	80	11	15	30	42	7	5.5	8	3	2	●
5/16-18UNC	2B	SDU050XGEX	2.5P	90	-	12	35	47	8	6.2	9	3	3	●
5/16-24UNF	2B	SMU05MXGEX	2.5P	90	-	12	-	46	6	4.9	8	3	4	●
3/8-16UNC	2B	SDU06PXGEX	2.5P	100	-	13	39	54	9	7	10	3	3	●
3/8-24UNF	2B	SMU06MXGEX	2.5P	100	-	13	-	51	7	5.5	8	3	4	●
7/16-14UNC	2B	SGU07QXGEX	2.5P	100	-	13	-	51	8	6.2	9	3	5	●
7/16-20UNF	2B	SMU07NXGEX	2.5P	100	-	13	-	51	8	6.2	9	3	4	●
1/2-13UNC	2B	SGU08RXGEX	2.5P	110	-	15	-	56	9	7	10	3	5	●
1/2-20UNF	2B	SMU08NXGEX	2.5P	100	-	15	-	51	9	7	10	3	4	●
9/16-12UNC	2B	SGU09SXGEX	2.5P	110	-	18	-	56	11	9	12	3	5	●
9/16-18UNF	2B	SMU090XGEX	2.5P	100	-	14	-	51	11	9	12	3	4	●

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP-VA Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
5/8-11UNC	2B	SGU10UXGEX	2.5P	110	-	18	-	56	12	9	12	3	5	●
5/8-18UNF	2B	SMU100XGEX	2.5P	100	-	14	-	51	12	9	12	3	4	●
3/4-10UNC	2B	SGU12VXGEX	2.5P	125	-	20	-	64	14	11	14	4	5	●
3/4-16UNF	2B	SMU12PXGEX	2.5P	110	-	14	-	56	14	11	14	4	4	●
7/8-9UNC	2B	SGU14WXGEX	2.5P	140	-	20	-	71	18	14.5	17	4	5	●
7/8-14UNF	2B	SMU14QXGEX	2.5P	125	-	20	-	64	18	14.5	17	4	4	●
1-8UNC	2B	SGU16XXGEX	2.5P	160	-	25	-	82	18	14.5	17	4	5	●
1-12UNF	2B	SMU16SXGEX	2.5P	140	-	18	-	71	18	14.5	17	4	4	●
1 1/8-7UNC	2B	SGU18YXGEX	2.5P	180	-	30	-	92	22	18	21	4	5	●
1 1/8-8UN	2B	SMU18XXGEX	2.5P	180	-	28	-	92	22	18	21	4	4	●
1 1/8-12UNF	2B	SMU18SXGEX	2.5P	150	-	20	-	77	22	18	21	4	4	●
1 1/4-7UNC	2B	SGU20YXGEX	2.5P	180	-	30	-	92	22	18	21	4	5	●
1 1/4-8UN	2B	SMU20XXGEX	2.5P	180	-	28	-	92	22	18	21	4	4	●
1 1/4-12UNF	2B	SMU20SXGEX	2.5P	150	-	20	-	77	22	18	21	4	4	●
1 3/8-6UNC	2B	SGU22ZXGEX	2.5P	200	-	40	-	102	28	22	25	4	5	●
1 3/8-8UN	2B	SMU22XXGEX	2.5P	200	-	30	-	102	28	22	25	4	4	●
1 3/8-12UNF	2B	SMU22SXGEX	2.5P	170	-	20	-	87	28	22	25	4	4	●
1 1/2-6UNC	2B	SGU24ZXGEX	2.5P	200	-	40	-	102	32	24	27	4	5	●
1 1/2-8UN	2B	SMU24XXGEX	2.5P	200	-	30	-	102	32	24	27	4	4	●
1 1/2-12UNF	2B	SMU24SXGEX	2.5P	170	-	20	-	87	32	24	27	4	4	●
1 5/8-8UN	2B	SMU26XXGEX	2.5P	200	-	30	-	102	32	24	27	4	4	●
1 3/4-8UN	2B	SMU28XXGEX	2.5P	200	-	40	-	102	36	29	32	4	4	●
2-8UN	2B	SMU32XXGEX	2.5P	225	-	40	-	115	40	32	35	4	4	●
Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads														
G1/8-28	-	SVG0020GEX	2.5P	90	-	12	-	46	7	5.5	8	3	6	●
G1/4-19	-	SVG0040GEX	2.5P	100	-	14	-	51	11	9	12	3	6	●
G3/8-19	-	SVG0060GEX	2.5P	100	-	14	-	51	12	9	12	3	6	●
G1/2-14	-	SVG0080GEX	2.5P	125	-	18	-	64	16	12	15	4	6	●
G3/4-14	-	SVG0120GEX	2.5P	140	-	20	-	71	20	16	19	4	6	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

SP-VA(Coating)



Spiral Fluted Taps for Stainless Steels, Coated

Specification

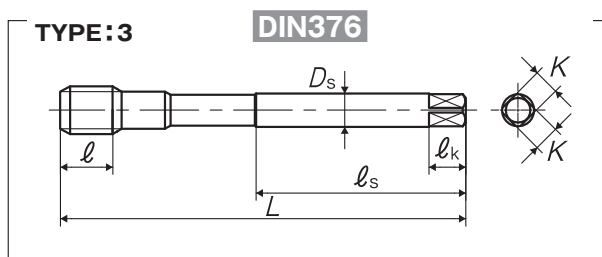
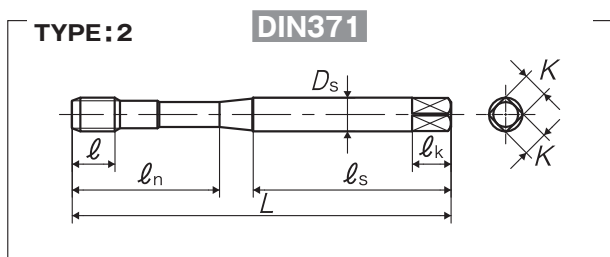
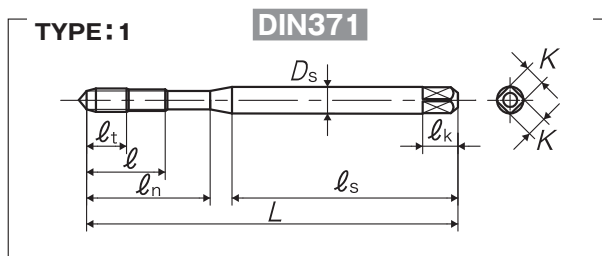


■ Most suitable for stainless steels, sticky and tending to work-harden, as well as chrome steels and molybdenum steels, blind hole use.

Recommended Tapping Speeds depending on Materials

High alloy steel ISO P4 ~15 (m/min)	Ferritic and austenitic stainless steel ISO M1~M2 ~15 (m/min)
--	--

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	ISO2	SD3.0GAGET	2.5P	56	5	9	18	34	3.5	2.7	6	2	1	●
M4 × 0.7	ISO2	SD4.0IAGET	2.5P	63	7	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2	SD5.0KAGET	2.5P	70	9	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2	SD6.0MAGET	2.5P	80	11	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2	SD8.0NAGET	2.5P	90	-	12	35	47	8	6.2	9	3	2	●
M10 × 1.5	ISO2	SD0100AGET	2.5P	100	-	13	39	52	10	8	11	3	2	●
M12 × 1.75	ISO2	SG012PAGET	2.5P	110	-	15	-	56	9	7	10	3	3	●
M14 × 2	ISO2	SG014QAGET	2.5P	110	-	18	-	56	11	9	12	3	3	●
M16 × 2	ISO2	SG016QAGET	2.5P	110	-	18	-	56	12	9	12	3	3	●
M20 × 2.5	ISO2	SG020RAGET	2.5P	140	-	20	-	71	16	12	15	4	3	●

SP-BLF

Spiral Fluted Taps, Deep Hole Use Specification



M26~

Recommended Tapping Speeds depending on Materials

Carbon steel and low alloy steel
ISO P2
5~10
(m/min)

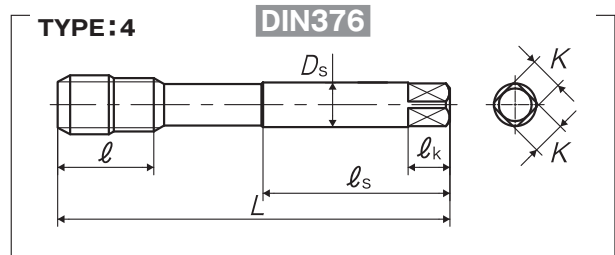
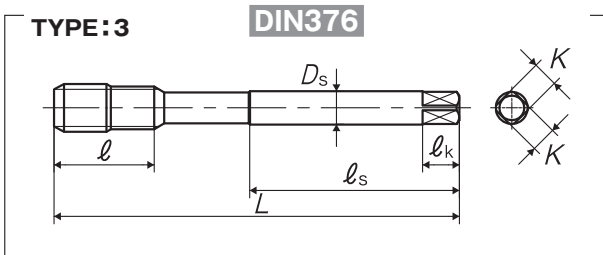
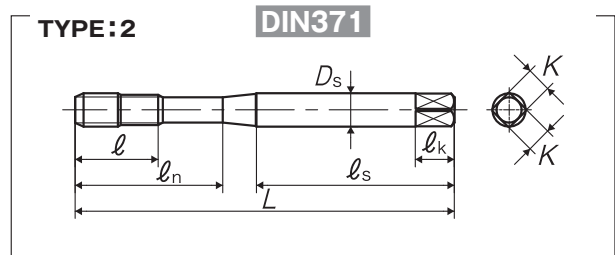
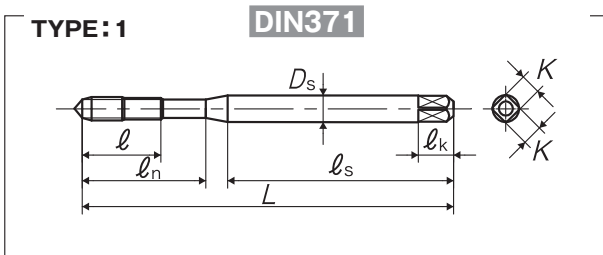
For icon explanation, refer to P.50

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



The BLF is suitable for deep hole tapping and presents the following advantages thanks to its geometry with the truncated crests:

1. Elimination of chipping problems at the taps full thread portion.
2. Good chip ejection.
3. Reduction of tapping friction.
4. The internal threads are cut by the chamfer and the 1st full thread. The full thread portion follows the internal threads just cut, and drives or rotates the tap forward based on the pitch of the threads. Since only half of threads are truncated, the BLF tap does not lose its guiding function, making sure that the tap is able to move forward following the pitch of the threads.



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02	SD3.0GANEBJ	2.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02	SD4.0IANEBAJ	1.5P	63	13	21	38	4.5	3.4	6	3	1	●
		SD4.0IANEBJ	2.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02	SD5.0KANEBAJ	1.5P	70	14	25	39	6	4.9	8	3	1	●
		SD5.0KANEBJ	2.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02	SD6.0MANEBAJ	1.5P	80	15	30	45	6	4.9	8	3	1	●
		SD6.0MANEBJ	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02	SD8.0NANEBAJ	1.5P	90	19	35	47	8	6.2	9	3	2	●
		SD8.0NANEBJ	2.5P	90	19	35	47	8	6.2	9	3	2	●
M10 × 1.5	IS02	SD0100ANEBAJ	1.5P	100	23	39	52	10	8	11	3	2	●
		SD0100ANEBJ	2.5P	100	23	39	52	10	8	11	3	2	●
M12 × 1.75	IS02	SG012PANEBAJ	1.5P	110	26	-	56	9	7	10	3	3	●
		SG012PANEBJ	2.5P	110	26	-	56	9	7	10	3	3	●
M14 × 2	IS02	SG014QANEBJ	2.5P	110	26	-	56	11	9	12	3	3	●
M16 × 2	IS02	SG016QANEBJ	2.5P	110	26	-	56	12	9	12	3	3	●
M18 × 2.5	IS02	SG018RANEBJ	2.5P	125	33	-	64	14	11	14	4	3	●
M20 × 2.5	IS02	SG020RANEBJ	2.5P	140	33	-	71	16	12	15	4	3	●
M22 × 2.5	IS02	SG022RANEBJ	2.5P	140	33	-	71	18	14.5	17	4	3	●
M24 × 3	IS02	SG024SANEBJ	2.5P	160	37	-	82	18	14.5	17	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP-BLF Spiral Fluted Taps, Deep Hole Use

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M30 × 3.5	IS02	SG030TANEBJ	2.5P	180	44	-	92	22	18	21	4	4	
M33 × 3.5	IS02	SG033TANEBJ	2.5P	180	46	-	92	25	20	23	4	4	
M36 × 4	IS02	SG036UANEBJ	2.5P	200	52	-	102	28	22	25	4	4	
M39 × 4	IS02	SG039UANEBJ	2.5P	200	52	-	102	32	24	27	4	4	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SP-BLF(Coating)



Spiral Fluted Taps, Deep Hole Use, Coated

Specification



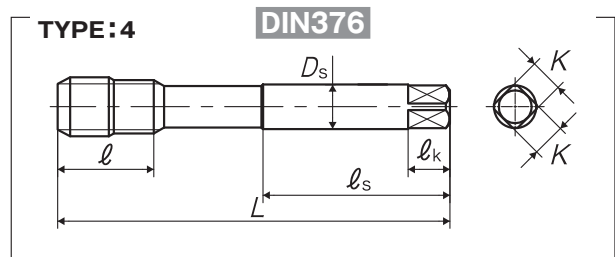
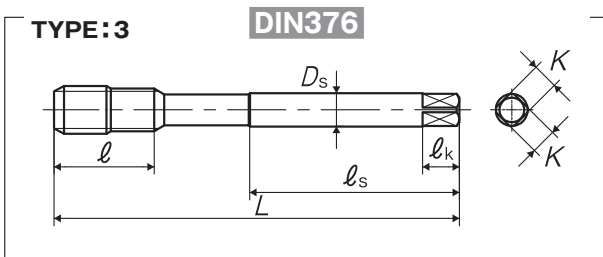
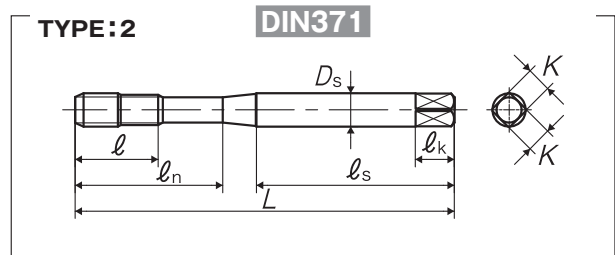
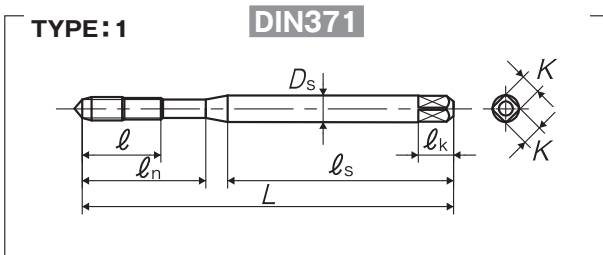
Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 10~20 (m/min)	Carbon steel and low alloy steel ISO P2 10~20 (m/min)	Medium alloy steel and heat treated steel ISO P3 10~20 (m/min)	High alloy steel ISO P4 10~20 (m/min)
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For icon explanation, refer to P.50

The BLF is suitable for deep hole tapping and presents the following advantages thanks to its geometry with the truncated crests:

1. Elimination of chipping problems at the taps full thread portion.
2. Good chip ejection.
3. Reduction of tapping friction.
4. The internal threads are cut by the chamfer and the 1st full thread. The full thread portion follows the internal threads just cut, and drives or rotates the tap forward based on the pitch of the threads. Since only half of threads are truncated, the BLF tap does not lose its guiding function, making sure that the tap is able to move forward following the pitch of the threads.



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	ISO2	96473.0TI	2.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	ISO2	96474.0TI	2.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2	96475.0TI	2.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2	96476.0TI	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2	96478.0TI	2.5P	90	19	35	47	8	6.2	9	3	2	●
M10 × 1.5	ISO2	9647010TI	2.5P	100	23	39	52	10	8	11	3	2	●
M12 × 1.75	ISO2	9747012TI	2.5P	110	26	-	56	9	7	10	3	3	●
M14 × 2	ISO2	9747014TI	2.5P	110	26	-	56	11	9	12	3	3	●
M16 × 2	ISO2	9747016TI	2.5P	110	26	-	56	12	9	12	3	3	●
M18 × 2.5	ISO2	9747018TI	2.5P	125	33	-	64	14	11	14	4	3	●
M20 × 2.5	ISO2	9747020TI	2.5P	140	33	-	71	16	12	15	4	3	●
M22 × 2.5	ISO2	9747022TI	2.5P	140	33	-	71	18	14.5	17	4	3	●
M24 × 3	ISO2	9747024TI	2.5P	160	37	-	82	18	14.5	17	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SP-BLF OX



Spiral Fluted Taps, Deep Hole Use, Oxidized

Specification



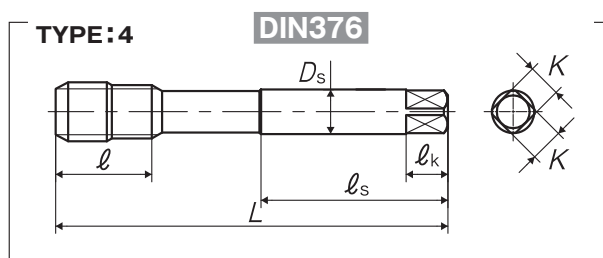
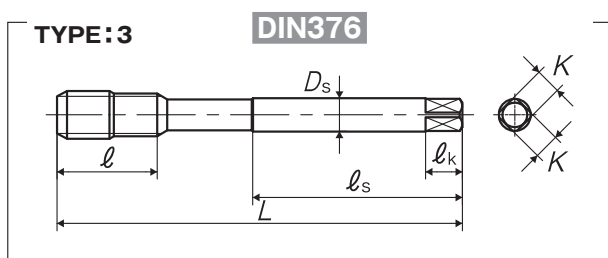
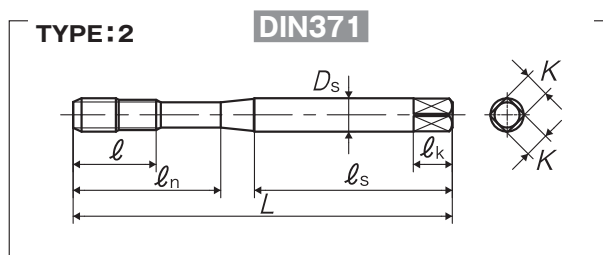
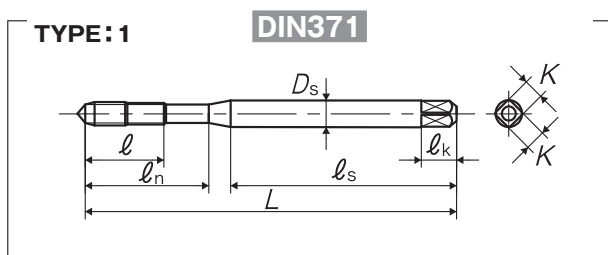
The BLF is suitable for deep hole tapping and presents the following advantages thanks to its geometry with the truncated crests:

1. Elimination of chipping problems at the taps full thread portion.
2. Good chip ejection.
3. Reduction of tapping friction.
4. The internal threads are cut by the chamfer and the 1st full thread. The full thread portion follows the internal threads just cut, and drives or rotates the tap forward based on the pitch of the threads. Since only half of threads are truncated, the BLF tap does not lose its guiding function, making sure that the tap is able to move forward following the pitch of the threads.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 5~10 (m/min)	Carbon steel and low alloy steel ISO P2 5~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	ISO2	SD3.0GANEXJ	2.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	ISO2	SD4.0IANEXJ	2.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2	SD5.0KANEXJ	2.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2	SD6.0MANEXJ	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2	SD8.0NANEXJ	2.5P	90	19	35	47	8	6.2	9	3	2	●
M10 × 1.5	ISO2	SD0100ANEXJ	2.5P	100	23	39	52	10	8	11	3	2	●
M12 × 1.75	ISO2	SG012PANEXJ	2.5P	110	26	-	56	9	7	10	3	3	●
M14 × 2	ISO2	SG014QANEXJ	2.5P	110	26	-	56	11	9	12	3	3	●
M16 × 2	ISO2	SG016QANEXJ	2.5P	110	26	-	56	12	9	12	3	3	●
M18 × 2.5	ISO2	SG018RANEXJ	2.5P	125	33	-	64	14	11	14	4	3	●
M20 × 2.5	ISO2	SG020RANEXJ	2.5P	140	33	-	71	16	12	15	4	3	●
M22 × 2.5	ISO2	SG022RANEXJ	2.5P	140	33	-	71	18	14.5	17	4	3	●
M24 × 3	ISO2	SG024SANEXJ	2.5P	160	37	-	82	18	14.5	17	4	4	●
M27 × 3	ISO2	SG027SANEXJ	2.5P	160	37	-	82	20	16	19	4	4	●
M30 × 3.5	ISO2	SG030TANEXJ	2.5P	180	44	-	92	22	18	21	4	4	●
M33 × 3.5	ISO2	SG033TANEXJ	2.5P	180	46	-	92	25	20	23	4	4	●
M36 × 4	ISO2	SG036UANEXJ	2.5P	200	52	-	102	28	22	25	4	4	●
M39 × 4	ISO2	SG039UANEXJ	2.5P	200	52	-	102	32	24	27	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SU2-SP



Spiral Fluted Taps for Tough Stainless Steels

Specification

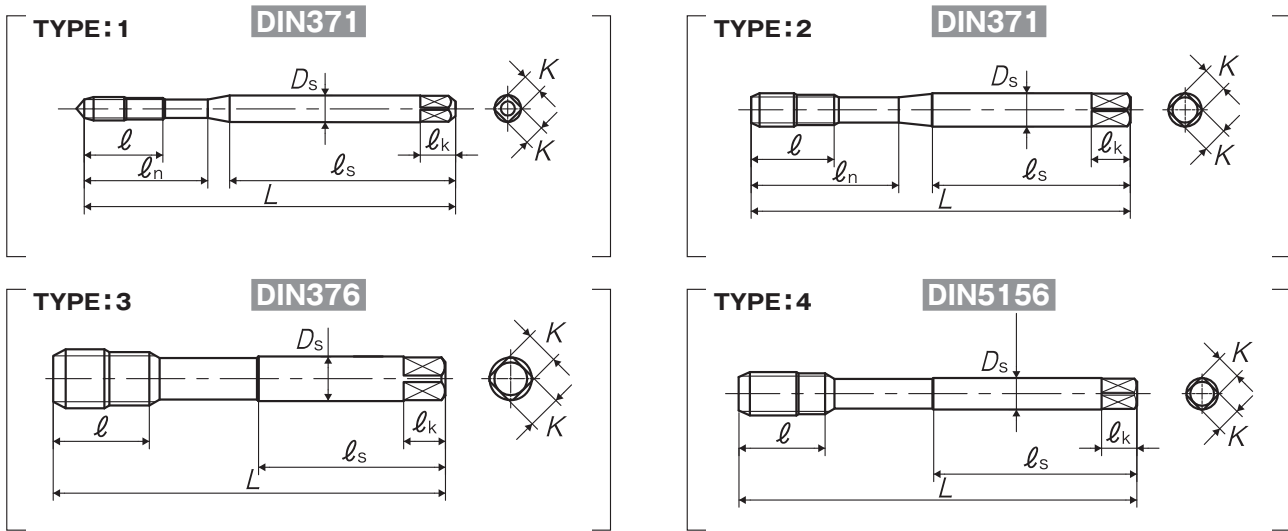


■SU2-SP is the spiral fluted tap most suitable for tough stainless steels, blind hole use.

Recommended Tapping Speeds depending on Materials

High alloy steel ISO P4 5~20 (m/min)	Austenitic stainless steel ISO M3~M4 5~15 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	ISO2	SD3.0GAGEXJ	2.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	ISO2	SD4.0IAGEXJ	2.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2	SD5.0KAGEXJ	2.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2	SD6.0MAGEXJ	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2	SD8.0NAGEXJ	2.5P	90	19	35	47	8	6.2	9	3	2	●
M10 × 1.5	ISO2	SD0100AGEXJ	2.5P	100	23	39	52	10	8	11	3	2	●
M12 × 1.75	ISO2	SG012PAGEXJ	2.5P	110	26	-	56	9	7	10	4	3	●
M14 × 2	ISO2	SG014QAGEXJ	2.5P	110	26	-	56	11	9	12	4	3	●
M16 × 2	ISO2	SG016QAGEXJ	2.5P	110	26	-	56	12	9	12	4	3	●
M18 × 2.5	ISO2	SG018RAGEXJ	2.5P	125	33	-	64	14	11	14	4	3	●
M20 × 2.5	ISO2	SG020RAGEXJ	2.5P	140	33	-	71	16	12	15	4	3	●
M22 × 2.5	ISO2	SG022RAGEXJ	2.5P	140	33	-	71	18	14.5	17	4	3	●
M24 × 3	ISO2	SG024SAGEXJ	2.5P	160	37	-	82	18	14.5	17	4	3	●
Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For G Threads													
G1/8-28	-	SVG0020GEXJ	2.5P	90	19	-	46	7	5.5	8	3	4	●
G1/4-19	-	SVG0040GEXJ	2.5P	100	21	-	51	11	9	12	4	4	●
G3/8-19	-	SVG0060GEXJ	2.5P	100	21	-	51	12	9	12	4	4	●
G1/2-14	-	SVG0080GEXJ	2.5P	125	24	-	64	16	12	15	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SU2-SP Spiral Fluted Taps for Tough Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
G3/4-14	-	SVG0120GEXJ	2.5P	140	27	-	71	20	16	19	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

ZEN-B

Spiral Fluted Taps for Nickel Base Alloys

Specification

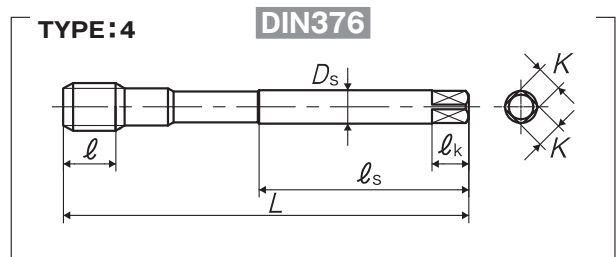
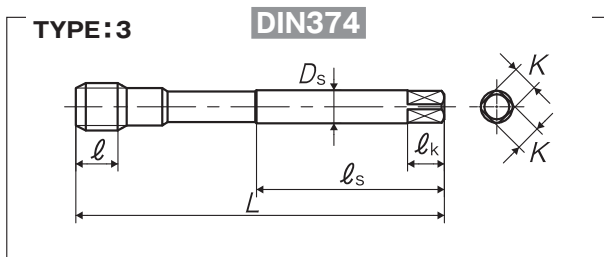
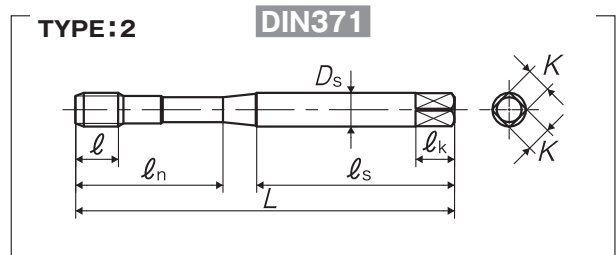
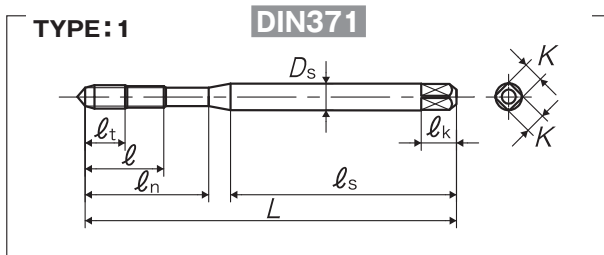


■ZEN-B is the spiral fluted tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels.

Recommended Tapping Speeds depending on Materials

Medium alloy steel and heat treated steel ISO P3 5~15 (m/min)	High alloy steel ISO P4 5~15 (m/min)	Ferritic and austenitic stainless steel ISO M1~M3 5~15 (m/min)	Heat resistant super alloys (~35 HRC) ISO S1-S2 5~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	IS02X	SD3.0GBJPX	3P	56	5	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	SD4.0IBJPX	3P	63	7	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	SD5.0KBJPX	3P	70	9	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	SD6.0MBJPX	3P	80	11	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	SD8.0NBJPX	3P	90	-	12	35	47	8	6.2	9	3	2	●
M10 × 1.5	IS02X	SD0100BJPX	3P	100	-	13	39	52	10	8	11	3	2	●
M10 × 1.25	IS02X	SM010NBJPX	3P	100	-	13	-	51	7	5.5	8	3	3	●
M12 × 1.75	IS02X	SG012PBJPX	3P	110	-	15	-	56	9	7	10	3	4	●
M12 × 1.5	IS02X	SM0120BJPX	3P	100	-	15	-	51	9	7	10	3	3	●
M12 × 1.25	IS02X	SM012NBJPX	3P	100	-	15	-	51	9	7	10	3	3	●
M14 × 2	IS02X	SG014QBJPX	3P	110	-	18	-	56	11	9	12	3	4	●
M14 × 1.5	IS02X	SM0140BJPX	3P	100	-	14	-	51	11	9	12	3	3	●
M16 × 2	IS02X	SG016QBJPX	3P	110	-	18	-	56	12	9	12	3	4	●
M16 × 1.5	IS02X	SM0160BJPX	3P	100	-	14	-	51	12	9	12	3	3	●
M18 × 2.5	IS02X	SG018RBJPX	3P	125	-	20	-	64	14	11	14	4	4	●
M20 × 2.5	IS02X	SG020RBJPX	3P	140	-	20	-	71	16	12	15	4	4	●
M22 × 2.5	IS02X	SG022RBJPX	3P	140	-	20	-	71	18	14.5	17	4	4	●
M24 × 3	IS02X	SG024SBJPX	3P	160	-	25	-	82	18	14.5	17	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

ZEN-B Spiral Fluted Taps for Nickel Base Alloys

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads														
NO.4-40UNC	2BX	SDUN4HYJPX	3P	56	5	9	18	34	3.5	2.7	6	3	1	●
NO.6-32UNC	2BX	SDUN6JYJPX	3P	56	7	11	19	32	4	3	6	3	1	●
NO.8-32UNC	2BX	SDUN8JYJPX	3P	63	7	13	21	38	4.5	3.4	6	3	1	●
NO.10-24UNC	2BX	SDUNAMYJPX	3P	70	9	14	24	39	6	4.9	8	3	1	●
NO.10-32UNF	2BX	SDUNAJYJPX	3P	70	9	14	24	39	6	4.9	8	3	1	●
1/4-20UNC	2BX	SDU04NYJPX	3P	80	11	15	30	42	7	5.5	8	3	1	●
1/4-28UNF	2BX	SDU04KYJPX	3P	80	11	15	30	42	7	5.5	8	3	1	●
5/16-18UNC	2BX	SDU050YJPX	3P	90	-	12	35	47	8	6.2	9	3	2	●
5/16-24UNF	2BX	SMU05MYJPX	3P	90	-	12	-	46	6	4.9	8	3	3	●
3/8-16UNC	2BX	SDU06PYJPX	3P	100	-	13	39	54	9	7	10	3	2	●
3/8-24UNF	2BX	SMU06MYJPX	3P	100	-	13	-	51	7	5.5	8	3	3	●
7/16-20UNF	2BX	SMU07NYJPX	3P	100	-	13	-	51	8	6.2	9	3	3	●
1/2-13UNC	2BX	SGU08RYJPX	3P	110	-	15	-	56	9	7	10	3	4	●
1/2-20UNF	2BX	SMU08NYJPX	3P	100	-	15	-	51	9	7	10	3	3	●
9/16-18UNF	2BX	SMU090YJPX	3P	100	-	14	-	51	11	9	12	3	3	●
5/8-11UNC	2BX	SGU10UYJPX	3P	110	-	18	-	56	12	9	12	3	4	●
5/8-18UNF	2BX	SMU100YJPX	3P	100	-	14	-	51	12	9	12	3	3	●
3/4-10UNC	2BX	SGU12VYJPX	3P	125	-	20	-	64	14	11	14	4	4	●
3/4-16UNF	2BX	SMU12PYJPX	3P	110	-	14	-	56	14	11	14	4	3	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

ZET-B

Spiral Fluted Taps for Titanium Alloys

Specification

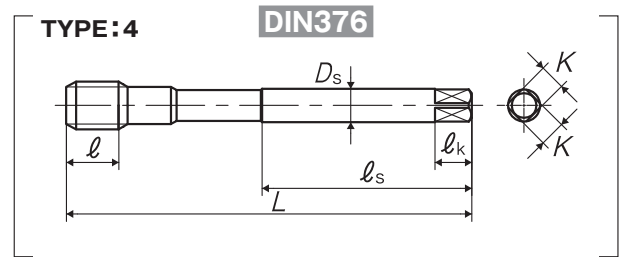
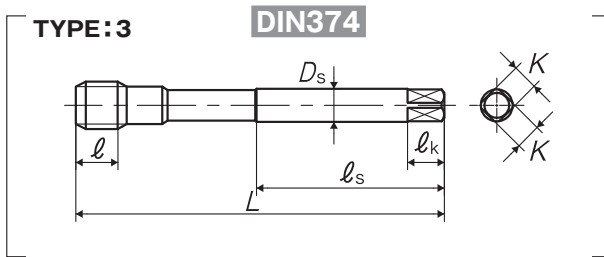
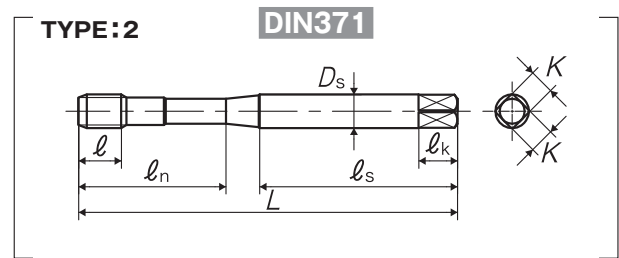
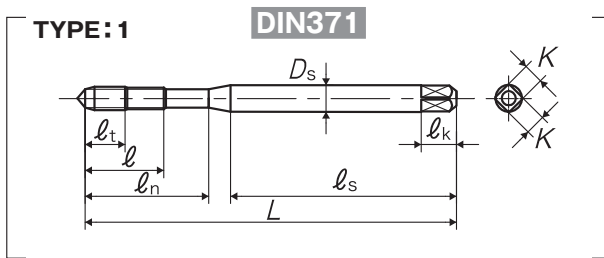


■ZET-B is the spiral fluted tap for titanium alloys which, including titanium as the main composition, are tough, light and heat resistant.

Recommended Tapping Speeds depending on Materials

Titanium alloy
ISO S5
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	IS02X	SD3.0GBIPN	3P	56	5	7	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	SD4.0IBIPN	3P	63	7	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	SD5.0KBIPN	3P	70	9	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	SD6.0MBIPN	3P	80	11	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	SD8.0NBIPN	3P	90	-	12	35	47	8	6.2	9	3	2	●
M10 × 1.5	IS02X	SD0100BIPN	3P	100	-	13	39	52	10	8	11	3	2	●
M10 × 1.25	IS02X	SM010NBIPN	3P	100	-	13	-	51	7	5.5	8	3	3	●
M12 × 1.75	IS02X	SG012PBIPN	3P	110	-	15	-	56	9	7	10	3	4	●
M12 × 1.5	IS02X	SM0120BIPN	3P	100	-	15	-	51	9	7	10	3	3	●
M12 × 1.25	IS02X	SM012NBIPN	3P	100	-	15	-	51	9	7	10	3	3	●
M14 × 2	IS02X	SG014QBIPN	3P	110	-	18	-	56	11	9	12	3	4	●
M14 × 1.5	IS02X	SM0140BIPN	3P	100	-	14	-	51	11	9	12	3	3	●
M16 × 2	IS02X	SG016QBIPN	3P	110	-	18	-	56	12	9	12	4	4	●
M16 × 1.5	IS02X	SM0160BIPN	3P	100	-	14	-	51	12	9	12	4	3	●
M18 × 2.5	IS02X	SG018RBIPN	3P	125	-	20	-	64	14	11	14	4	4	
M20 × 2.5	IS02X	SG020RBIPN	3P	140	-	20	-	71	16	12	15	4	4	●
M22 × 2.5	IS02X	SG022RBIPN	3P	140	-	20	-	71	18	14.5	17	4	4	
M24 × 3	IS02X	SG024SBIPN	3P	160	-	25	-	82	18	14.5	17	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

ZET-B Spiral Fluted Taps for Titanium Alloys

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads														
NO.4-40UNC	2BX	SDUN4HYIPN	3P	56	5	9	18	34	3.5	2.7	6	3	1	●
NO.6-32UNC	2BX	SDUN6JYIPN	3P	56	7	11	19	32	4	3	6	3	1	●
NO.6-40UNF	2BX	SDUN6HYIPN	3P	56	7	11	19	32	4	3	6	3	1	●
NO.8-32UNC	2BX	SDUN8JYIPN	3P	63	7	13	21	38	4.5	3.4	6	3	1	●
NO.10-24UNC	2BX	SDUNAMYIPN	3P	70	9	14	24	39	6	4.9	8	3	1	●
NO.10-32UNF	2BX	SDUNAJYIPN	3P	70	9	14	24	39	6	4.9	8	3	1	●
1/4-20UNC	2BX	SDU04NYIPN	3P	80	11	15	30	42	7	5.5	8	3	1	●
1/4-28UNF	2BX	SDU04KYIPN	3P	80	11	15	30	42	7	5.5	8	3	1	●
5/16-18UNC	2BX	SDU05OYIPN	3P	90	-	12	35	47	8	6.2	9	3	2	●
5/16-24UNF	2BX	SMU05MYIPN	3P	90	-	12	-	46	6	4.9	8	3	3	●
3/8-16UNC	2BX	SDU06PYIPN	3P	100	-	13	39	54	9	7	10	3	2	●
3/8-24UNF	2BX	SMU06MYIPN	3P	100	-	13	-	51	7	5.5	8	3	3	●
1/2-13UNC	2BX	SGU08RYIPN	3P	110	-	15	-	56	9	7	10	3	4	●
1/2-20UNF	2BX	SMU08NYIPN	3P	100	-	15	-	51	9	7	10	3	3	●
5/8-11UNC	2BX	SGU10UYIPN	3P	110	-	18	-	56	12	9	12	4	4	●
3/4-10UNC	2BX	SGU12VYIPN	3P	125	-	20	-	64	14	11	14	4	4	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

F-SP

Spiral Fluted Taps for High Speed Tapping

Specification

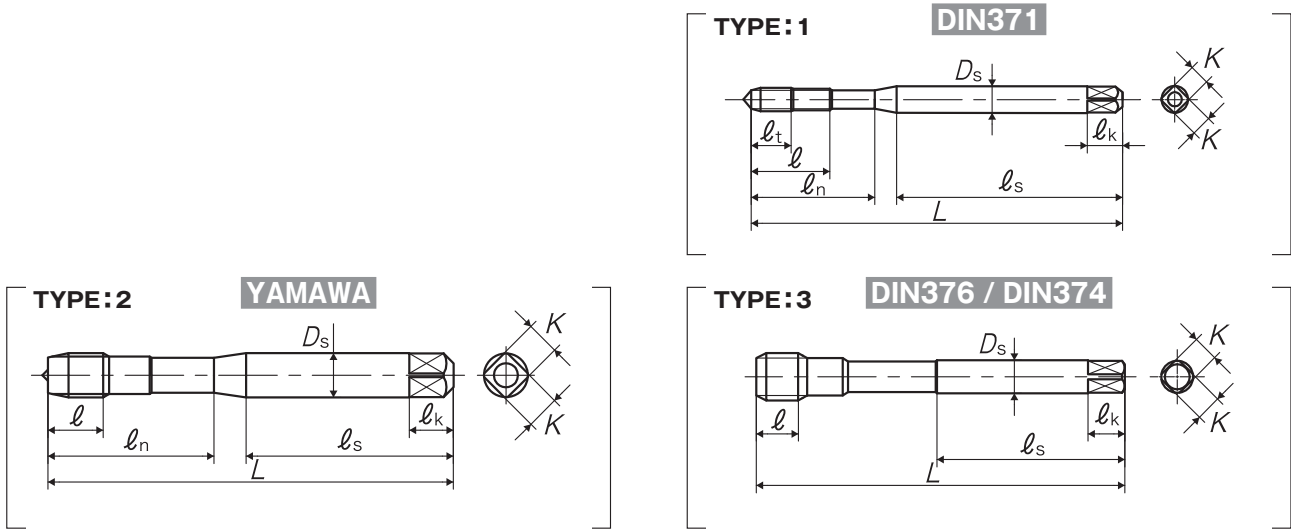


■ Spiral Fluted Tap applicable for such high speed tapping as 15m/min to 25m/min. Under low tapping speed, poor chip shape and poor chip ejection may occur and cause tapping troubles.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 15~25 (m/min)	Carbon steel and low alloy steel ISO P2 15~25 (m/min)
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For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	IS02X	SD3.0GBNEV	2.5P	56	5	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	SD4.0IBNEV	2.5P	63	7	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	SD5.0KBNEV	2.5P	70	9	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	SY6.0MBNEV	2.5P	80	11	15	30	45	6	4.9	8	3	2	●
M8 × 1.25	IS02X	SY8.0NBNEV	2.5P	90	-	12	35	48	8	6.2	9	3	2	●
M10 × 1.5	IS02X	SY0100BNEV	2.5P	100	-	13	39	53	10	8	11	3	2	●
M10 × 1.25	IS02X	SY010NBNEV	2.5P	100	-	13	39	53	10	8	11	3	2	●
M12 × 1.75	IS02X	SY012PBNEV	2.5P	110	-	15	45	56	12	9	12	3	2	●
		SG012PBNEV	2.5P	110	-	15	-	56	9	7	10	3	3	
M12 × 1.5	IS02X	SY0120BNEV	2.5P	110	-	15	45	56	12	9	12	3	2	●
		SM0120BNEV	2.5P	100	-	15	-	51	9	7	10	3	3	
M12 × 1.25	IS02X	SY012NBNEV	2.5P	110	-	15	45	56	12	9	12	3	2	●
		SM012NBNEV	2.5P	100	-	15	-	51	9	7	10	3	3	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ _t	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

HFIHS

For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Carbon Steels

Specification

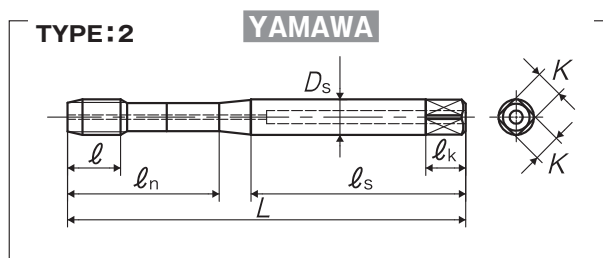
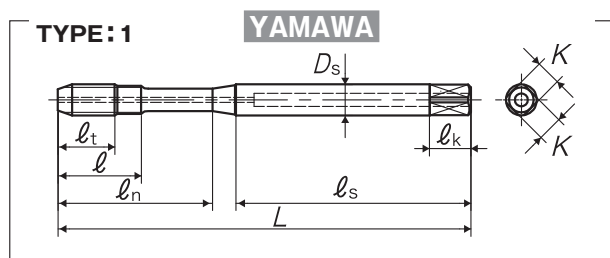


- Applicable for ultra high speed tapping. Having center through hole geometry to correspond with inner coolant supply system, HFIHS is suitable for carbon steels and alloy steels, blind hole use. Vertical tapping use.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 20~50 (m/min)	Carbon steel and low alloy steel ISO P2 20~50 (m/min)	Medium alloy steel and heat treated steel ISO P3 20~30 (m/min)	High alloy steel ISO P4 20~30 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ _t (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads														
M6 × 1	ISO2X	SD6.0MBEDTZ	2.5P	80	11	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2X	SD8.0NBEDTZ	2.5P	90	-	12	35	48	8	6.2	9	3	2	●
M10 × 1.5	ISO2X	SD0100BEDTZ	2.5P	100	-	13	39	53	10	8	11	3	2	●
M10 × 1.25	ISO2X	SY010NBEDTZ	2.5P	100	-	13	39	53	10	8	11	3	2	●
M12 × 1.75	ISO2X	SY012PBEDTZ	2.5P	110	-	15	44	57	12	9	12	3	2	●
M12 × 1.5	ISO2X	SY0120BEDTZ	2.5P	110	-	15	44	57	12	9	12	3	2	●
M12 × 1.25	ISO2X	SY012NBEDTZ	2.5P	110	-	15	44	57	12	9	12	3	2	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

HFISP

For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Carbon Steels Specification



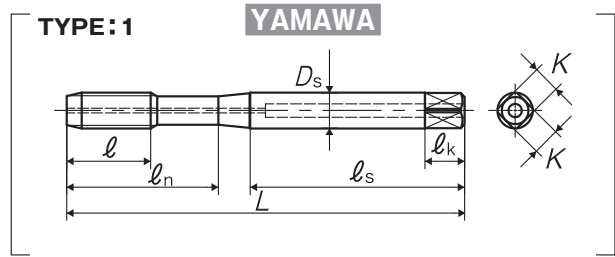
Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 20~50 (m/min)	Carbon steel and low alloy steel ISO P2 20~50 (m/min)	Medium alloy steel and heat treated steel ISO P3 20~30 (m/min)	High alloy steel ISO P4 20~30 (m/min)
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For icon explanation, refer to P.50



■ Applicable for ultra high speed tapping. Having center through hole geometry to correspond with inner coolant supply system, HFISP is suitable for carbon steels and alloy steels, blind hole use. Effective in horizontal tapping use.



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	IS02X	SD6.0MBEDTHZ	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	SD8.0NBEDTHZ	2.5P	90	19	35	48	8	6.2	9	3	1	●
M10 × 1.5	IS02X	SD0100BEDTHZ	2.5P	100	23	39	53	10	8	11	3	1	●
M10 × 1.25	IS02X	SY010NBEDTHZ	2.5P	100	23	39	53	10	8	11	3	1	●
M12 × 1.75	IS02X	SY012PBEDTHZ	2.5P	110	26	44	57	12	9	12	3	1	●
M12 × 1.5	IS02X	SY0120BEDTHZ	2.5P	110	26	44	57	12	9	12	3	1	●
M12 × 1.25	IS02X	SY012NBEDTHZ	2.5P	110	26	44	57	12	9	12	3	1	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

HFAHS

For Ultra Fast Tapping, Vertical Use, Spiral Fluted Taps for Aluminum

Specification

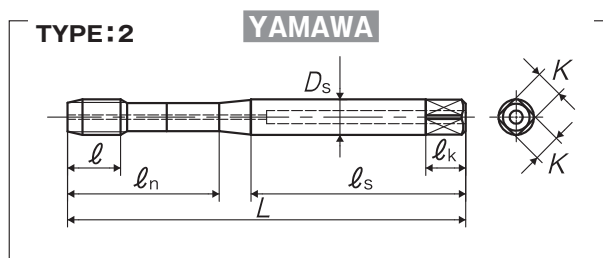
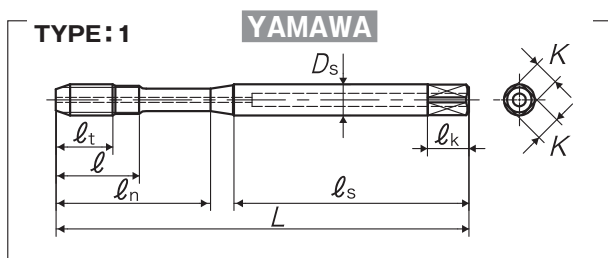


- Applicable for ultra high speed tapping. Having center through hole geometry to correspond with inner coolant supply system, HFAHS is suitable for aluminum castings, blind hole use. Vertical tapping use.

Recommended Tapping Speeds depending on Materials

Aluminum alloy (<12% Si) ISO N1 30~100 (m/min)	Aluminum alloy (>12% Si) ISO N2 30~100 (m/min)
---	---

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M6 × 1	IS02X	SD6.0MBLDTZ	2.5P	80	11	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	SD8.0NBLDTZ	2.5P	90	-	12	35	48	8	6.2	9	3	2	●
M10 × 1.5	IS02X	SD0100BLDTZ	2.5P	100	-	13	39	53	10	8	11	3	2	●
M10 × 1.25	IS02X	SY010NBLDTZ	2.5P	100	-	13	39	53	10	8	11	3	2	
M12 × 1.75	IS02X	SY012PBLDTZ	2.5P	110	-	15	44	57	12	9	12	3	2	●
M12 × 1.5	IS02X	SY0120BLDTZ	2.5P	110	-	15	44	57	12	9	12	3	2	
M12 × 1.25	IS02X	SY012NBLDTZ	2.5P	110	-	15	44	57	12	9	12	3	2	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

HFASP

For Ultra Fast Tapping, Horizontal Use, Low Spiral Fluted Taps for Aluminum
Specification

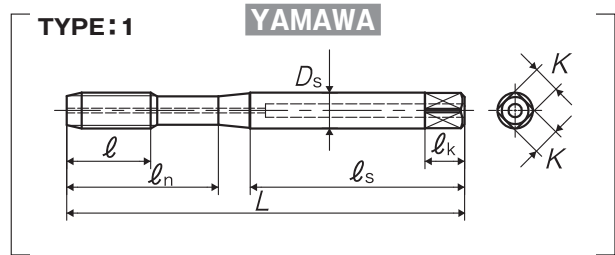


■ Applicable for ultra high speed tapping. Having center through geometry to correspond with inner coolant supply system, HFASP is suitable for aluminum castings, blind hole use. Effective in horizontal tapping use.

Recommended Tapping Speeds depending on Materials

Aluminum alloy (<12% Si) ISO N1 30~100 (m/min)	Aluminum alloy (>12% Si) ISO N2 30~100 (m/min)
---	---

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	IS02X	SD6.0MBLDTHZ	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	SD8.0NBLDTHZ	2.5P	90	19	35	48	8	6.2	9	3	1	●
M10 × 1.5	IS02X	SD0100BLDTHZ	2.5P	100	23	39	53	10	8	11	3	1	●
M10 × 1.25	IS02X	SY010NBLDTHZ	2.5P	100	23	39	53	10	8	11	3	1	
M12 × 1.75	IS02X	SY012PBLDTHZ	2.5P	110	26	44	57	12	9	12	3	1	●
M12 × 1.5	IS02X	SY0120BLDTHZ	2.5P	110	26	44	57	12	9	12	3	1	
M12 × 1.25	IS02X	SY012NBLDTHZ	2.5P	110	26	44	57	12	9	12	3	1	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

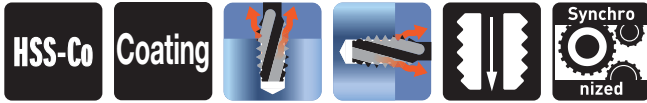
Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	l	l_n	l_s	Ds	K	l_k

HDISP

For Dry Tapping, Blind Hole Use, Spiral Fluted Taps for Steels

Specification



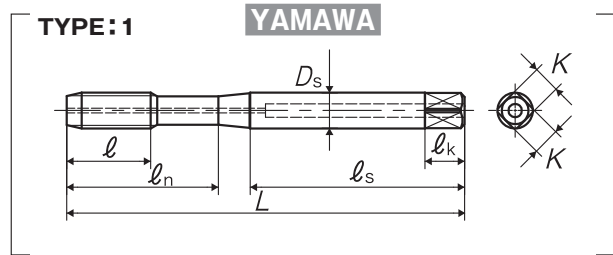
■ Applicable for the tapping under mist or dry condition.

Having center through hole geometry to correspond with inner coolant supply system, HDISP is suitable for carbon steels and alloy steels, blind hole use. For both horizontal and vertical tapping use.

Recommended Tapping Speeds depending on Materials

Medium alloy steel and heat treated steel ISO P3 10~20 (m/min)	High alloy steel ISO P4 10~20 (m/min)
--	---

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	l (mm)	l_n (mm)	l_s (mm)	Ds (mm)	K (mm)	l_k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	ISO2X	SD6.0MBEDTLZ	2.5P	80	15	30	45	6	4.9	8	3	1	
M8 × 1.25	ISO2X	SD8.0NBEDTLZ	2.5P	90	19	35	48	8	6.2	9	3	1	
M10 × 1.5	ISO2X	SD0100BEDTLZ	2.5P	100	23	39	53	10	8	11	3	1	
M10 × 1.25	ISO2X	SY010NBEDTLZ	2.5P	100	23	39	53	10	8	11	3	1	
M12 × 1.75	ISO2X	SY012PBEDTLZ	2.5P	110	26	44	57	12	9	12	3	1	
M12 × 1.5	ISO2X	SY0120BEDTLZ	2.5P	110	26	44	57	12	9	12	3	1	
M12 × 1.25	ISO2X	SY012NBEDTLZ	2.5P	110	26	44	57	12	9	12	3	1	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

HDASP

For Dry Tapping, Blind Hole Use, Spiral Fluted Taps for Aluminum

Specification

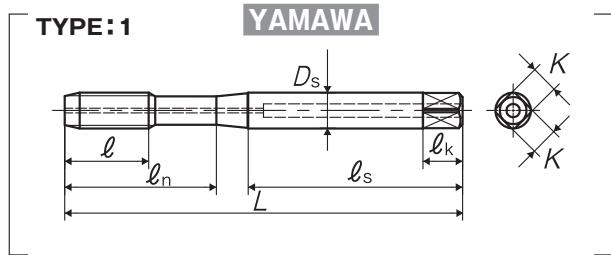


- Applicable for the tapping under mist or dry condition. Having center through hole geometry to correspond with inner coolant supply system, HDASP is suitable for aluminum castings, blind hole use. For both horizontal and vertical tapping use.

Recommended Tapping Speeds depending on Materials

Aluminum alloy (<12% Si) ISO N1 20~50 (m/min)	Aluminum alloy (>12% Si) ISO N2 20~50 (m/min)
--	--

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	IS02X	SD6.0MBLDTLZ	2.5P	80	15	30	45	6	4.9	8	3	1	
M8 × 1.25	IS02X	SD8.0NBLDTLZ	2.5P	90	19	35	48	8	6.2	9	3	1	
M10 × 1.5	IS02X	SD0100BLDTLZ	2.5P	100	23	39	53	10	8	11	3	1	
M10 × 1.25	IS02X	SY010NBLDTLZ	2.5P	100	23	39	53	10	8	11	3	1	
M12 × 1.75	IS02X	SY012PBLDTLZ	2.5P	110	26	44	57	12	9	12	3	1	
M12 × 1.5	IS02X	SY0120BLDTLZ	2.5P	110	26	44	57	12	9	12	3	1	
M12 × 1.25	IS02X	SY012NBLDTLZ	2.5P	110	26	44	57	12	9	12	3	1	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

DIN LINE UP

SPIRAL FLUTED TAP SERIES FOR THROUGH HOLE



<u>SL+VA</u>	<u>SL-1</u>
<u>MHSL</u>	<u>SL-3</u>
<u>AU+SL</u>	<u>SL-5</u>
<u>AUXSL</u>	<u>SL-7</u>
<u>ZET-P</u>	<u>SL-8</u>
<u>F-SL</u>	<u>SL-9</u>
<u>HDISL</u>	<u>SL-10</u>

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SL+VA

Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)

Specification

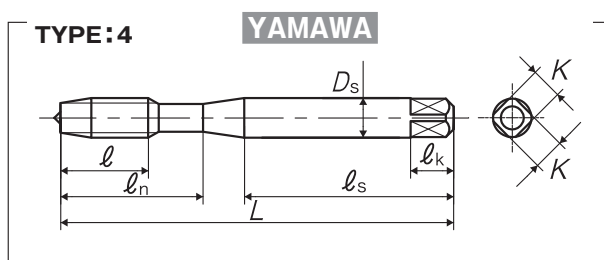
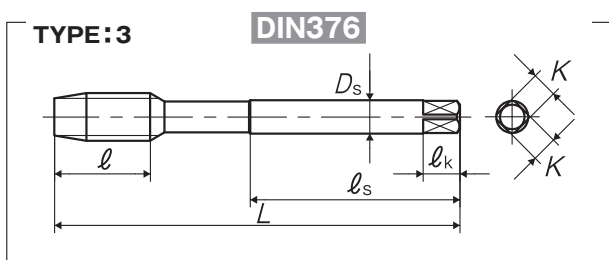
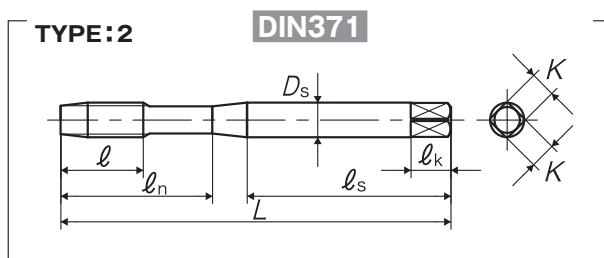
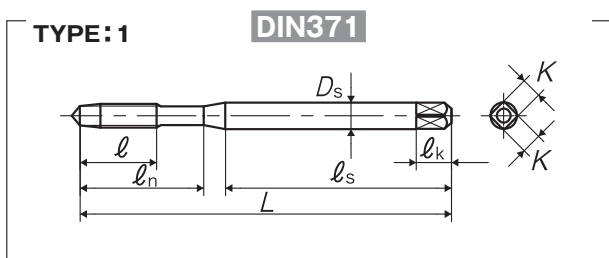


■Applying the blanks of high toughness and high accuracy, SL+VA derives the maximum performance from high facility machining centers and high precision toolings. Spiral fluted taps for stainless steels, through hole use (with LH spiral flutes).

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 10~15 (m/min)	Carbon steel and low alloy steel ISO P2 10~15 (m/min)	Medium alloy steel and heat treated steel ISO P3 ~10 (m/min)	High alloy steel ISO P4 ~10 (m/min)	Ferritic and austenitic stainless steel ISO M1~M3 5~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	ISO2X	LE3.0GBGEX	5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	ISO2X	LE4.0IBGEX	5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2X	LE5.0KGBGEX	5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2X	LE6.0MBGEX	5P	80	15	30	45	6	4.9	8	3	1	
		LZ6.0MBGEX	5P	80	15	30	45	6	4.9	8	3	4	●
M8 × 1.25	ISO2X	LE8.0NBGEX	5P	90	19	35	47	8	6.2	9	3	2	
		LZ8.0NBGEX	5P	90	19	35	48	8	6.2	9	3	4	●
M10 × 1.5	ISO2X	LE0100BGEX	5P	100	23	39	52	10	8	11	3	2	
		LZ0100BGEX	5P	100	23	39	53	10	8	11	3	4	●
M12 × 1.75	ISO2X	LH012PBGEX	5P	110	26	-	56	9	7	10	3	3	
		LZ012PBGEX	5P	110	26	45	56	12	9	12	3	4	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

M E M O

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

MHSL



Spiral Fluted Taps for Carbon Steels of middle hardness, Through Hole Use (with LH spiral flutes)

Specification



Recommended Tapping Speeds depending on Materials

Medium alloy steel and heat treated steel ISO P3 10~20 (m/min)	High alloy steel ISO P4 10~20 (m/min)
--	---

For icon explanation, refer to P.50

Product features

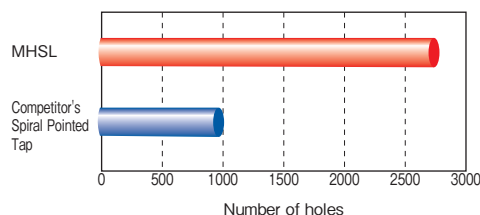
- Most suitable for forged and thermal refined high carbon steels (C48 ~ C55) with 20 ~ 30 HRC hardness.
- MHSL ensures long tool life by adopting HSS-Co material of high wear resistance and special coating.
- Adopting proprietary flute design, MHSL ensures consistent chip ejection in the area of middle tapping speed, and improves surface roughness of internal threads.

Tapping data

Tapping condition (M12×1.25)

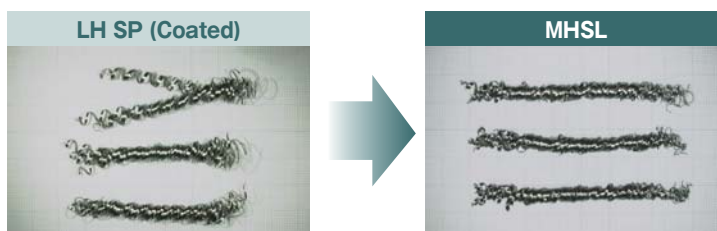
Work material	C53 (forged) / Hub bearing
Tapping speed	30m/min
Hole size	φ10.8mm
Tapping length	12mm, through hole
Machine	Horizontal machining center (Synchronized feed)
Tapping fluid	Water soluble oil

Tapping result (number of holes)



[Smooth chip ejection]

2 Step taper grooves to improve chip ejection



MHSL smoothly pushes out chips.

[Internal Threads]



LH SP (Coated)



MHSL

Obtainable from Video site shown in right

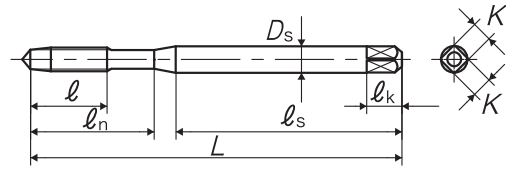


Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

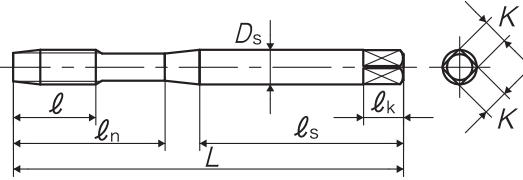
TYPE:1

DIN371



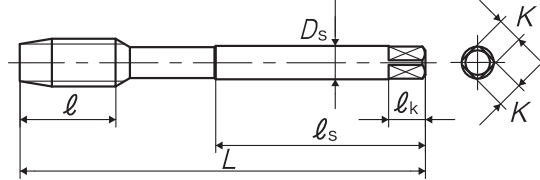
TYPE:2

DIN371



TYPE:3

DIN376 / DIN374



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	IS02X	LD6.0MBFCL5	5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	LD8.0NBFL5	5P	90	19	35	47	8	6.2	9	3	2	●
M10 × 1.5	IS02X	LD0100BFCL5	5P	100	23	39	52	10	8	11	3	2	●
M10 × 1.25	IS02X	LM010NBFL5	5P	100	23	-	51	7	5.5	8	3	3	●
M12 × 1.75	IS02X	LG012PBFCL5	5P	110	26	-	56	9	7	10	4	3	●
M12 × 1.5	IS02X	LM0120BFCL5	5P	100	21	-	51	9	7	10	4	3	●
M12 × 1.25	IS02X	LM012NBFL7	7P	100	21	-	51	9	7	10	4	3	●
M14 × 1.5	IS02X	LM0140BFCL7	7P	100	21	-	51	11	9	12	4	3	●
M16 × 1.5	IS02X	LM0160BFCL7	7P	100	21	-	51	12	9	12	4	3	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

AU+SL

Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)

Specification



Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 10~20 (m/min)	Carbon steel and low alloy steel ISO P2 10~20 (m/min)	Medium alloy steel and heat treated steel ISO P3 10~20 (m/min)	High alloy steel ISO P4 10~20 (m/min)
Ferritic and austenitic stainless steel ISO M1~M3 5~10 (m/min)	Aluminum alloy (<12% Si) ISO N1 20~30 (m/min)	Aluminum alloy (>12% Si) ISO N2 20~30 (m/min)	

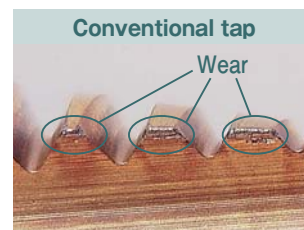
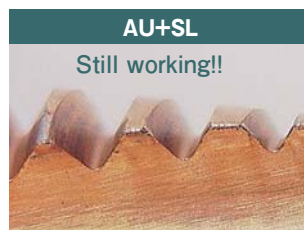
For icon explanation, refer to P.50

Tapping data

Tapping condition (M6×1)

Work material	42 CrMo 4
Tapping speed	15m/min
Hole size	φ5.0
Tapping length	9mm, through hole
Machine	Vertical machining center
Tapping fluid	Water soluble oil (Chlorine-free, 20 fold dilution)

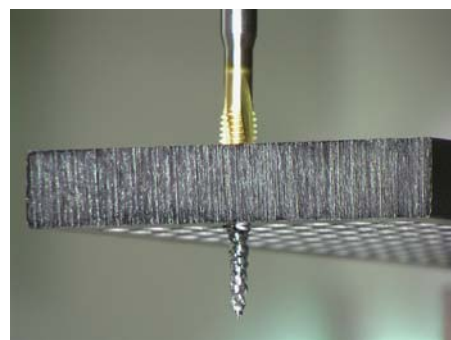
Chamfer condition after 3,000 hole tapping



Product features

- Special left hand spiral flute design enables the smooth chip ejection even in high speed tapping area.
- AU+SL ensures the smooth chip ejection in the wide range of work materials from steels to stainless steels.
- Change of marking position from shank into square portion:
Laser marking can roughen the shank surface. In order to keep high accuracy of shank circularity and diameter, marking has been transferred from shank to square portion.
- AU+SL adopts a special flute design enabling coating features to show their best efficiency, and is applicable to the wide range of work materials. AU+SL also runs well even in water soluble cutting oil.

Smooth chip ejection

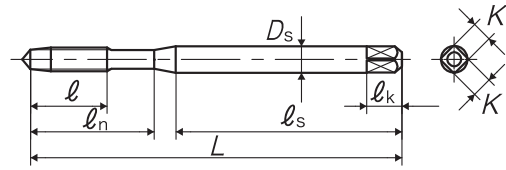


Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

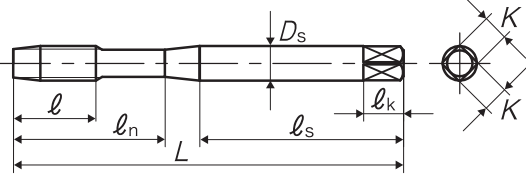
TYPE:1

DIN371



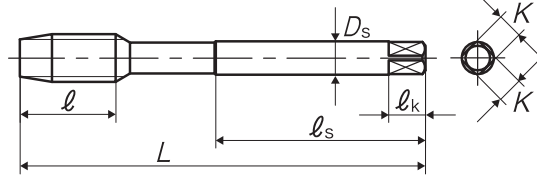
TYPE:2

DIN371



TYPE:3

DIN376 / DIN374



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	LE3.0GBNEV	5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	LE4.0IBNEV	5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	LE5.0KBNEV	5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	LE6.0MBNEV	5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	LE8.0NBNEV	5P	90	19	35	47	8	6.2	9	3	2	●
M8 × 1	IS02X	LN8.0MBNEV	5P	90	19	-	46	6	4.9	8	3	3	●
M10 × 1.5	IS02X	LE0100BNEV	5P	100	23	39	52	10	8	11	3	2	●
M10 × 1.25	IS02X	LN010NBNEV	5P	100	23	-	51	7	5.5	8	3	3	●
M12 × 1.75	IS02X	LH012PBNEV	5P	110	26	-	56	9	7	10	3	3	●
M12 × 1.5	IS02X	LN0120BNEV	5P	100	21	-	51	9	7	10	3	3	●
M12 × 1.25	IS02X	LN012NBNEV	5P	100	21	-	51	9	7	10	3	3	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	ℓ_s	Ds	K	ℓ_k

AUXSL



X Series Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)

Specification

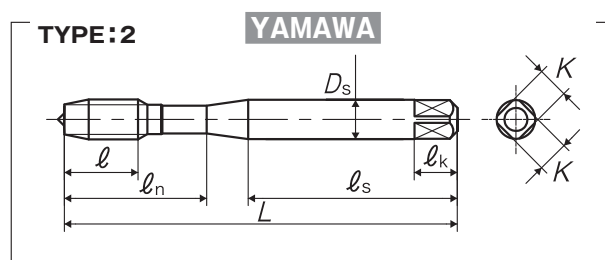
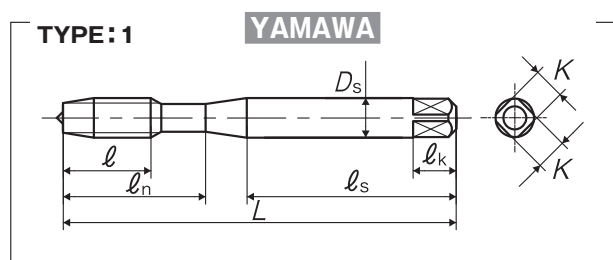


- Applying the blanks of high toughness and high accuracy, AUXSL, spiral fluted tap, coated, for through hole use (with LH spiral flutes), derives the maximum performance from high facility machining centers and high precision toolings. Optimum coating for the tapping condition.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 10~25 (m/min)	Carbon steel and low alloy steel ISO P2 10~25 (m/min)	Medium alloy steel and heat treated steel ISO P3 10~25 (m/min)	High alloy steel ISO P4 10~25 (m/min)
Ferritic and austenitic stainless steel ISO M1~M3 10~15 (m/min)	Aluminum alloy (<12% Si) ISO N1 20~30 (m/min)	Aluminum alloy (>12% Si) ISO N2 20~30 (m/min)	

For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ_n (mm)	ℓ_s (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	ISO2X	LX6.0MBNEV	5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2X	LX8.0NBNEV	5P	90	19	35	48	8	6.2	9	3	1	●
M8 × 1	ISO2X	LX8.0MBNEV	5P	90	15	35	48	8	6.2	9	3	2	
M10 × 1.5	ISO2X	LX0100BNEV	5P	100	23	39	53	10	8	11	3	1	●
M10 × 1.25	ISO2X	LX010NBNEV	5P	100	19	39	53	10	8	11	3	2	
M10 × 1	ISO2X	LX010MBNEV	5P	100	15	39	53	10	8	11	3	2	
M12 × 1.75	ISO2X	LX012PBNEV	5P	110	26	45	56	12	9	12	3	1	●
M12 × 1.5	ISO2X	LX0120BNEV	5P	110	23	45	56	12	9	12	3	2	
M12 × 1.25	ISO2X	LX012NBNEV	5P	110	19	45	56	12	9	12	3	2	

ZET-P

Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)

Specification



Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

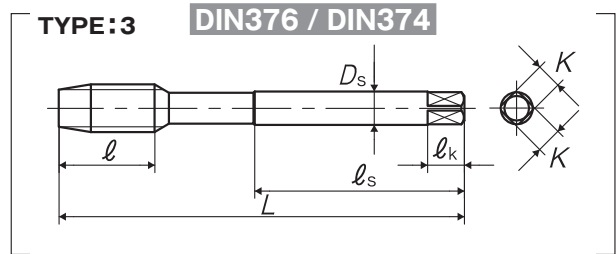
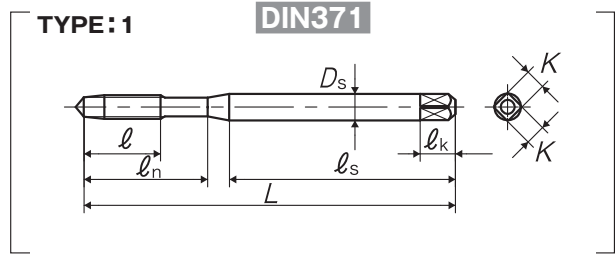
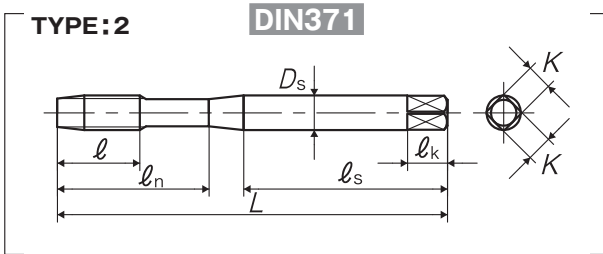


■ ZET-P, spiral fluted tap, through hole use (with LH spiral flutes), is suitable for titanium alloys which, having titanium as the main composition, are tough, light, and heat resistant.

Recommended Tapping Speeds depending on Materials

Titanium alloy
ISO S5
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1T

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	LD3.0GBIPN	5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	LD4.0IBIPN	5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	LD5.0KBIPN	5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	LD6.0MBIPN	5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	LD8.0NBIPN	5P	90	19	35	47	8	6.2	9	3	2	●
M8 × 1	IS02X	LM8.0MBIPN	5P	90	19	-	46	6	4.9	8	3	3	
M10 × 1.5	IS02X	LD0100BIPN	5P	100	23	39	52	10	8	11	3	2	●
M10 × 1.25	IS02X	LM010NBIPN	5P	100	23	-	51	7	5.5	8	3	3	●
M12 × 1.75	IS02X	LG012PBIPN	5P	110	26	-	56	9	7	10	3	3	●
M12 × 1.5	IS02X	LM0120BIPN	5P	100	21	-	51	9	7	10	3	3	●
M12 × 1.25	IS02X	LM012NBIPN	5P	100	21	-	51	9	7	10	3	3	●
M14 × 2	IS02X	LG014QBIPN	5P	110	26	-	56	11	9	12	3	3	●
M14 × 1.5	IS02X	LM0140BIPN	5P	100	21	-	51	11	9	12	3	3	●
M16 × 2	IS02X	LG016QBIPN	5P	110	26	-	56	12	9	12	3	3	●
M16 × 1.5	IS02X	LM0160BIPN	5P	100	21	-	51	12	9	12	3	3	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

F-SL



Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)

Specification

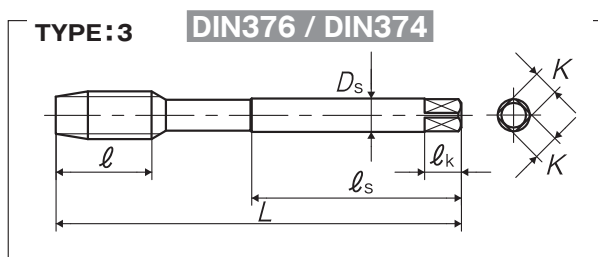
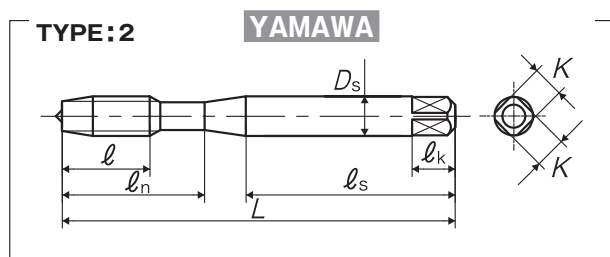
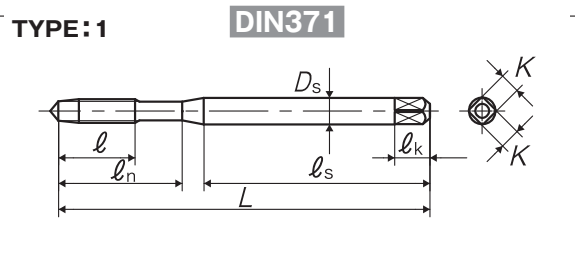


■ F-SL, spiral fluted tap, through hole use (with LH spiral flutes) is applicable for such high speed tapping as 15m/min to 25m/min. Under low tapping speed, chip shape and chip ejection may become poor and cause tapping troubles.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 15~25 (m/min)	Carbon steel and low alloy steel ISO P2 15~25 (m/min)
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For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	LD3.0GBNEV	5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	LD4.0IBNEV	5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	LD5.0KBNEV	5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	LY6.0MBNEV	5P	80	15	30	45	6	4.9	8	3	2	●
M8 × 1.25	IS02X	LY8.0NBNEV	5P	90	19	35	48	8	6.2	9	3	2	●
M10 × 1.5	IS02X	LY0100BNEV	5P	100	23	39	53	10	8	11	3	2	●
M10 × 1.25	IS02X	LY010NBNEV	5P	100	19	39	53	10	8	11	3	2	●
M12 × 1.75	IS02X	LY012PBNEV	5P	110	26	45	56	12	9	12	3	2	●
		LG012PBNEV	5P	110	26	-	56	9	7	10	3	3	
M12 × 1.5	IS02X	LY0120BNEV	5P	110	23	45	56	12	9	12	3	2	●
		LM0120BNEV	5P	100	21	-	51	9	7	10	3	3	
M12 × 1.25	IS02X	LY012NBNEV	5P	110	19	45	56	12	9	12	3	2	●
		LM012NBNEV	5P	100	21	-	51	9	7	10	3	3	

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HDISL

Spiral Fluted Taps for Steels, for Dry Tapping and for Ultra High Speed Tapping, Through Hole Use (with LH spiral flutes)
Specification

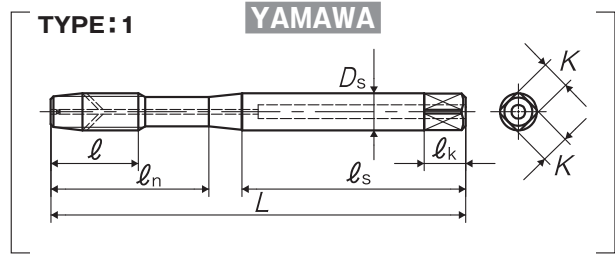


■ Tapping under ultra high speed and under mist and dry, is possible with HDISL. Having radial coolant hole, HDISL is suitable for carbon steels and alloy steels. For through hole use (with LH spiral flutes) for both vertical and horizontal use.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 20~50 (m/min)	Carbon steel and low alloy steel ISO P2 20~50 (m/min)
--	---

For icon explanation, refer to P.50



Segment : 1T

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	IS02X	LD6.0MBEDTLZ	5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	LD8.0NBEDTLZ	5P	90	19	35	48	8	6.2	9	3	1	●
M10 × 1.5	IS02X	LD0100BEDTLZ	5P	100	23	39	53	10	8	11	3	1	●
M10 × 1.25	IS02X	LY010NBEDTLZ	5P	100	23	39	53	10	8	11	3	1	●
M12 × 1.75	IS02X	LY012PBEDTLZ	5P	110	26	44	57	12	9	12	3	1	●
M12 × 1.5	IS02X	LY0120BEDTLZ	5P	110	26	44	57	12	9	12	3	1	●
M12 × 1.25	IS02X	LY012NBEDTLZ	5P	110	26	44	57	12	9	12	3	1	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

DIN LINE UP

SPIRAL POINTED TAP SERIES



P0	P0-1
P0(Coating)	P0-6
P0 OX	P0-8
EH-P0	P0-13
P0-VA	P0-14
P0-VA(Coating)	P0-16
ZEN-P	P0-17

PO

Spiral Pointed Taps

Specification



Recommended Tapping Speeds depending on Materials

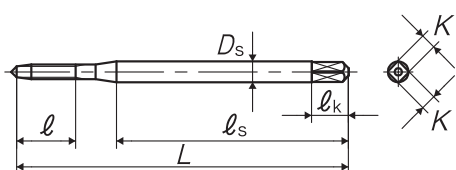
Carbon steel and low alloy steel
ISO P2
5~10
(m/min)

For icon explanation, refer to P.50



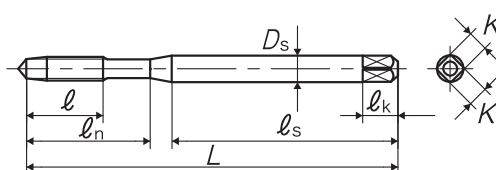
TYPE:1

DIN371



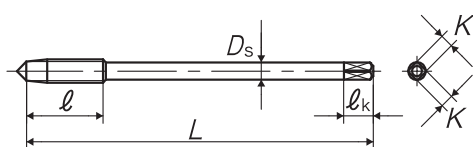
TYPE:2

DIN371



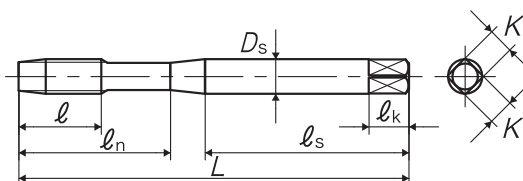
TYPE:3

DIN376 / DIN374



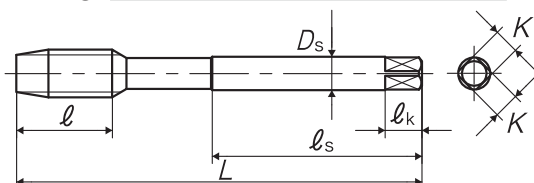
TYPE:4

DIN371



TYPE:5

DIN376 / DIN374 / DIN5156



Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

○ Oversize

Segment : 1F

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.4 × 0.3	ISO2	96301.4	5P	40	7	-	28	2.5	2.1	5	3	1	●
M1.6 × 0.35	ISO2	96301.6	5P	40	8	-	28	2.5	2.1	5	3	1	●
M2 × 0.4	ISO2	PD2.0EANEB	5P	45	8	-	32	2.8	2.1	5	3	1	●
M2.2 × 0.45	ISO2	PD2.2FANEB	5P	45	9	-	32	2.8	2.1	5	3	1	
M2.3 × 0.4	ISO2	PD2.3EANEB	5P	45	9	-	32	2.8	2.1	5	3	1	
M2.5 × 0.45	ISO2	PD2.5FANEB	5P	50	8	15	33	2.8	2.1	5	3	2	●
M2.6 × 0.45	ISO2	PD2.6FANEB	5P	50	8	15	33	2.8	2.1	5	3	2	●
M3 × 0.5	ISO2	PD3.0GANEB	5P	56	9	18	34	3.5	2.7	6	3	2	●
	ISO3	PD3.0GMNEB	5P	56	9	18	34	3.5	2.7	6	3	2	●
M3.5 × 0.6	ISO2	PD3.5HANEB	5P	56	11	20	32	4	3	6	3	2	●
M4 × 0.7	ISO2	PD4.0IANEB	5P	63	13	21	38	4.5	3.4	6	3	2	●
		PG4.0IANEB	5P	63	13	-	-	2.8	2.1	5	3	3	●
	ISO3	PD4.0IMNEB	5P	63	13	21	38	4.5	3.4	6	3	2	●
	ISO2+100	FFYCZ002	5P	63	13	21	38	4.5	3.4	6	3	2	●
M4 × 0.5	ISO2	PM4.0GANEB	5P	63	9	-	-	2.8	2.1	5	3	3	
M5 × 0.8	ISO2	PD5.0KANEB	5P	70	14	25	39	6	4.9	8	3	2	●
		PG5.0KANEB	5P	70	14	-	-	3.5	2.7	6	3	3	●
	ISO3	PD5.0KMNEB	5P	70	14	25	39	6	4.9	8	3	2	●
	ISO2+100	FFYCZ003	5P	70	14	25	39	6	4.9	8	3	2	●
M5 × 0.5	ISO2	PM5.0GANEB	5P	70	11	-	-	3.5	2.7	6	3	3	●
M6 × 1	ISO2	PD6.0MANEB	5P	80	15	30	45	6	4.9	8	3	2	●
		PG6.0MANEB	5P	80	15	-	-	4.5	3.4	6	3	3	●
	ISO3	PD6.0MMNEB	5P	80	15	30	45	6	4.9	8	3	2	●
	ISO2+100	FFYCZ004	5P	80	15	30	45	6	4.9	8	3	2	●
M6 × 0.75	ISO2	PM6.0JANEB	5P	80	13	-	-	4.5	3.4	6	3	3	●
M6 × 0.5	ISO2	PM6.0GANEB	5P	80	13	-	-	4.5	3.4	6	3	3	●
M7 × 1	ISO2	PD7.0MANEB	5P	80	15	30	45	7	5.5	8	3	4	●
M7 × 0.75	ISO2	PM7.0JANEB	5P	80	13	-	41	5.5	4.3	7	3	5	
M7 × 0.5	ISO2	PM7.0GANEB	5P	80	13	-	41	5.5	4.3	7	3	5	
M8 × 1.25	ISO2	PD8.0NANEB	5P	90	19	35	47	8	6.2	9	3	4	●
		PG8.0NANEB	5P	90	19	-	46	6	4.9	8	3	5	●
	ISO3	PD8.0NMNEB	5P	90	19	35	47	8	6.2	9	3	4	●
	ISO2+100	FFYCZ005	5P	90	19	35	47	8	6.2	9	3	4	●
M8 × 1	ISO2	PM8.0MANEB	5P	90	19	-	46	6	4.9	8	3	5	●
M8 × 0.75	ISO2	PM8.0JANEB	5P	80	19	-	41	6	4.9	8	3	5	●
M8 × 0.5	ISO2	PM8.0GANEB	5P	80	19	-	41	6	4.9	8	3	5	
M9 × 1.25	ISO2	PD9.0NANEB	5P	90	19	35	48	9	7	10	3	4	
	ISO2	PG9.0NANEB	5P	90	19	-	46	7	5.5	8	3	5	
M9 × 1	ISO2	PG9.0MANEB	5P	90	19	-	46	7	5.5	8	3	5	
M10 × 1.5	ISO2	PD0100ANEB	5P	100	23	39	52	10	8	11	3	4	●
		PG0100ANEB	5P	100	23	-	51	7	5.5	8	3	5	●
	ISO3	PD0100MNEB	5P	100	23	39	52	10	8	11	3	4	●
	ISO2+100	N9630010+100	5P	100	23	39	52	10	8	11	3	4	●
M10 × 1.25	ISO2	PM010NANEB	5P	100	23	-	51	7	5.5	8	3	5	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap Series

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
M10 × 1	IS02	PM010MANEB	5P	90	19	-	46	7	5.5	8	3	5	●
M10 × 0.75	IS02	PM010JANEB	5P	90	19	-	46	7	5.5	8	3	5	●
M11 × 1.5	IS02	PG0110ANEB	5P	100	23	-	51	8	6.2	9	3	5	
M12 × 1.75	IS02	PG012PANEB	5P	110	26	-	56	9	7	10	3	5	●
	IS03	PG012PMNEB	5P	110	26	-	56	9	7	10	3	5	●
M12 × 1.5	IS02	PM0120ANEB	5P	100	21	-	51	9	7	10	3	5	●
M12 × 1.25	IS02	PM012NANEB	5P	100	21	-	51	9	7	10	3	5	●
M12 × 1	IS02	PM012MANEB	5P	100	21	-	51	9	7	10	3	5	●
M14 × 2	IS02	PG014QANEB	5P	110	26	-	56	11	9	12	3	5	●
	IS03	PG014QMNEB	5P	110	26	-	56	11	9	12	3	5	
M14 × 1.5	IS02	PM0140ANEB	5P	100	21	-	51	11	9	12	3	5	●
M14 × 1.25	IS02	PM014NANEB	5P	100	21	-	51	11	9	12	3	5	●
M14 × 1	IS02	PM014MANEB	5P	100	21	-	51	11	9	12	3	5	●
M16 × 2	IS02	PG016QANEB	5P	110	26	-	56	12	9	12	3	5	●
	IS03	PG016QMNEB	5P	110	26	-	56	12	9	12	3	5	
M16 × 1.5	IS02	PM0160ANEB	5P	100	21	-	51	12	9	12	3	5	●
M16 × 1	IS02	PM016MANEB	5P	100	21	-	51	12	9	12	3	5	●
M18 × 2.5	IS02	PG018RANEB	5P	125	33	-	64	14	11	14	3	5	●
M18 × 2	IS02	PM018QANEB	5P	125	33	-	64	14	11	14	3	5	
M18 × 1.5	IS02	PM0180ANEB	5P	110	24	-	56	14	11	14	3	5	●
M18 × 1	IS02	PM018MANEB	5P	110	24	-	56	14	11	14	3	5	●
M20 × 2.5	IS02	PG020RANEB	5P	140	33	-	71	16	12	15	3	5	●
M20 × 2	IS02	PM020QANEB	5P	140	33	-	71	16	12	15	3	5	●
M20 × 1.5	IS02	PM0200ANEB	5P	125	24	-	64	16	12	15	3	5	●
M20 × 1	IS02	PM020MANEB	5P	125	24	-	64	16	12	15	3	5	●
M22 × 2.5	IS02	PG022RANEB	5P	140	33	-	71	18	14.5	17	3	5	●
M22 × 2	IS02	PM022QANEB	5P	140	33	-	71	18	14.5	17	3	5	
M22 × 1.5	IS02	PM0220ANEB	5P	125	24	-	64	18	14.5	17	3	5	●
M22 × 1	IS02	PM022MANEB	5P	125	24	-	64	18	14.5	17	3	5	●
M24 × 3	IS02	PG024SANEB	5P	160	37	-	82	18	14.5	17	3	5	●
M24 × 2	IS02	PM024QANEB	5P	140	27	-	71	18	14.5	17	3	5	●
M24 × 1.5	IS02	PM0240ANEB	5P	140	27	-	71	18	14.5	17	3	5	●
M24 × 1	IS02	PM024MANEB	5P	140	27	-	71	18	14.5	17	3	5	
M25 × 1.5	IS02	PM0250ANEB	5P	140	27	-	71	18	14.5	17	3	5	●
M26 × 1.5	IS02	PM0260ANEB	5P	140	27	-	71	18	14.5	17	4	5	
M27 × 3	IS02	PG027SANEB	5P	160	37	-	82	20	16	19	4	5	●
M27 × 2	IS02	PM027QANEB	5P	140	27	-	71	20	16	19	4	5	●
M27 × 1.5	IS02	PM0270ANEB	5P	140	27	-	71	20	16	19	4	5	
M27 × 1	IS02	PM027MANEB	5P	140	27	-	71	20	16	19	4	5	
M28 × 2	IS02	PM028QANEB	5P	140	27	-	71	20	16	19	4	5	
M28 × 1.5	IS02	PM0280ANEB	5P	140	27	-	71	20	16	19	4	5	
M28 × 1	IS02	PM028MANEB	5P	140	27	-	71	20	16	19	4	5	
M30 × 3.5	IS02	PG030TANEB	5P	180	44	-	92	22	18	21	4	5	●
M30 × 2	IS02	PM030QANEB	5P	150	27	-	77	22	18	21	4	5	●
M30 × 1.5	IS02	PM0300ANEB	5P	150	27	-	77	22	18	21	4	5	●
M30 × 1	IS02	PM030MANEB	5P	150	27	-	77	22	18	21	4	5	
M32 × 2	IS02	PM032QANEB	5P	150	27	-	77	22	18	21	4	5	
M32 × 1.5	IS02	PM0320ANEB	5P	150	27	-	77	22	18	21	4	5	
M32 × 1	IS02	PM032MANEB	5P	150	27	-	77	22	18	21	4	5	
M33 × 3.5	IS02	PG033TANEB	5P	180	46	-	92	25	20	23	4	5	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M33 × 2	IS02	PM033QANEB	5P	160	29	-	82	25	20	23	4	5	
M33 × 1.5	IS02	PM0330ANEB	5P	160	29	-	82	25	20	23	4	5	
M33 × 1	IS02	PM033MANEB	5P	160	29	-	82	25	20	23	4	5	
M36 × 4	IS02	PG036UANEB	5P	200	52	-	102	28	22	25	4	5	●
M36 × 3	IS02	PG036SANEB	5P	200	52	-	102	28	22	25	4	5	
M36 × 2	IS02	PM036QANEB	5P	170	29	-	87	28	22	25	4	5	
M36 × 1.5	IS02	PM0360ANEB	5P	170	29	-	87	28	22	25	4	5	
M36 × 1	IS02	PM036MANEB	5P	170	29	-	87	28	22	25	4	5	
M39 × 4	IS02	PG039UANEB	5P	200	52	-	102	32	24	27	4	5	
M39 × 2	IS02	PM039QANEB	5P	170	29	-	87	32	24	27	4	5	
M39 × 1.5	IS02	PM0390ANEB	5P	170	29	-	87	32	24	27	4	5	
M39 × 1	IS02	PM039MANEB	5P	170	29	-	87	32	24	27	4	5	
M42 × 4.5	IS02	PG042VANEB	5P	200	59	-	102	32	24	27	4	5	
M42 × 2	IS02	PM042QANEB	5P	170	29	-	87	32	24	27	4	5	
M42 × 1.5	IS02	PM0420ANEB	5P	170	29	-	87	32	24	27	4	5	
M42 × 1	IS02	PM042MANEB	5P	170	29	-	87	32	24	27	4	5	
M45 × 4.5	IS02	PG045VANEB	5P	220	59	-	112	36	29	32	4	5	
M45 × 3	IS02	PM045SANEB	5P	200	49	-	102	36	29	32	4	5	
M45 × 2	IS02	PM045QANEB	5P	180	31	-	92	36	29	32	4	5	
M45 × 1.5	IS02	PM0450ANEB	5P	180	31	-	92	36	29	32	4	5	
M45 × 1	IS02	PM045MANEB	5P	180	31	-	92	36	29	32	4	5	
M48 × 5	IS02	PG048WANEB	5P	250	65	-	128	36	29	32	4	5	
M48 × 3	IS02	PM048SANEB	5P	225	49	-	115	36	29	32	4	5	
M48 × 2	IS02	PM048QANEB	5P	190	31	-	97	36	29	32	4	5	
M48 × 1.5	IS02	PM0480ANEB	5P	190	31	-	97	36	29	32	4	5	
M48 × 1	IS02	PM048MANEB	5P	190	31	-	97	36	29	32	4	5	
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads													
No.4-40UNC	2B	PDUN4HXNEB	5P	56	9	18	34	3.5	2.7	6	3	2	●
No.4-48UNF	2B	PDUN4FXNEB	5P	56	9	18	34	3.5	2.7	6	3	2	
No.5-40UNC	2B	PDUN5HXNEB	5P	56	11	18	34	3.5	2.7	6	3	2	
No.5-44UNF	2B	PDUN5GXNEB	5P	56	11	18	34	3.5	2.7	6	3	2	
No.6-32UNC	2B	PDUN6JXNEB	5P	56	11	19	32	4	3	6	3	2	●
No.6-40UNF	2B	PDUN6HXNEB	5P	56	11	19	32	4	3	6	3	2	
No.8-32UNC	2B	PDUN8JXNEB	5P	63	13	21	38	4.5	3.4	6	3	2	●
No.8-36UNF	2B	PDUN8IXNEB	5P	63	13	21	38	4.5	3.4	6	3	2	
No.10-24UNC	2B	PDUNAMXNEB	5P	70	14	24	39	6	4.9	8	3	2	●
No.10-32UNF	2B	PDUNAJXNEB	5P	70	14	24	39	6	4.9	8	3	2	●
No.12-24UNC	2B	PDUNCMXNEB	5P	80	15	28	45	6	4.9	8	3	2	
No.12-28UNF	2B	PDUNCKXNEB	5P	80	15	28	45	6	4.9	8	3	2	
1/4-20UNC	2B	PDU04NXNEB	5P	80	15	30	42	7	5.5	8	3	2	●
1/4-28UNF	2B	PDU04KXNEB	5P	80	15	30	42	7	5.5	8	3	2	●
5/16-18UNC	2B	PDU050XNEB	5P	90	19	35	47	8	6.2	9	3	4	●
5/16-24UNF	2B	PMU05MXNEB	5P	90	19	-	46	6	4.9	8	3	5	●
3/8-16UNC	2B	PDU06PXNEB	5P	100	23	39	52	9	7	10	3	4	●
3/8-24UNF	2B	PMU06MXNEB	5P	100	23	-	51	7	5.5	8	3	5	●
7/16-14UNC	2B	PGU07QXNEB	5P	100	23	-	51	8	6.2	9	3	5	●
7/16-20UNF	2B	PMU07NXNEB	5P	100	23	-	51	8	6.2	9	3	5	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap Series

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/2-13UNC	2B	PGU08RXNEB	5P	110	26	-	56	9	7	10	3	5	●
1/2-20UNF	2B	PMU08NXNEB	5P	100	21	-	51	9	7	10	3	5	●
9/16-12UNC	2B	PGU09SXNEB	5P	110	26	-	56	11	9	12	3	5	●
9/16-18UNF	2B	PMU090XNEB	5P	100	21	-	51	11	9	12	3	5	
5/8-11UNC	2B	PGU10UXNEB	5P	110	26	-	56	12	9	12	3	5	●
5/8-18UNF	2B	PMU100XNEB	5P	100	21	-	51	12	9	12	3	5	●
3/4-10UNC	2B	PGU12VXNEB	5P	125	33	-	64	14	11	14	3	5	●
3/4-16UNF	2B	PMU12PXNEB	5P	110	24	-	56	14	11	14	3	5	●
7/8-9UNC	2B	PGU14WXNEB	5P	140	33	-	71	18	14.5	17	3	5	●
7/8-14UNF	2B	PMU14QXNEB	5P	125	24	-	64	18	14.5	17	3	5	●
1-8UNC	2B	PGU16XXNEB	5P	160	37	-	82	18	14.5	17	3	5	●
1-12UNF	2B	PMU16SXNEB	5P	140	27	-	71	18	14.5	17	3	5	●
1 1/8-7UNC	2B	PGU18YXNEB	5P	180	44	-	92	22	18	21	4	5	
1 1/8-12UNF	2B	PMU18SXNEB	5P	150	27	-	77	22	18	21	4	5	
1 1/4-7UNC	2B	PGU20YXNEB	5P	180	44	-	92	22	18	21	4	5	
1 1/4-12UNF	2B	PMU20SXNEB	5P	150	27	-	77	22	18	21	4	5	
1 3/8-6UNC	2B	PGU22ZXNEB	5P	200	52	-	102	28	20	23	4	5	
1 3/8-12UNF	2B	PMU22SXNEB	5P	170	29	-	87	28	20	23	4	5	
1 1/2-6UNC	2B	PGU24ZXNEB	5P	200	52	-	102	32	24	27	4	5	
1 1/2-12UNF	2B	PMU24SXNEB	5P	170	29	-	87	32	24	27	4	5	
1 3/4-5UNC	2B	PGU287XNEB	5P	220	66	-	112	36	29	32	4	5	
1 3/4-12UN	2B	PMU28SXNEB	5P	180	31	-	92	36	29	32	4	5	
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads													
G1/16-28	-	PVG0010NEB	5P	90	19	-	46	6	4.9	8	3	5	
G1/8-28	-	PVG0020NEB	5P	90	19	-	46	7	5.5	8	3	5	●
G1/4-19	-	PVG0040NEB	5P	100	21	-	51	11	9	12	3	5	●
G3/8-19	-	PVG0060NEB	5P	100	21	-	51	12	9	12	3	5	●
G1/2-14	-	PVG0080NEB	5P	125	24	-	64	16	12	15	3	5	●
G5/8-14	-	PVG0100NEB	5P	125	24	-	64	18	14.5	17	3	5	
G3/4-14	-	PVG0120NEB	5P	140	27	-	71	20	16	19	4	5	●
G7/8-14	-	PVG0140NEB	5P	150	27	-	77	22	18	21	4	5	
G1-11	-	PVG0160NEB	5P	160	29	-	82	25	20	23	4	5	●
G1 1/8-11	-	PVG0180NEB	5P	170	29	-	87	28	22	25	4	5	
G1 1/4-11	-	PVG0200NEB	5P	170	29	-	87	32	24	27	4	5	●
G1 1/2-11	-	PVG0240NEB	5P	190	31	-	97	36	29	32	4	5	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO(Coating)

Spiral Pointed Taps, Coated
Specification

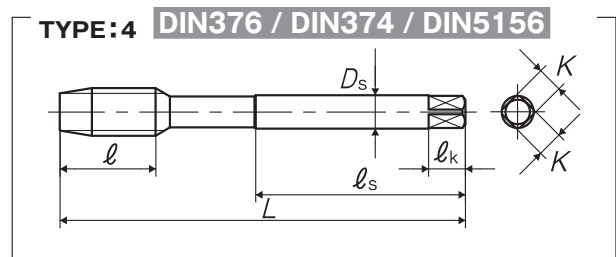
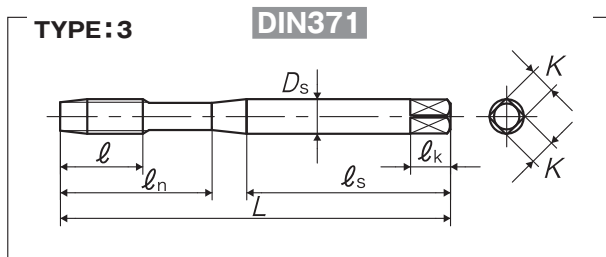
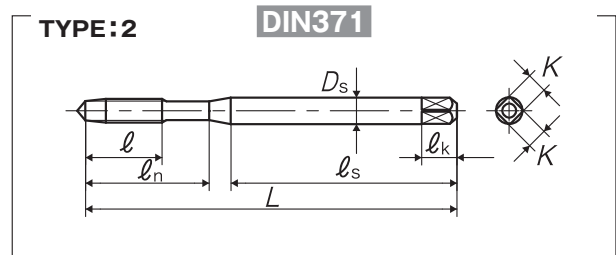
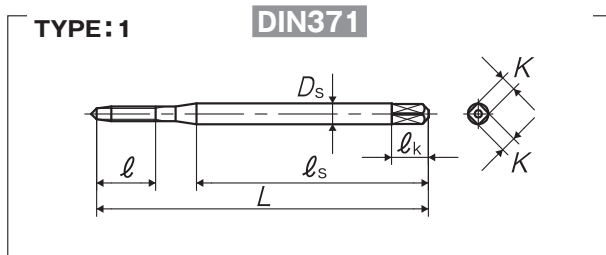


~M2.6

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 10~20 (m/min)	Carbon steel and low alloy steel ISO P2 10~20 (m/min)	Medium alloy steel and heat treated steel ISO P3 10~20 (m/min)	High alloy steel ISO P4 10~20 (m/min)
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For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	ISO2	96302.0TI	5P	45	8	-	32	2.8	2.1	5	3	1	
M3 × 0.5	ISO2	96303.0TI	5P	56	9	18	34	3.5	2.7	6	3	2	●
M4 × 0.7	ISO2	96304.0TI	5P	63	13	21	38	4.5	3.4	6	3	2	●
M5 × 0.8	ISO2	96305.0TI	5P	70	14	25	39	6	4.9	8	3	2	●
M6 × 1	ISO2	96306.0TI	5P	80	15	30	45	6	4.9	8	3	2	●
M8 × 1.25	ISO2	96308.0TI	5P	90	19	35	47	8	6.2	9	3	3	●
M8 × 1	ISO2	98308.0MTI	5P	90	19	-	46	6	4.9	8	3	4	●
M10 × 1.5	ISO2	9630010TI	5P	100	23	39	52	10	8	11	3	3	●
M10 × 1.25	ISO2	9830010NTI	5P	100	23	-	51	7	5.5	8	3	4	●
M10 × 1	ISO2	9830010MTI	5P	90	19	-	46	7	5.5	8	3	4	●
M12 × 1.75	ISO2	9730012TI	5P	110	26	-	56	9	7	10	3	4	●
M12 × 1.5	ISO2	98300120TI	5P	100	21	-	51	9	7	10	3	4	●
M12 × 1.25	ISO2	9830012NTI	5P	100	21	-	51	9	7	10	3	4	●
M14 × 2	ISO2	9730014TI	5P	110	26	-	56	11	9	12	3	4	●
M14 × 1.5	ISO2	98300140TI	5P	100	21	-	51	11	9	12	3	4	●
M16 × 2	ISO2	9730016TI	5P	110	26	-	56	12	9	12	3	4	●
M16 × 1.5	ISO2	98300160TI	5P	100	21	-	51	12	9	12	3	4	●
M18 × 2.5	ISO2	9730018TI	5P	125	33	-	64	14	11	14	3	4	●
M18 × 1.5	ISO2	98300180TI	5P	110	24	-	56	14	11	14	3	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap Series

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps, Coated

Segment : 1F

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M20 × 2.5	IS02	9730020TI	5P	140	33	-	71	16	12	15	3	4	●
M20 × 1.5	IS02	98300200TI	5P	125	24	-	64	16	12	15	3	4	●
M22 × 2.5	IS02	9730022TI	5P	140	33	-	71	18	14.5	17	3	4	
M24 × 3	IS02	9730024TI	5P	160	37	-	82	18	14.5	17	3	4	
For G Threads													
G1/8-28	-	9930R02TI	5P	90	19	-	46	7	5.5	8	3	4	●
G1/4-19	-	9930R04TI	5P	100	21	-	51	11	9	12	3	4	●
G3/8-19	-	9930R06TI	5P	100	21	-	51	12	9	12	3	4	●
G1/2-14	-	9930R08TI	5P	125	24	-	64	16	12	15	3	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

PO OX

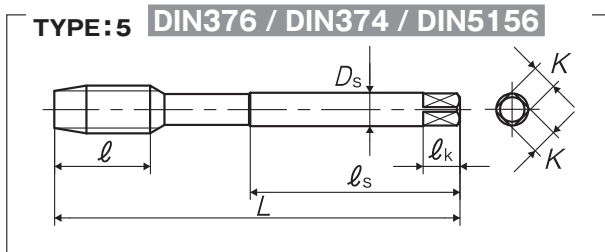
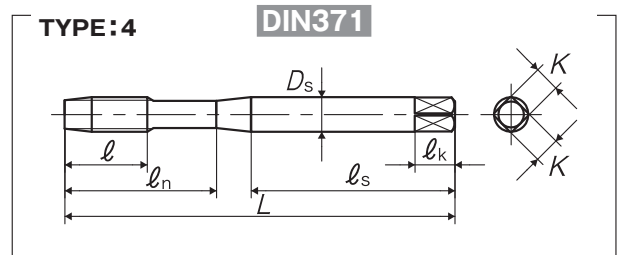
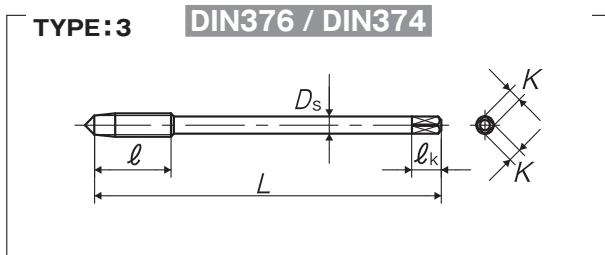
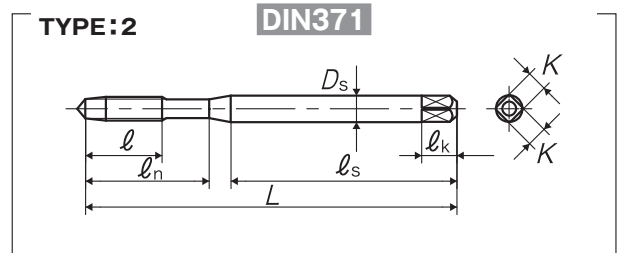
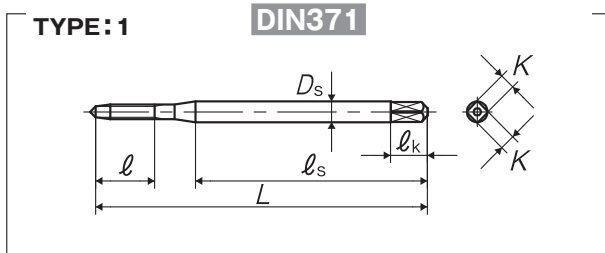
Spiral Pointed Taps, Oxidized
Specification



Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 5~10 (m/min)	Carbon steel and low alloy steel ISO P2 5~10 (m/min)
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For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies


Center Drills

Centering Tools

Spiral Pointed Tap Series

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX Spiral Pointed Taps, Oxidized

 Oversize
 Segment : 1F

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	IS02	PD2.0EANEX	5P	45	8	-	32	2.8	2.1	5	3	1	
M2.2 × 0.45	IS02	PD2.2FANEX	5P	45	9	-	32	2.8	2.1	5	3	1	
M2.3 × 0.4	IS02	PD2.3EANEX	5P	45	9	-	32	2.8	2.1	5	3	1	
M2.5 × 0.45	IS02	PD2.5FANEX	5P	50	8	15	33	2.8	2.1	5	3	2	
M2.6 × 0.45	IS02	PD2.6FANEX	5P	50	8	15	33	2.8	2.1	5	3	2	
M3 × 0.5	IS02	PD3.0GANEX	5P	56	9	18	34	3.5	2.7	6	3	2	●
	IS03	PD3.0GMNEX	5P	56	9	18	34	3.5	2.7	6	3	2	
M3.5 × 0.6	IS02	PD3.5HANEX	5P	56	11	20	32	4	3	6	3	2	
M4 × 0.7	IS02	PD4.0IANEX	5P	63	13	21	38	4.5	3.4	6	3	2	●
	IS03	PD4.0IMNEX	5P	63	13	21	38	4.5	3.4	6	3	2	
M4 × 0.5	IS02	PM4.0GANEX	5P	63	9	-	-	2.8	2.1	5	3	3	
M5 × 0.8	IS02	PD5.0KANEX	5P	70	14	25	39	6	4.9	8	3	2	●
	IS03	PD5.0KMNEX	5P	70	14	25	39	6	4.9	8	3	2	
M5 × 0.5	IS02	PM5.0GANEX	5P	70	11	-	-	3.5	2.7	6	3	3	
M6 × 1	IS02	PD6.0MANEX	5P	80	15	30	45	6	4.9	8	3	2	●
	IS03	PD6.0MMNEX	5P	80	15	30	45	6	4.9	8	3	2	
M6 × 0.75	IS02	PM6.0JANEX	5P	80	13	-	-	4.5	3.4	6	3	3	
M6 × 0.5	IS02	PM6.0GANEX	5P	80	13	-	-	4.5	3.4	6	3	3	
M7 × 1	IS02	PD7.0MANEX	5P	80	15	30	45	7	5.5	8	3	4	
M7 × 0.75	IS02	PM7.0JANEX	5P	80	13	-	41	5.5	4.3	7	3	5	
M7 × 0.5	IS02	PM7.0GANEX	5P	80	13	-	41	5.5	4.3	7	3	5	
M8 × 1.25	IS02	PD8.0NANEX	5P	90	19	35	47	8	6.2	9	3	4	●
	IS03	PD8.0NMNEX	5P	90	19	35	47	8	6.2	9	3	4	
M8 × 1	IS02	PM8.0MANEX	5P	90	19	-	46	6	4.9	8	3	5	
M8 × 0.75	IS02	PM8.0JANEX	5P	80	19	-	41	6	4.9	8	3	5	
M8 × 0.5	IS02	PM8.0GANEX	5P	80	19	-	41	6	4.9	8	3	5	
M9 × 1.25	IS02	PD9.0NANEX	5P	90	19	35	48	9	7	10	3	4	
	IS02	PG9.0NANEX	5P	90	19	-	46	7	5.5	8	3	5	
M9 × 1	IS02	PG9.0MANEX	5P	90	19	-	46	7	5.5	8	3	5	
M10 × 1.5	IS02	PD0100ANEX	5P	100	23	39	52	10	8	11	3	4	●
	IS03	PD0100MNEX	5P	100	23	39	52	10	8	11	3	4	
M10 × 1.25	IS02	PM010NANEX	5P	100	23	-	51	7	5.5	8	3	5	
M10 × 1	IS02	PM010MANEX	5P	90	19	-	46	7	5.5	8	3	5	
M10 × 0.75	IS02	PM010JANEX	5P	90	19	-	46	7	5.5	8	3	5	
M11 × 1.5	IS02	PG0110ANEX	5P	100	23	-	51	8	6.2	9	3	5	
M12 × 1.75	IS02	PG012PANEX	5P	110	26	-	56	9	7	10	3	5	●
	IS03	PG012PMNEX	5P	110	26	-	56	9	7	10	3	5	
M12 × 1.5	IS02	PM0120ANEX	5P	100	21	-	51	9	7	10	3	5	
M12 × 1.25	IS02	PM012NANEX	5P	100	21	-	51	9	7	10	3	5	
M12 × 1	IS02	PM012MANEX	5P	100	21	-	51	9	7	10	3	5	

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M14 × 2	ISO2	PG014QANEX	5P	110	26	-	56	11	9	12	3	5	●
	ISO3	PG014QMEX	5P	110	26	-	56	11	9	12	3	5	
M14 × 1.5	ISO2	PM0140ANEX	5P	100	21	-	51	11	9	12	3	5	
M14 × 1.25	ISO2	PM014NANEX	5P	100	21	-	51	11	9	12	3	5	
M14 × 1	ISO2	PM014MANEX	5P	100	21	-	51	11	9	12	3	5	
M16 × 2	ISO2	PG016QANEX	5P	110	26	-	56	12	9	12	3	5	●
	ISO3	PG016QMEX	5P	110	26	-	56	12	9	12	3	5	
M16 × 1.5	ISO2	PM0160ANEX	5P	100	21	-	51	12	9	12	3	5	
M16 × 1	ISO2	PM016MANEX	5P	100	21	-	51	12	9	12	3	5	
M18 × 2.5	ISO2	PG018RANEX	5P	125	33	-	64	14	11	14	3	5	●
M18 × 2	ISO2	PM018QANEX	5P	125	33	-	64	14	11	14	3	5	
M18 × 1.5	ISO2	PM0180ANEX	5P	110	24	-	56	14	11	14	3	5	
M18 × 1	ISO2	PM018MANEX	5P	110	24	-	56	14	11	14	3	5	
M20 × 2.5	ISO2	PG020RANEX	5P	140	33	-	71	16	12	15	3	5	●
M20 × 2	ISO2	PM020QANEX	5P	140	33	-	71	16	12	15	3	5	
M20 × 1.5	ISO2	PM0200ANEX	5P	125	24	-	64	16	12	15	3	5	
M20 × 1	ISO2	PM020MANEX	5P	125	24	-	64	16	12	15	3	5	
M22 × 2.5	ISO2	PG022RANEX	5P	140	33	-	71	18	14.5	17	3	5	
M22 × 2	ISO2	PM022QANEX	5P	140	33	-	71	18	14.5	17	3	5	
M22 × 1.5	ISO2	PM0220ANEX	5P	125	24	-	64	18	14.5	17	3	5	
M22 × 1	ISO2	PM022MANEX	5P	125	24	-	64	18	14.5	17	3	5	
M24 × 3	ISO2	PG024SANEX	5P	160	37	-	82	18	14.5	17	3	5	
M24 × 2	ISO2	PM024QANEX	5P	140	27	-	71	18	14.5	17	3	5	
M24 × 1.5	ISO2	PM0240ANEX	5P	140	27	-	71	18	14.5	17	3	5	
M24 × 1	ISO2	PM024MANEX	5P	140	27	-	71	18	14.5	17	3	5	
M25 × 1.5	ISO2	PM0250ANEX	5P	140	27	-	71	18	14.5	17	3	5	
M26 × 1.5	ISO2	PM0260ANEX	5P	140	27	-	71	18	14.5	17	4	5	
M27 × 3	ISO2	PG027SANEX	5P	160	37	-	82	20	16	19	4	5	
M27 × 2	ISO2	PM027QANEX	5P	140	27	-	71	20	16	19	4	5	
M27 × 1.5	ISO2	PM0270ANEX	5P	140	27	-	71	20	16	19	4	5	
M27 × 1	ISO2	PM027MANEX	5P	140	27	-	71	20	16	19	4	5	
M28 × 2	ISO2	PM028QANEX	5P	140	27	-	71	20	16	19	4	5	
M28 × 1.5	ISO2	PM0280ANEX	5P	140	27	-	71	20	16	19	4	5	
M28 × 1	ISO2	PM028MANEX	5P	140	27	-	71	20	16	19	4	5	
M30 × 3.5	ISO2	PG030TANEX	5P	180	44	-	92	22	18	21	4	5	
M30 × 2	ISO2	PM030QANEX	5P	150	27	-	77	22	18	21	4	5	
M30 × 1.5	ISO2	PM0300ANEX	5P	150	27	-	77	22	18	21	4	5	
M30 × 1	ISO2	PM030MANEX	5P	150	27	-	77	22	18	21	4	5	
M32 × 2	ISO2	PM032QANEX	5P	150	27	-	77	22	18	21	4	5	
M32 × 1.5	ISO2	PM0320ANEX	5P	150	27	-	77	22	18	21	4	5	
M32 × 1	ISO2	PM032MANEX	5P	150	27	-	77	22	18	21	4	5	
M33 × 3.5	ISO2	PG033TANEX	5P	180	46	-	92	25	20	23	4	5	
M33 × 2	ISO2	PM033QANEX	5P	160	29	-	82	25	20	23	4	5	
M33 × 1.5	ISO2	PM0330ANEX	5P	160	29	-	82	25	20	23	4	5	
M33 × 1	ISO2	PM033MANEX	5P	160	29	-	82	25	20	23	4	5	
M36 × 4	ISO2	PG036UANEX	5P	200	52	-	102	28	22	25	4	5	
M36 × 3	ISO2	PM036SANEX	5P	200	52	-	102	28	22	25	4	5	
M36 × 2	ISO2	PM036QANEX	5P	170	29	-	87	28	22	25	4	5	
M36 × 1.5	ISO2	PM0360ANEX	5P	170	29	-	87	28	22	25	4	5	
M36 × 1	ISO2	PM036MANEX	5P	170	29	-	87	28	22	25	4	5	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap Series

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
M39 × 4	IS02	PG039UANEX	5P	200	52	-	102	32	24	27	4	5	
M39 × 2	IS02	PM039QANEX	5P	170	29	-	87	32	24	27	4	5	
M39 × 1.5	IS02	PM0390ANEX	5P	170	29	-	87	32	24	27	4	5	
M39 × 1	IS02	PM039MANEX	5P	170	29	-	87	32	24	27	4	5	
M42 × 4.5	IS02	PG042VANEX	5P	200	59	-	102	32	24	27	4	5	
M42 × 2	IS02	PM042QANEX	5P	170	29	-	87	32	24	27	4	5	
M42 × 1.5	IS02	PM0420ANEX	5P	170	29	-	87	32	24	27	4	5	
M42 × 1	IS02	PM042MANEX	5P	170	29	-	87	32	24	27	4	5	
M45 × 4.5	IS02	PG045VANEX	5P	220	59	-	112	36	29	32	4	5	
M45 × 3	IS02	PM045SANEX	5P	200	49	-	102	36	29	32	4	5	
M45 × 2	IS02	PM045QANEX	5P	180	31	-	92	36	29	32	4	5	
M45 × 1.5	IS02	PM0450ANEX	5P	180	31	-	92	36	29	32	4	5	
M45 × 1	IS02	PM045MANEX	5P	180	31	-	92	36	29	32	4	5	
M48 × 5	IS02	PG048WANEX	5P	250	65	-	128	36	29	32	4	5	
M48 × 3	IS02	PM048SANEX	5P	225	49	-	115	36	29	32	4	5	
M48 × 2	IS02	PM048QANEX	5P	190	31	-	97	36	29	32	4	5	
M48 × 1.5	IS02	PM0480ANEX	5P	190	31	-	97	36	29	32	4	5	
M48 × 1	IS02	PM048MANEX	5P	190	31	-	97	36	29	32	4	5	
For Unified Threads													
No.4-40UNC	2B	PDUN4HXNEX	5P	56	9	18	34	3.5	2.7	6	3	2	
No.4-48UNF	2B	PDUN4FXNEX	5P	56	9	18	34	3.5	2.7	6	3	2	
No.5-40UNC	2B	PDUN5HXNEX	5P	56	11	18	34	3.5	2.7	6	3	2	
No.5-44UNF	2B	PDUN5GXNEX	5P	56	11	18	34	3.5	2.7	6	3	2	
No.6-32UNC	2B	PDUN6JXNEX	5P	56	11	19	32	4	3	6	3	2	
No.6-40UNF	2B	PDUN6HXNEX	5P	56	11	19	32	4	3	6	3	2	
No.8-32UNC	2B	PDUN8JXNEX	5P	63	13	21	38	4.5	3.4	6	3	2	
No.8-36UNF	2B	PDUN8IXNEX	5P	63	13	21	38	4.5	3.4	6	3	2	
No.10-24UNC	2B	PDUNAMXNEX	5P	70	14	24	39	6	4.9	8	3	2	
No.10-32UNF	2B	PDUNAJXNEX	5P	70	14	24	39	6	4.9	8	3	2	
No.12-24UNC	2B	PDUNCMXNEX	5P	80	15	28	45	6	4.9	8	3	2	
No.12-28UNF	2B	PDUNCCKXNEX	5P	80	15	28	45	6	4.9	8	3	2	
1/4-20UNC	2B	PDU04NXNEX	5P	80	15	30	42	7	5.5	8	3	2	
1/4-28UNF	2B	PDU04KXNEX	5P	80	15	30	42	7	5.5	8	3	2	
5/16-18UNC	2B	PDU050XNEX	5P	90	19	35	47	8	6.2	9	3	4	
5/16-24UNF	2B	PMU05MXNEX	5P	90	19	-	46	6	4.9	8	3	5	
3/8-16UNC	2B	PDU06PXNEX	5P	100	23	39	52	9	7	10	3	4	
3/8-24UNF	2B	PMU06MXNEX	5P	100	23	-	51	7	5.5	8	3	5	
7/16-14UNC	2B	PGU07QXNEX	5P	100	23	-	51	8	6.2	9	3	5	
7/16-20UNF	2B	PMU07NXNEX	5P	100	23	-	51	8	6.2	9	3	5	
1/2-13UNC	2B	PGU08RXNEX	5P	110	26	-	56	9	7	10	3	5	
1/2-20UNF	2B	PMU08NXNEX	5P	100	21	-	51	9	7	10	3	5	
9/16-12UNC	2B	PGU09SXNEX	5P	110	26	-	56	11	9	12	3	5	
9/16-18UNF	2B	PMU090XNEX	5P	100	21	-	51	11	9	12	3	5	
5/8-11UNC	2B	PGU10UXNEX	5P	110	26	-	56	12	9	12	3	5	
5/8-18UNF	2B	PMU100XNEX	5P	100	21	-	51	12	9	12	3	5	
3/4-10UNC	2B	PGU12VXNEX	5P	125	33	-	64	14	11	14	3	5	
3/4-16UNF	2B	PMU12PXNEX	5P	110	24	-	56	14	11	14	3	5	
7/8-9UNC	2B	PGU14WXNEX	5P	140	33	-	71	18	14.5	17	3	5	
7/8-14UNF	2B	PMU14QXNEX	5P	125	24	-	64	18	14.5	17	3	5	
1-8UNC	2B	PGU16XXNEX	5P	160	37	-	82	18	14.5	17	3	5	

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1-12UNF	2B	PMU16SXNEX	5P	140	27	-	71	18	14.5	17	3	5	
1 1/8-7UNC	2B	PGU18YXNEX	5P	180	44	-	92	22	18	21	4	5	
1 1/8-12UNF	2B	PMU18SXNEX	5P	150	27	-	77	22	18	21	4	5	
1 1/4-7UNC	2B	PGU20YXNEX	5P	180	44	-	92	22	18	21	4	5	
1 1/4-12UNF	2B	PMU20SXNEX	5P	150	27	-	77	22	18	21	4	5	
1 3/8-6UNC	2B	PGU22ZXNEX	5P	200	52	-	102	28	20	23	4	5	
1 3/8-12UNF	2B	PMU22SXNEX	5P	170	29	-	87	28	20	23	4	5	
1 1/2-6UNC	2B	PGU24ZXNEX	5P	200	52	-	102	32	24	27	4	5	
1 1/2-12UNF	2B	PMU24SXNEX	5P	170	29	-	87	32	24	27	4	5	
1 3/4-5UNC	2B	PGU287XNEX	5P	220	66	-	112	36	29	32	4	5	
1 3/4-12UN	2B	PMU28SXNEX	5P	180	31	-	92	36	29	32	4	5	
For G Threads													
G1/16-28	-	PVG0010NEX	5P	90	19	-	46	6	4.9	8	3	5	
G1/8-28	-	PVG0020NEX	5P	90	19	-	46	7	5.5	8	3	5	●
G1/4-19	-	PVG0040NEX	5P	100	21	-	51	11	9	12	3	5	●
G3/8-19	-	PVG0060NEX	5P	100	21	-	51	12	9	12	3	5	●
G1/2-14	-	PVG0080NEX	5P	125	24	-	64	16	12	15	3	5	●
G5/8-14	-	PVG0100NEX	5P	125	24	-	64	18	14.5	17	3	5	
G3/4-14	-	PVG0120NEX	5P	140	27	-	71	20	16	19	4	5	●
G7/8-14	-	PVG0140NEX	5P	150	27	-	77	22	18	21	4	5	
G1-11	-	PVG0160NEX	5P	160	29	-	82	25	20	23	4	5	●
G1 1/8-11	-	PVG0180NEX	5P	170	29	-	87	28	22	25	4	5	
G1 1/4-11	-	PVG0200NEX	5P	170	29	-	87	32	24	27	4	5	
G1 1/2-11	-	PVG0240NEX	5P	190	31	-	97	36	29	32	4	5	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

EH-PO

Spiral Pointed Taps for Hard-to-Machine Materials

Specification

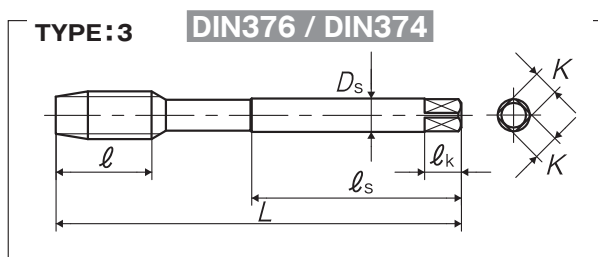
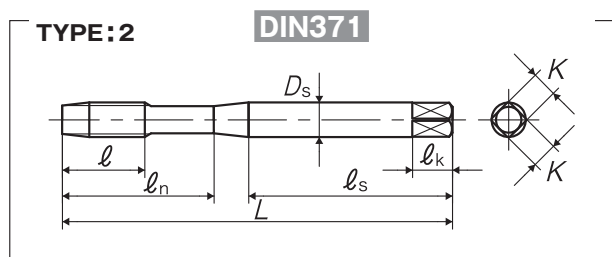
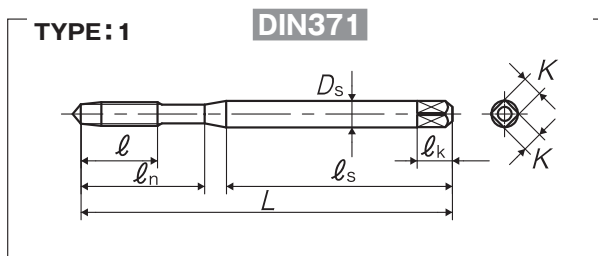


■ Spiral pointed tap suitable for high hardness steels of 25~35HRC such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels. Through hole use.

Recommended Tapping Speeds depending on Materials

Tool steel ISO P5 ~5 (m/min) <small>35~45HRC</small>	High tensile strength steel ISO P6 ~5 (m/min)
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For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	PD3.0GBDCB	4.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	PD4.0IBDCB	4.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	PD5.0KBDCB	4.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	PD6.0MBDCB	4.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	PD8.0NBDCB	4.5P	90	19	35	47	8	6.2	9	3	2	●
M8 × 1	IS02X	PM8.0MBDCB	4.5P	90	19	-	46	6	4.9	8	3	3	●
M10 × 1.5	IS02X	PD0100BDCB	4.5P	100	23	39	52	10	8	11	3	2	●
M10 × 1.25	IS02X	PM010NBDCB	4.5P	100	23	-	51	7	5.5	8	3	3	●
M10 × 1	IS02X	PM010MBDCB	4.5P	90	19	-	46	7	5.5	8	3	3	●
M12 × 1.75	IS02X	PG012PBDCB	4.5P	110	26	-	56	9	7	10	3	3	●
M12 × 1.5	IS02X	PM0120BDCB	4.5P	100	21	-	51	9	7	10	3	3	●
M12 × 1.25	IS02X	PM012NBDCB	4.5P	100	21	-	51	9	7	10	3	3	●
M14 × 2	IS02X	PG014QBDCB	4.5P	110	26	-	56	11	9	12	3	3	●
M14 × 1.5	IS02X	PM0140BDCB	4.5P	100	21	-	51	11	9	12	3	3	●
M16 × 2	IS02X	PG016QBDCB	4.5P	110	26	-	56	12	9	12	3	3	●
M16 × 1.5	IS02X	PM0160BDCB	4.5P	100	21	-	51	12	9	12	3	3	●
M18 × 2.5	IS02X	PG018RBDCB	4.5P	125	33	-	64	14	11	14	3	3	●
M18 × 1.5	IS02X	PM0180BDCB	4.5P	110	24	-	56	14	11	14	3	3	●
M20 × 2.5	IS02X	PG020RBDCB	4.5P	140	33	-	71	16	12	15	3	3	●
M20 × 1.5	IS02X	PM0200BDCB	4.5P	125	24	-	64	16	12	15	3	3	●
M22 × 2.5	IS02X	PG022RBDCB	4.5P	140	33	-	71	18	14.5	17	3	3	●
M24 × 3	IS02X	PG024SBDCB	4.5P	160	37	-	82	18	14.5	17	3	3	●

PO-VA

Spiral Pointed Taps for Stainless Steels

Specification

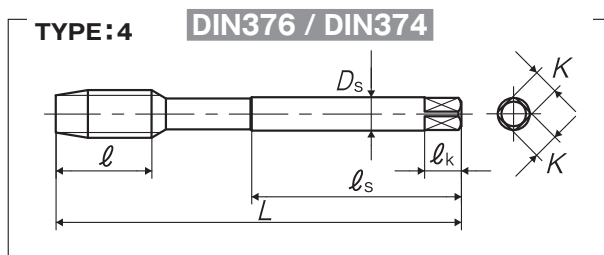
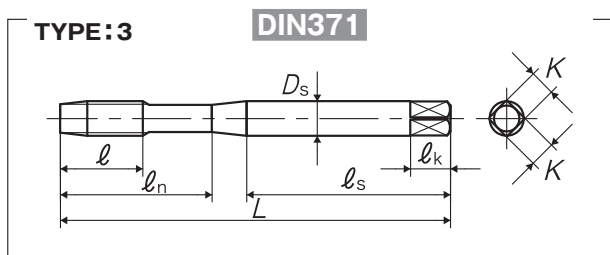
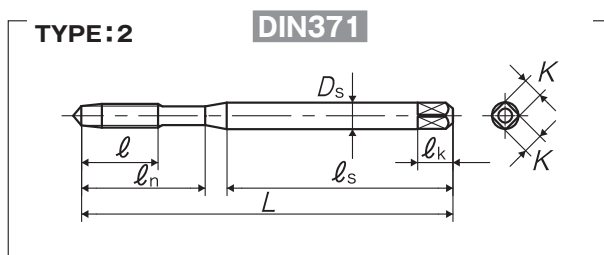
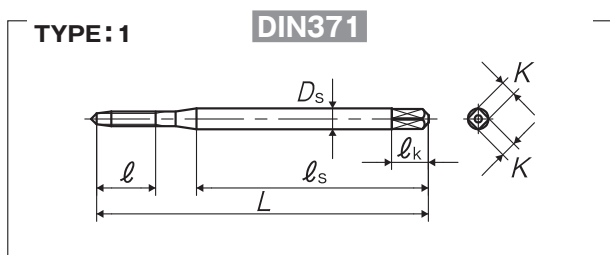


■ Suitable for stainless steels tending to work harden and sticky, as well as chrome steels and molybdenum steels. Through hole use.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 ~10 (m/min)	Carbon steel and low alloy steel ISO P2 ~10 (m/min)	Medium alloy steel and heat treated steel ISO P3 ~5 (m/min)	High alloy steel ISO P4 ~5 (m/min)	Ferritic and austenitic stainless steel ISO M1~M3 ~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	ISO2X	PD2.0EBGEX	4.5P	45	8	-	32	2.8	2.1	5	2	1	●
M2.5 × 0.45	ISO2X	PD2.5FBGEX	4.5P	50	8	15	33	2.8	2.1	5	2	2	●
M3 × 0.5	ISO2X	PD3.0GBGEX	4.5P	56	9	18	34	3.5	2.7	6	3	2	●
M4 × 0.7	ISO2X	PD4.0IBGEX	4.5P	63	13	21	38	4.5	3.4	6	3	2	●
M5 × 0.8	ISO2X	PD5.0KBGEX	4.5P	70	14	25	39	6	4.9	8	3	2	●
M6 × 1	ISO2X	PD6.0MBGEX	4.5P	80	15	30	45	6	4.9	8	3	2	●
M8 × 1.25	ISO2X	PD8.0NBGEX	4.5P	90	19	35	47	8	6.2	9	3	3	●
		PG8.0NBGEX	4.5P	90	19	-	46	6	4.9	8	3	4	●
M8 × 1	ISO2X	PM8.0MBGEX	4.5P	90	19	-	46	6	4.9	8	3	4	●
M10 × 1.5	ISO2X	PD0100BGEX	4.5P	100	23	39	52	10	8	11	3	3	●
		PG0100BGEX	4.5P	100	23	-	51	7	5.5	8	3	4	●
M10 × 1.25	ISO2X	PM010NBGEX	4.5P	100	23	-	51	7	5.5	8	3	4	●
M10 × 1	ISO2X	PM010MBGEX	4.5P	90	19	-	46	7	5.5	8	3	4	●
M12 × 1.75	ISO2X	PG012PBGEX	4.5P	110	26	-	56	9	7	10	3	4	●
M12 × 1.5	ISO2X	PM0120BGEX	4.5P	100	21	-	51	9	7	10	3	4	●
M12 × 1.25	ISO2X	PM012NBGEX	4.5P	100	21	-	51	9	7	10	3	4	●
M12 × 1	ISO2X	PM012MBGEX	4.5P	100	21	-	51	9	7	10	3	4	●
M14 × 2	ISO2X	PG014QBGEX	4.5P	110	26	-	56	11	9	12	3	4	●
M14 × 1.5	ISO2X	PM0140BGEX	4.5P	100	21	-	51	11	9	12	3	4	●

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Spiral Pointed Tap Series

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO-VA Spiral Pointed Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M16 × 2	ISO2X	PG016QBGEX	4.5P	110	26	-	56	12	9	12	3	4	●
M16 × 1.5	ISO2X	PM0160BGEX	4.5P	100	21	-	51	12	9	12	3	4	●
M18 × 2.5	ISO2X	PG018RBGEX	4.5P	125	33	-	64	14	11	14	3	4	●
M18 × 1.5	ISO2X	PM0180BGEX	4.5P	110	24	-	56	14	11	14	3	4	●
M20 × 2.5	ISO2X	PG020RBGEX	4.5P	140	33	-	71	16	12	15	3	4	●
M20 × 1.5	ISO2X	PM0200BGEX	4.5P	125	24	-	64	16	12	15	3	4	●
M22 × 2.5	ISO2X	PG022RBGEX	4.5P	140	33	-	71	18	14.5	17	3	4	●
M22 × 1.5	ISO2X	PM0220BGEX	4.5P	125	24	-	64	18	14.5	17	3	4	●
M24 × 3	ISO2X	PG024SBGEX	4.5P	160	37	-	82	18	14.5	17	3	4	●
M24 × 1.5	ISO2X	PM0240BGEX	4.5P	140	27	-	71	18	14.5	17	3	4	●
M27 × 3	ISO2X	PG027SBGEX	4.5P	160	37	-	82	20	16	19	4	4	●
M30 × 3.5	ISO2X	PG030TBGEX	4.5P	180	44	-	92	22	18	21	4	4	●
M36 × 4	ISO2X	PG036UBGEX	4.5P	200	52	-	102	28	22	25	4	4	●
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads													
NO.4-40UNC	2BX	PDUN4HYGEX	4.5P	56	9	18	34	3.5	2.7	6	3	2	●
NO.6-32UNC	2BX	PDUN6JYGEX	4.5P	56	11	19	32	4	3	6	3	2	●
NO.8-32UNC	2BX	PDUN8JYGEX	4.5P	63	13	21	38	4.5	3.4	6	3	2	●
NO.10-24UNC	2BX	PDUNAMYGEX	4.5P	70	14	24	39	6	4.9	8	3	2	●
NO.10-32UNF	2BX	PDUNAJYGEX	4.5P	70	14	24	39	6	4.9	8	3	2	●
1/4-20UNC	2BX	PDU04NYGEX	4.5P	80	15	30	42	7	5.5	8	3	2	●
1/4-28UNF	2BX	PDU04KYGEX	4.5P	80	15	30	42	7	5.5	8	3	2	●
5/16-18UNC	2BX	PDU05OYGEX	4.5P	90	19	35	47	8	6.2	9	3	3	●
5/16-24UNF	2BX	PMU05MYGEX	4.5P	90	19	-	46	6	4.9	8	3	4	●
3/8-16UNC	2BX	PDU06PYGEX	4.5P	100	23	39	54	9	7	10	3	3	●
3/8-24UNF	2BX	PMU06MYGEX	4.5P	100	23	-	51	7	5.5	8	3	4	●
7/16-14UNC	2BX	PGU07QYGEX	4.5P	100	23	-	51	8	6.2	9	3	4	●
1/2-13UNC	2BX	PGU08RYGEX	4.5P	110	26	-	56	9	7	10	3	4	●
1/2-20UNF	2BX	PMU08NYGEX	4.5P	100	21	-	51	9	7	10	3	4	●
9/16-12UNC	2BX	PGU09SYGEX	4.5P	110	26	-	56	11	9	12	3	4	●
9/16-18UNF	2BX	PMU09OYGEX	4.5P	100	21	-	51	11	9	12	3	4	●
5/8-11UNC	2BX	PGU10UYGEX	4.5P	110	26	-	56	12	9	12	3	4	●
5/8-18UNF	2BX	PMU100YGEX	4.5P	100	21	-	51	12	9	12	3	4	●
3/4-10UNC	2BX	PGU12VYGEX	4.5P	125	33	-	64	14	11	14	3	4	●
3/4-16UNF	2BX	PMU12PYGEX	4.5P	110	24	-	56	14	11	14	3	4	●
7/8-9UNC	2BX	PGU14WYGEX	4.5P	140	33	-	71	18	14.5	17	3	4	●
7/8-14UNF	2BX	PMU14QYGEX	4.5P	125	24	-	64	18	14.5	17	3	4	●
1-8UNC	2BX	PGU16XYGEX	4.5P	160	37	-	82	18	14.5	17	3	4	●
1-12UNF	2BX	PMU16SYGEX	4.5P	140	27	-	71	18	14.5	17	3	4	●
1 5/8-8UN	2BX	SMU16SXGEX	2.5P	200	59	-	102	32	24	27	4	4	●
1 3/4-8UN	2BX	SMU16SXGEX	2.5P	200	49	-	102	36	29	32	4	4	●
2-8UN	2BX	SMU16SXGEX	2.5P	225	49	-	115	40	32	35	4	4	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple inspection tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO-VA(Coating)



Spiral Pointed Taps for Stainless Steels, Coated

Specification

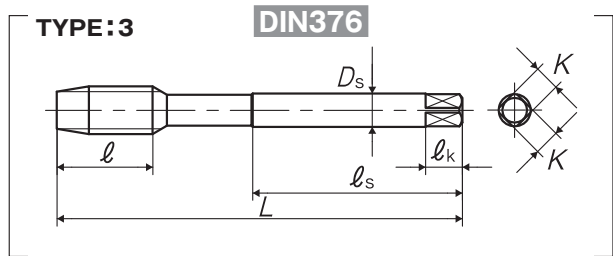
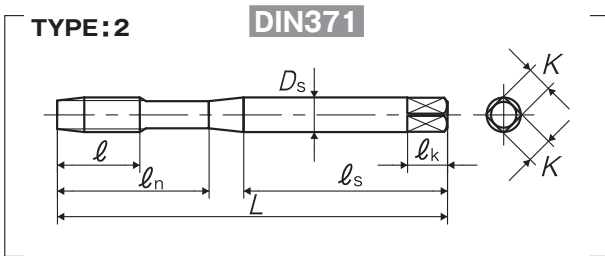
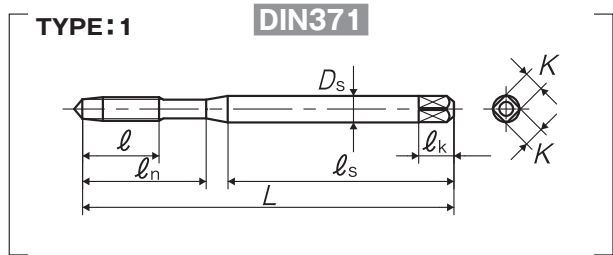


■ Suitable for stainless steels tending to work harden and sticky, as well as chrome steels and molybdenum steels. Through hole use.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 ~15 (m/min)	Carbon steel and low alloy steel ISO P2 ~15 (m/min)	Medium alloy steel and heat treated steel ISO P3 ~10 (m/min)	High alloy steel ISO P4 ~10 (m/min)	Ferritic and austenitic stainless steel ISO M1~M3 ~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	PD3.0GBGET	4.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	PD4.0IBGET	4.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	PD5.0KBGET	4.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	PD6.0MBGET	4.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	PD8.0NBGET	4.5P	90	19	35	47	8	6.2	9	3	2	●
M10 × 1.5	IS02X	PD010OBGET	4.5P	100	23	39	52	10	8	11	3	2	●
M12 × 1.75	IS02X	PG012PBGET	4.5P	110	26	-	56	9	7	10	3	3	●
M14 × 2	IS02X	PG014QBGET	4.5P	110	26	-	56	11	9	12	3	3	●
M16 × 2	IS02X	PG016QBGET	4.5P	110	26	-	56	12	9	12	3	3	●
M20 × 2.5	IS02X	PG020RBGET	4.5P	140	33	-	71	16	12	15	3	3	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

ZEN-P

Spiral Pointed Taps for Nickel Base Alloys

Specification

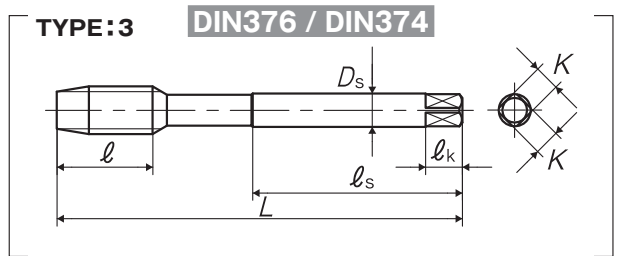
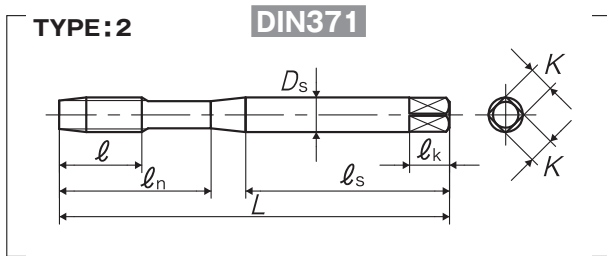
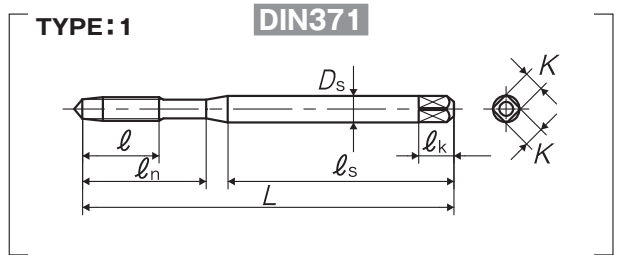


■ ZEN-P is the spiral pointed tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels.

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	ISO2X	PD3.0GBJPW	4.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	ISO2X	PD4.0IBJPW	4.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2X	PD5.0KBJPW	4.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2X	PD6.0MBJPW	4.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2X	PD8.0NBJPW	4.5P	90	19	35	47	8	6.2	9	3	2	●
M10 × 1.5	ISO2X	PD0100BJPW	4.5P	100	23	39	52	10	8	11	3	2	●
M10 × 1.25	ISO2X	PM010NBJPW	4.5P	100	23	-	51	7	5.5	8	3	3	●
M12 × 1.75	ISO2X	PG012PBJPW	4.5P	110	26	-	56	9	7	10	3	3	●
M12 × 1.5	ISO2X	PM0120BJPW	4.5P	100	21	-	51	9	7	10	3	3	●
M12 × 1.25	ISO2X	PM012NBJPW	4.5P	100	21	-	51	9	7	10	3	3	●
M14 × 2	ISO2X	PG014QBJPW	4.5P	110	26	-	56	11	9	12	3	3	●
M14 × 1.5	ISO2X	PM0140BJPW	4.5P	100	21	-	51	11	9	12	3	3	●
M16 × 2	ISO2X	PG016QBJPW	4.5P	110	26	-	56	12	9	12	3	3	●
M16 × 1.5	ISO2X	PM0160BJPW	4.5P	100	21	-	51	12	9	12	3	3	●
M18 × 2.5	ISO2X	PG018RBJPW	4.5P	125	33	-	64	14	11	14	3	3	●
M20 × 2.5	ISO2X	PG020RBJPW	4.5P	140	33	-	71	16	12	15	3	3	●
M22 × 2.5	ISO2X	PG022RBJPW	4.5P	140	33	-	71	18	14.5	17	3	3	●
M24 × 3	ISO2X	PG024SBJPW	4.5P	160	37	-	82	18	14.5	17	3	3	●
Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Unified Threads													
NO.6-32UNC	2BX	PDUN6JYJPW	4.5P	56	11	19	32	4	3	6	3	1	●
NO.8-32UNC	2BX	PDUN8JYJPW	4.5P	63	13	21	38	4.5	3.4	6	3	1	●
NO.10-24UNC	2BX	PDUNAMYJPW	4.5P	70	14	24	39	6	4.9	8	3	1	●

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ZEN-P Spiral Pointed Taps for Nickel Base Alloys

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
NO.10-32UNF	2BX	PDUNAJYJPW	4.5P	70	14	24	39	6	4.9	8	3	1	●
1/4-20UNC	2BX	PDU04NYJPW	4.5P	80	15	30	42	7	5.5	8	3	1	●
1/4-28UNF	2BX	PDU04KYJPW	4.5P	80	15	30	42	7	5.5	8	3	1	●
5/16-18UNC	2BX	PDU05OYJPW	4.5P	90	19	35	47	8	6.2	9	3	2	●
5/16-24UNF	2BX	PMU05MYJPW	4.5P	90	19	-	46	6	4.9	8	3	3	●
3/8-16UNC	2BX	PDU06PYJPW	4.5P	100	23	39	54	9	7	10	3	2	●
3/8-24UNF	2BX	PMU06MYJPW	4.5P	100	23	-	51	7	5.5	8	3	3	●
1/2-13UNC	2BX	PGU08RYJPW	4.5P	110	26	-	56	9	7	10	3	3	●
1/2-20UNF	2BX	PMU08NYJPW	4.5P	100	21	-	51	9	7	10	3	3	●
5/8-11UNC	2BX	PGU10UYJPW	4.5P	110	26	-	56	12	9	12	3	3	●
5/8-18UNF	2BX	PMU10OYJPW	4.5P	100	21	-	51	12	9	12	3	3	●
3/4-10UNC	2BX	PGU12VYJPW	4.5P	125	33	-	64	14	11	14	3	3	●
3/4-16UNF	2BX	PMU12PYJPW	4.5P	100	24	-	56	14	11	14	3	3	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

DIN LINE UP

HAND TAP SERIES



<u>HT</u>	<u>HT-1</u>
<u>EH-HT</u>	<u>HT-12</u>
<u>GG-HT</u>	<u>HT-14</u>
<u>GG-HT(Coating)</u>	<u>HT-16</u>
<u>GG-HT-OH</u>	<u>HT-18</u>
<u>GG-HT-OH(Coating)</u>	<u>HT-19</u>
<u>LA-HT</u>	<u>HT-20</u>
<u>AXE-HT</u>	<u>HT-21</u>



HT

Straight Fluted Taps

Specification



Recommended Tapping Speeds depending on Materials

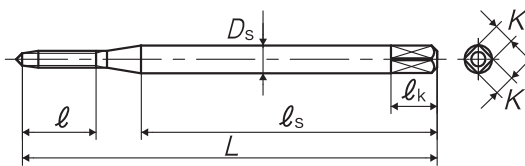
Carbon steel and low alloy steel
ISO P2
5~10
(m/min)

For icon explanation, refer to P.50



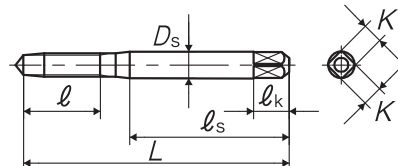
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DIN371



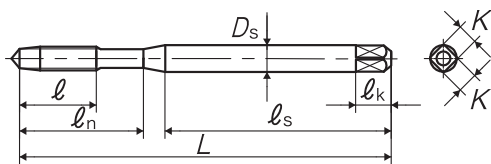
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DIN352 / DIN351



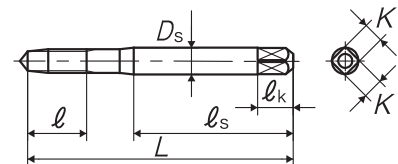
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DIN371



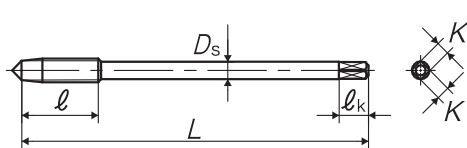
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DIN2181



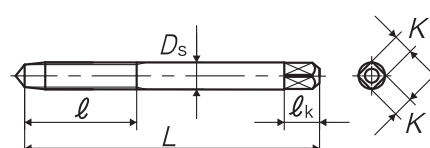
TYPE:5

DIN376



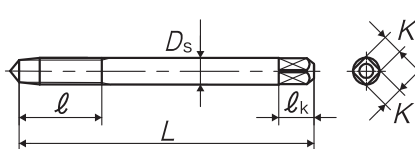
TYPE:6

DIN352 / DIN351



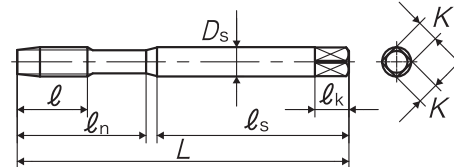
TYPE:7

DIN2181



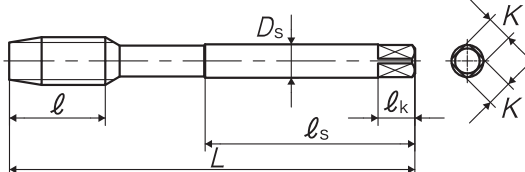
TYPE:8

DIN371



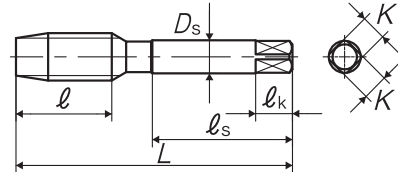
TYPE:9

DIN376



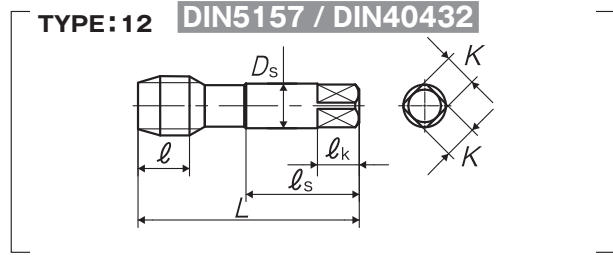
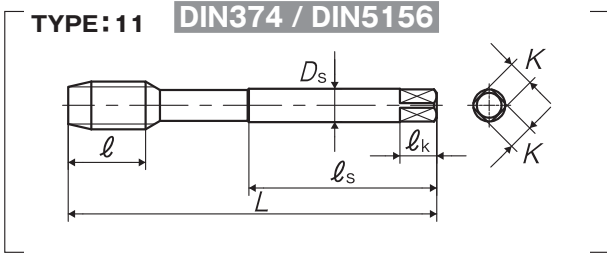
TYPE:10

DIN352 / DIN2181 / DIN351



Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	ISO2	TD2.0EANBC	2.5P	45	8	-	32	2.8	2.1	5	3	1	
		TQ2.0EANEB2	F	36	8	-	21	2.8	2.1	5	3	2	●
		TQ2.0EANEBU	M	36	8	-	21	2.8	2.1	5	3	2	●
		TQ2.0EANEB5	V	36	8	-	21	2.8	2.1	5	3	2	●
M2.2 × 0.45	ISO2	TQ2.2FANEBC	F	36	9	-	21	2.8	2.1	5	3	2	
		TQ2.2FANEBCU	M	36	9	-	21	2.8	2.1	5	3	2	
		TQ2.2FANEBC5	V	36	9	-	21	2.8	2.1	5	3	2	
M2.3 × 0.4	ISO2	TQ2.3EANBC	F	36	9	-	21	2.8	2.1	5	3	2	
		TQ2.3EANBCU	M	36	9	-	21	2.8	2.1	5	3	2	
		TQ2.3EANBC5	V	36	9	-	21	2.8	2.1	5	3	2	
M2.5 × 0.45	ISO2	TD2.5FANBC	2.5P	50	8	15	33	2.8	2.1	5	3	3	
		TQ2.5FANBC	F	40	9	-	27	2.8	2.1	5	3	2	●
		TQ2.5FANBCU	M	40	9	-	27	2.8	2.1	5	3	2	●
		TQ2.5FANBC5	V	40	9	-	27	2.8	2.1	5	3	2	●
M2.6 × 0.45	ISO2	TQ2.6FANBC	F	40	9	-	27	2.8	2.1	5	3	2	
		TQ2.6FANBCU	M	40	9	-	27	2.8	2.1	5	3	2	
		TQ2.6FANBC5	V	40	9	-	27	2.8	2.1	5	3	2	
M3 × 0.5	ISO2	TD3.0GANBC	2.5P	56	9	18	34	3.5	2.7	6	3	3	
		TQ3.0GANBC	F	40	11	-	24	3.5	2.7	6	3	2	●
		TQ3.0GANBCU	M	40	11	-	24	3.5	2.7	6	3	2	●
		TQ3.0GANBC5	V	40	11	-	24	3.5	2.7	6	3	2	●
M3 × 0.35	ISO2	TR3.0DANBC	F	40	9	-	24	3.5	2.7	6	3	4	
		TR3.0DANBC5	V	40	9	-	24	3.5	2.7	6	3	4	
M3.5 × 0.6	ISO2	TQ3.5HANBC	F	45	13	-	26	4	3	6	3	2	
		TQ3.5HANBCU	M	45	13	-	26	4	3	6	3	2	
		TQ3.5HANBC5	V	45	13	-	26	4	3	6	3	2	
M3.5 × 0.35	ISO2	TR3.5DANBC	F	45	10	-	26	4	3	6	3	4	
		TR3.5DANBC5	V	45	10	-	26	4	3	6	3	4	
M4 × 0.7	ISO2	TD4.0IANBC	2.5P	63	13	21	38	4.5	3.4	6	3	3	
		TQ4.0IANBC	F	45	13	-	27	4.5	3.4	6	3	2	●
		TQ4.0IANBCU	M	45	13	-	27	4.5	3.4	6	3	2	●
		TQ4.0IANBC5	V	45	13	-	27	4.5	3.4	6	3	2	●
M4 × 0.5	ISO2	TR4.0GANBC	F	45	10	-	27	4.5	3.4	6	3	4	
		TR4.0GANBC5	V	45	10	-	27	4.5	3.4	6	3	4	
M4.5 × 0.75	ISO2	TQ4.5JANBC	F	50	16	-	24	6	4.9	8	3	2	
		TQ4.5JANBCU	M	50	16	-	24	6	4.9	8	3	2	
		TQ4.5JANBC5	V	50	16	-	24	6	4.9	8	3	2	
M5 × 0.8	ISO2	TD5.0KANBC	2.5P	70	14	25	39	6	4.9	8	3	3	
		TQ5.0KANBC	F	50	16	-	24	6	4.9	8	3	2	●
		TQ5.0KANBCU	M	50	16	-	24	6	4.9	8	3	2	●
		TQ5.0KANBC5	V	50	16	-	24	6	4.9	8	3	2	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M5 × 0.5	ISO2	TR5.0GANEB2	F	50	12	-	24	6	4.9	8	3	4	
		TR5.0GANEB5	V	50	12	-	24	6	4.9	8	3	4	
M6 × 1	ISO2	TD6.0MANEBC	2.5P	80	15	30	45	6	4.9	8	3	3	
		TD6.0MANEWC	2.5P	80	15	30	45	6	4.9	8	3	3	
		TG6.0MANEBC	2.5P	80	15	-	-	4.5	3.4	6	3	5	
		TQ6.0MANEB2	F	50	19	-	-	6	4.9	8	3	6	●
		TQ6.0MANEBU	M	50	19	-	-	6	4.9	8	3	6	●
		TQ6.0MANEB5	V	50	19	-	-	6	4.9	8	3	6	●
M6 × 0.75	ISO2	TR6.0JANEB2	F	50	14	-	-	6	4.9	8	3	7	
		TR6.0JANEB5	V	50	14	-	-	6	4.9	8	3	7	
M6 × 0.5	ISO2	TR6.0GANEB2	F	50	14	-	-	6	4.9	8	3	7	
		TR6.0GANEB5	V	50	14	-	-	6	4.9	8	3	7	
M7 × 1	ISO2	TD7.0MANEBC	2.5P	80	15	30	45	7	5.5	8	3	8	
		TQ7.0MANEB2	F	50	15	-	26	6	4.9	8	4	10	
		TQ7.0MANEBU	M	50	15	-	26	6	4.9	8	4	10	
		TQ7.0MANEB5	V	50	15	-	26	6	4.9	8	4	10	
M7 × 0.75	ISO2	TR7.0JANEB2	F	50	13	-	26	6	4.9	8	4	10	
		TR7.0JANEB5	V	50	13	-	26	6	4.9	8	4	10	
M8 × 1.25	ISO2	TD8.0MANEBC	2.5P	90	19	35	47	8	6.2	9	3	8	
		TG8.0MANEBC	2.5P	90	19	-	46	6	4.9	8	3	9	
		TQ8.0MANEB2	F	56	19	-	29	6	4.9	8	4	10	●
		TQ8.0MANEBU	M	56	19	-	29	6	4.9	8	4	10	●
		TQ8.0MANEB5	V	56	19	-	29	6	4.9	8	4	10	●
M8 × 1	ISO2	TM8.0MANEBC	2.5P	90	19	-	46	6	4.9	8	3	11	
		TR8.0MANEB2	F	56	19	-	29	6	4.9	8	4	10	
		TR8.0MANEB5	V	56	19	-	29	6	4.9	8	4	10	
M8 × 0.75	ISO2	TR8.0JANEB2	F	50	15	-	26	6	4.9	8	4	10	
		TR8.0JANEB5	V	50	15	-	26	6	4.9	8	4	10	
M8 × 0.5	ISO2	TR8.0GANEB2	F	50	15	-	26	6	4.9	8	4	10	
		TR8.0GANEB5	V	50	15	-	26	6	4.9	8	4	10	
M9 × 1.25	ISO2	TD9.0MANEBC	2.5P	90	19	35	48	9	7	10	3	8	
		TQ9.0MANEB2	F	63	19	-	32	7	5.5	8	4	10	
		TQ9.0MANEBU	M	63	19	-	32	7	5.5	8	4	10	
		TQ9.0MANEB5	V	63	19	-	32	7	5.5	8	4	10	
M9 × 1	ISO2	TR9.0MANEB2	F	63	19	-	32	7	5.5	8	4	10	
		TR9.0MANEB5	V	63	19	-	32	7	5.5	8	4	10	
M9 × 0.75	ISO2	TR9.0JANEB2	F	56	19	-	29	7	5.5	8	4	10	
		TR9.0JANEB5	V	56	19	-	29	7	5.5	8	4	10	
M10 × 1.5	ISO2	TD0100ANEBC	2.5P	100	23	39	52	10	8	11	3	8	
		TG0100ANEBC	2.5P	100	23	-	51	7	5.5	8	3	9	
		TQ0100ANEB2	F	70	23	-	36	7	5.5	8	4	10	●
		TQ0100ANEBU	M	70	23	-	36	7	5.5	8	4	10	●
		TQ0100ANEB5	V	70	23	-	36	7	5.5	8	4	10	●
M10 × 1.25	ISO2	TM010MANEBC	2.5P	100	23	-	51	7	5.5	8	3	11	
		TR010MANEB2	F	70	23	-	36	7	5.5	8	4	10	
		TR010MANEB5	V	70	23	-	36	7	5.5	8	4	10	
M10 × 1	ISO2	TM010MANEBC	2.5P	90	19	-	46	7	5.5	8	3	11	
		TR010MANEB2	F	63	19	-	32	7	5.5	8	4	10	
		TR010MANEB5	V	63	19	-	32	7	5.5	8	4	10	

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M10 × 0.75	IS02	TR010JANEBC	F	63	19	-	32	7	5.5	8	4	10	
		TR010JANEBS	V	63	19	-	32	7	5.5	8	4	10	
M10 × 0.5	IS02	TR010GANEB2	F	63	19	-	32	7	5.5	8	4	10	
		TR010GANEB5	V	63	19	-	32	7	5.5	8	4	10	
M11 × 1.5	IS02	TQ0110ANEBC	F	70	23	-	36	8	6.2	9	4	10	
		TQ0110ANEBS	M	70	23	-	36	8	6.2	9	4	10	
		TQ0110ANEB5	V	70	23	-	36	8	6.2	9	4	10	
M12 × 1.75	IS02	TG012PANEB2	2.5P	110	26	-	56	9	7	10	3	9	
		TQ012PANEB2	F	75	26	-	38	9	7	10	4	10	●
		TQ012PANEB5	M	75	26	-	38	9	7	10	4	10	●
		TQ012PANEB5	V	75	26	-	38	9	7	10	4	10	●
M12 × 1.5	IS02	TM0120ANEBC	2.5P	100	21	-	51	9	7	10	3	11	
		TR0120ANEBC	F	70	21	-	36	9	7	10	4	10	
		TR0120ANEB5	V	70	21	-	36	9	7	10	4	10	
M12 × 1.25	IS02	TM012NANEBC	2.5P	100	21	-	51	9	7	10	3	11	
		TR012NANEBC	F	70	21	-	36	9	7	10	4	10	
		TR012NANEB5	V	70	21	-	36	9	7	10	4	10	
M12 × 1	IS02	TM012MANEB2	2.5P	100	21	-	51	9	7	10	3	11	
		TR012MANEB2	F	70	21	-	36	9	7	10	4	10	
		TR012MANEB5	V	70	21	-	36	9	7	10	4	10	
M14 × 2	IS02	TG014QANEBC	2.5P	110	26	-	56	11	9	12	3	9	
		TQ014QANEBC	F	80	26	-	41	11	9	12	4	10	●
		TQ014QANEBS	M	80	26	-	41	11	9	12	4	10	●
		TQ014QANEB5	V	80	26	-	41	11	9	12	4	10	●
M14 × 1.5	IS02	TM0140ANEBC	2.5P	100	21	-	51	11	9	12	3	11	
		TR0140ANEBC	F	70	21	-	36	11	9	12	4	10	
		TR0140ANEB5	V	70	21	-	36	11	9	12	4	10	
M14 × 1.25	IS02	TR014NANEBC	F	70	21	-	36	11	9	12	4	10	
		TR014NANEB5	V	70	21	-	36	11	9	12	4	10	
M14 × 1	IS02	TM014MANEB2	2.5P	100	21	-	51	11	9	12	3	11	
		TR014MANEB2	F	70	21	-	36	11	9	12	4	10	
		TR014MANEB5	V	70	21	-	36	11	9	12	4	10	
M16 × 2	IS02	TG016QANEBC	2.5P	110	26	-	56	12	9	12	3	9	
		TQ016QANEBC	F	80	26	-	41	12	9	12	4	10	●
		TQ016QANEBS	M	80	26	-	41	12	9	12	4	10	●
		TQ016QANEB5	V	80	26	-	41	12	9	12	4	10	●
M16 × 1.5	IS02	TM0160ANEBC	2.5P	100	21	-	51	12	9	12	3	11	
		TR0160ANEBC	F	70	21	-	36	12	9	12	4	10	
		TR0160ANEB5	V	70	21	-	36	12	9	12	4	10	
M16 × 1	IS02	TM016MANEB2	2.5P	100	21	-	51	12	9	12	3	11	
		TR016MANEB2	F	70	21	-	36	12	9	12	4	10	
		TR016MANEB5	V	70	21	-	36	12	9	12	4	10	
M18 × 2.5	IS02	TQ018RANEBC	F	95	33	-	48	14	11	14	4	10	●
		TQ018RANEBS	M	95	33	-	48	14	11	14	4	10	●
		TQ018RANEB5	V	95	33	-	48	14	11	14	4	10	●
M18 × 2	IS02	TM018QANEBC	2.5P	125	33	-	64	14	11	14	3	11	
		TR018QANEBC	F	80	21	-	41	14	11	14	4	10	
		TR018QANEB5	V	80	21	-	41	14	11	14	4	10	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M18 × 1.5	IS02	TM0180ANEBC	2.5P	110	24	-	56	14	11	14	3	11	
		TR0180ANEBC	F	80	21	-	41	14	11	14	4	10	
		TR0180ANEBC	V	80	21	-	41	14	11	14	4	10	
M18 × 1	IS02	TM018MANEBC	2.5P	110	24	-	56	14	11	14	3	11	
		TR018MANEBC	F	80	21	-	41	14	11	14	4	10	
		TR018MANEBC	V	80	21	-	41	14	11	14	4	10	
M20 × 2.5	IS02	TQ020RANEBC	F	95	33	-	48	16	12	15	4	10	●
		TQ020RANEBC	M	95	33	-	48	16	12	15	4	10	●
		TQ020RANEBC	V	95	33	-	48	16	12	15	4	10	●
M20 × 2	IS02	TM020QANEBC	2.5P	140	33	-	71	16	12	15	3	11	
		TR020QANEBC	F	80	21	-	41	16	12	15	4	10	
		TR020QANEBC	V	80	21	-	41	16	12	15	4	10	
M20 × 1.5	IS02	TM0200ANEBC	2.5P	125	24	-	64	16	12	15	3	11	
		TR0200ANEBC	F	80	21	-	41	16	12	15	4	10	
		TR0200ANEBC	V	80	21	-	41	16	12	15	4	10	
M20 × 1	IS02	TM020MANEBC	2.5P	125	24	-	64	16	12	15	3	11	
		TR020MANEBC	F	80	21	-	41	16	12	15	4	10	
		TR020MANEBC	V	80	21	-	41	16	12	15	4	10	
M22 × 2.5	IS02	TQ022RANEBC	F	100	33	-	51	18	14.5	17	4	10	●
		TQ022RANEBC	M	100	33	-	51	18	14.5	17	4	10	●
		TQ022RANEBC	V	100	33	-	51	18	14.5	17	4	10	●
M22 × 2	IS02	TR022QANEBC	F	80	21	-	41	18	14.5	17	4	10	
		TR022QANEBC	V	80	21	-	41	18	14.5	17	4	10	
M22 × 1.5	IS02	TM0220ANEBC	2.5P	125	24	-	64	18	14.5	17	3	11	
		TR0220ANEBC	F	80	21	-	41	18	14.5	17	4	10	
		TR0220ANEBC	V	80	21	-	41	18	14.5	17	4	10	
M22 × 1	IS02	TR022MANEBC	F	80	21	-	41	18	14.5	17	4	10	
		TR022MANEBC	V	80	21	-	41	18	14.5	17	4	10	
M24 × 3	IS02	TG024SANEBC	2.5P	160	37	-	82	18	14.5	17	3	9	
		TQ024SANEBC	F	110	39	-	56	18	14.5	17	4	10	●
		TQ024SANEBC	M	110	39	-	56	18	14.5	17	4	10	●
		TQ024SANEBC	V	110	39	-	56	18	14.5	17	4	10	●
M24 × 2	IS02	TM024QANEBC	2.5P	140	27	-	71	18	14.5	17	3	11	
		TR024QANEBC	F	90	21	-	46	18	14.5	17	4	10	
		TR024QANEBC	V	90	21	-	46	18	14.5	17	4	10	
M24 × 1.5	IS02	TM0240ANEBC	2.5P	140	27	-	71	18	14.5	17	3	11	
		TR0240ANEBC	F	90	21	-	46	18	14.5	17	4	10	
		TR0240ANEBC	V	90	21	-	46	18	14.5	17	4	10	
M24 × 1	IS02	TM024MANEBC	2.5P	140	27	-	71	18	14.5	17	3	11	
		TR024MANEBC	F	90	21	-	46	18	14.5	17	4	10	
		TR024MANEBC	V	90	21	-	46	18	14.5	17	4	10	
M25 × 2	IS02	TR025QANEBC	F	90	21	-	46	18	14.5	17	4	10	
		TR025QANEBC	V	90	21	-	46	18	14.5	17	4	10	
M25 × 1.5	IS02	TM0250ANEBC	2.5P	140	27	-	71	18	14.5	17	4	11	
		TR0250ANEBC	F	90	21	-	46	18	14.5	17	4	10	
		TR0250ANEBC	V	90	21	-	46	18	14.5	17	4	10	
M26 × 1.5	IS02	TM0260ANEBC	2.5P	140	27	-	71	18	14.5	17	4	11	
		TR0260ANEBC	F	90	21	-	46	18	14.5	17	4	10	
		TR0260ANEBC	V	90	21	-	46	18	14.5	17	4	10	

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock	
M27 × 3	ISO2	TG027SANEB2	2.5P	160	37	-	82	20	16	19	4	9		
		TQ027SANEB2	F	110	39	-	56	20	16	19	4	10		
		TQ027SANEBU	M	110	39	-	56	20	16	19	19	4	10	
		TQ027SANEB5	V	110	39	-	56	20	16	19	19	4	10	
M27 × 2	ISO2	TM027QANEBC	2.5P	140	27	-	71	20	16	19	4	11		
		TR027QANEBC	F	90	21	-	46	20	16	19	4	10		
		TR027QANEBC5	V	90	21	-	46	20	16	19	4	10		
M27 × 1.5	ISO2	TR027QANEBC2	F	90	21	-	46	20	16	19	4	10		
		TR027QANEBC5	V	90	21	-	46	20	16	19	4	10		
M28 × 2	ISO2	TR028QANEBC2	F	90	21	-	46	20	16	19	4	10		
		TR028QANEBC5	V	90	21	-	46	20	16	19	4	10		
M28 × 1.5	ISO2	TM028QANEBC	2.5P	140	27	-	71	20	16	19	4	11		
		TR028QANEBC2	F	90	21	-	46	20	16	19	4	10		
		TR028QANEBC5	V	90	21	-	46	20	16	19	4	10		
M30 × 3.5	ISO2	TG030TANEBC	2.5P	180	44	-	92	22	18	21	4	9		
		TQ030TANEBC2	F	125	46	-	64	22	18	21	4	10		
		TQ030TANEBCU	M	125	46	-	64	22	18	21	21	4	10	
		TQ030TANEBC5	V	125	46	-	64	22	18	21	21	4	10	
M30 × 2	ISO2	TM030QANEBC	2.5P	150	27	-	77	22	18	21	4	11		
		TR030QANEBC2	F	90	21	-	46	22	18	21	4	10		
		TR030QANEBC5	V	90	21	-	46	22	18	21	4	10		
M30 × 1.5	ISO2	TM030QANEBC	2.5P	150	27	-	77	22	18	21	4	11		
		TR030QANEBC2	F	90	21	-	46	22	18	21	4	10		
		TR030QANEBC5	V	90	21	-	46	22	18	21	4	10		
M30 × 1	ISO2	TM030MANEBC	2.5P	150	27	-	77	22	18	21	4	11		
		TR030MANEBC2	F	90	21	-	46	22	18	21	4	10		
		TR030MANEBC5	V	90	21	-	46	22	18	21	4	10		
M32 × 2	ISO2	TM032QANEBC	2.5P	150	27	-	77	22	18	21	4	11		
		TR032QANEBC2	F	90	21	-	46	22	18	21	4	10		
		TR032QANEBC5	V	90	21	-	46	22	18	21	4	10		
M32 × 1.5	ISO2	TM032QANEBC	2.5P	150	27	-	77	22	18	21	4	11		
		TR032QANEBC2	F	90	21	-	46	22	18	21	4	10		
		TR032QANEBC5	V	90	21	-	46	22	18	21	4	10		
M33 × 3.5	ISO2	TG033TANEBC	2.5P	180	46	-	92	25	20	23	4	9		
		TQ033TANEBC2	F	125	46	-	64	25	20	23	4	10		
		TQ033TANEBCU	M	125	46	-	64	25	20	23	23	4	10	
		TQ033TANEBC5	V	125	46	-	64	25	20	23	23	4	10	
M33 × 3	ISO2	TR033SANEB2	F	125	39	-	64	25	20	23	4	10		
		TR033SANEB5	V	125	39	-	64	25	20	23	4	10		
M33 × 2	ISO2	TM033QANEBC	2.5P	160	29	-	82	25	20	23	4	11		
		TR033QANEBC2	F	100	24	-	51	25	20	23	4	10		
		TR033QANEBC5	V	100	24	-	51	25	20	23	4	10		
M33 × 1.5	ISO2	TM033QANEBC	2.5P	160	29	-	82	25	20	23	4	11		
		TR033QANEBC2	F	100	24	-	51	25	20	23	4	10		
		TR033QANEBC5	V	100	24	-	51	25	20	23	4	10		
M34 × 1.5	ISO2	TR034QANEBC2	F	100	24	-	51	28	22	25	4	10		
		TR034QANEBC5	V	100	24	-	51	28	22	25	4	10		
M35 × 1.5	ISO2	TR035QANEBC2	F	100	24	-	51	28	22	25	4	10		
		TR035QANEBC5	V	100	24	-	51	28	22	25	4	10		

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
M36 × 4	ISO2	TG036UANEBC	2.5P	200	52	-	102	28	22	25	4	9	
		TQ036UANEBC	F	150	52	-	77	28	22	25	4	10	
		TQ036UANEBCU	M	150	52	-	77	28	22	25	4	10	
		TQ036UANEBCV	V	150	52	-	77	28	22	25	4	10	
M36 × 3	ISO2	TR036SANEBC	F	125	39	-	64	28	22	25	4	10	
		TR036SANEBCV	V	125	39	-	64	28	22	25	4	10	
M36 × 2	ISO2	TM036QANEBC	2.5P	170	29	-	87	28	22	25	4	11	
		TR036QANEBC	F	125	39	-	64	28	22	25	4	10	
		TR036QANEBCV	V	125	39	-	64	28	22	25	4	10	
M36 × 1.5	ISO2	TM036OANEBC	2.5P	170	29	-	87	28	22	25	4	11	
		TR036OANEBC	F	100	24	-	51	28	22	25	4	10	
		TR036OANEBCV	V	100	24	-	51	28	22	25	4	10	
M38 × 1.5	ISO2	TR038OANEBC	F	100	24	-	51	28	22	25	4	10	
		TR038OANEBCV	V	100	24	-	51	28	22	25	4	10	
M39 × 4	ISO2	TG039UANEBC	2.5P	200	52	-	102	32	24	27	4	9	
		TQ039UANEBC	F	150	52	-	77	32	24	27	4	10	
		TQ039UANEBCU	M	150	52	-	77	32	24	27	4	10	
		TQ039UANEBCV	V	150	52	-	77	32	24	27	4	10	
M39 × 2	ISO2	TM039QANEBC	2.5P	170	29	-	87	32	24	27	4	11	
		TR039QANEBC	F	125	39	-	64	32	24	27	4	10	
		TR039QANEBCV	V	125	39	-	64	32	24	27	4	10	
M39 × 1.5	ISO2	TM039OANEBC	2.5P	170	29	-	87	32	24	27	4	11	
		TR039OANEBC	F	110	24	-	56	32	24	27	4	10	
		TR039OANEBCV	V	110	24	-	56	32	24	27	4	10	
M40 × 2	ISO2	TR040QANEBC	F	125	39	-	64	32	24	27	4	10	
		TR040QANEBCV	V	125	39	-	64	32	24	27	4	10	
M40 × 1.5	ISO2	TR040OANEBC	F	110	24	-	56	32	24	27	4	10	
		TR040OANEBCV	V	110	24	-	56	32	24	27	4	10	
M42 × 4.5	ISO2	TG042VANEBC	2.5P	200	59	-	102	32	24	27	4	9	
		TQ042VANEBC	F	150	59	-	77	32	24	27	4	10	
		TQ042VANEBCU	M	150	59	-	77	32	24	27	4	10	
		TQ042VANEBCV	V	150	59	-	77	32	24	27	4	10	
M42 × 2	ISO2	TM042QANEBC	2.5P	170	29	-	87	32	24	27	4	11	
		TR042QANEBC	F	125	39	-	64	32	24	27	4	10	
		TR042QANEBCV	V	125	39	-	64	32	24	27	4	10	
M42 × 1.5	ISO2	TM042OANEBC	2.5P	170	29	-	87	32	24	27	4	11	
		TR042OANEBC	F	110	24	-	56	32	24	27	4	10	
		TR042OANEBCV	V	110	24	-	56	32	24	27	4	10	
M45 × 4.5	ISO2	TG045VANEBC	2.5P	220	59	-	112	36	29	32	4	9	
		TQ045VANEBC	F	160	59	-	82	36	29	32	4	10	
		TQ045VANEBCU	M	160	59	-	82	36	29	32	4	10	
		TQ045VANEBCV	V	160	59	-	82	36	29	32	4	10	
M45 × 3	ISO2	TM045SANEBC	2.5P	200	49	-	102	36	29	32	4	11	
		TR045SANEBC	F	125	39	-	64	36	29	32	4	10	
		TR045SANEBCV	V	125	39	-	64	36	29	32	4	10	
M45 × 2	ISO2	TM045QANEBC	2.5P	180	31	-	92	36	29	32	4	11	
		TR045QANEBC	F	125	39	-	64	36	29	32	4	10	
		TR045QANEBCV	V	125	39	-	64	36	29	32	4	10	

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M45 × 1.5	IS02	TM0450ANEBC	2.5P	180	31	-	92	36	29	32	4	11	
		TR0450ANEBC2	F	110	24	-	56	36	29	32	4	10	
		TR0450ANEBC5	V	110	24	-	56	36	29	32	4	10	
M48 × 5	IS02	TG048WANEBC	2.5P	250	65	-	128	36	29	32	4	9	
		TQ048WANEBC2	F	180	65	-	92	36	29	32	4	10	
		TQ048WANEBCU	M	180	65	-	92	36	29	32	4	10	
		TQ048WANEBC5	V	180	65	-	92	36	29	32	4	10	
M48 × 3	IS02	TM048SANEBC	2.5P	225	49	-	115	36	29	32	4	11	
		TR048SANEBC2	F	140	39	-	71	36	29	32	4	10	
		TR048SANEBC5	V	140	39	-	71	36	29	32	4	10	
M48 × 2	IS02	TM048QANEBC	2.5P	190	31	-	97	36	29	32	4	11	
		TR048QANEBC2	F	140	39	-	71	36	29	32	4	10	
		TR048QANEBC5	V	140	39	-	71	36	29	32	4	10	
M48 × 1.5	IS02	TM0480ANEBC	2.5P	190	31	-	97	36	29	32	4	11	
		TR0480ANEBC2	F	140	39	-	71	36	29	32	4	10	
		TR0480ANEBC5	V	140	39	-	71	36	29	32	4	10	
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads													
No.4-40UNC	2B	TDUN4HXNEBC	2.5P	56	9	18	34	3.5	2.7	6	3	3	
No.4-48UNF	2B	TDUN4FXNEBC	2.5P	56	9	18	34	3.5	2.7	6	3	3	
No.5-40UNC	2B	TDUN5HXNEBC	2.5P	56	11	18	34	3.5	2.7	6	3	3	
No.5-44UNF	2B	TDUN5GXNEBC	2.5P	56	11	18	34	3.5	2.7	6	3	3	
No.6-32UNC	2B	TDUN6JXNEBC	2.5P	56	11	19	32	4	3	6	3	3	
No.6-40UNF	2B	TDUN6HXNEBC	2.5P	56	11	19	32	4	3	6	3	3	
No.8-32UNC	2B	TDUN8JXNEBC	2.5P	63	13	21	38	4.5	3.4	6	3	3	
No.8-36UNF	2B	TDUN8IXNEBC	2.5P	63	13	21	38	4.5	3.4	6	3	3	
No.10-24UNC	2B	TDUNAMXNEBC	2.5P	70	14	24	39	6	4.9	8	3	3	
No.10-32UNF	2B	TDUNAJXNEBC	2.5P	70	14	24	39	6	4.9	8	3	3	
No.12-24UNC	2B	TDUNCMXNEBC	2.5P	80	15	28	45	6	4.9	8	3	3	
No.12-28UNF	2B	TDUNCKXNEBC	2.5P	80	15	28	45	6	4.9	8	3	3	
1/4-20UNC	2B	TDU04NXNEBC	2.5P	80	15	30	42	7	5.5	8	3	3	
1/4-28UNF	2B	TDU04KXNEBC	2.5P	80	15	30	42	7	5.5	8	3	3	
5/16-18UNC	2B	TDU050XNEBC	2.5P	90	19	35	47	8	6.2	9	4	8	
5/16-24UNF	2B	TMU05MXNEBC	2.5P	90	19	-	46	6	4.9	8	4	11	
3/8-16UNC	2B	TDU06PXNEBC	2.5P	100	23	39	54	9	7	10	4	8	
3/8-24UNF	2B	TMU06MXNEBC	2.5P	100	23	-	51	7	5.5	8	4	11	
7/16-14UNC	2B	TGU07QXNEBC	2.5P	100	23	-	51	8	6.2	9	4	9	
7/16-20UNF	2B	TMU07NXNEBC	2.5P	100	23	-	51	8	6.2	9	4	11	
1/2-13UNC	2B	TGU08RXNEBC	2.5P	110	26	-	56	9	7	10	4	9	
1/2-20UNF	2B	TMU08NXNEBC	2.5P	100	21	-	51	9	7	10	4	11	
9/16-12UNC	2B	TGU09SXNEBC	2.5P	110	26	-	56	11	9	12	4	9	
9/16-18UNF	2B	TMU090XNEBC	2.5P	100	21	-	51	11	9	12	4	11	
5/8-11UNC	2B	TGU10UXNEBC	2.5P	110	26	-	56	12	9	12	4	9	
5/8-18UNF	2B	TMU100XNEBC	2.5P	100	21	-	51	12	9	12	4	11	
3/4-10UNC	2B	TGU12VXNEBC	2.5P	125	33	-	64	14	11	14	4	9	
3/4-16UNF	2B	TMU12PXNEBC	2.5P	110	24	-	56	14	11	14	4	11	
7/8-9UNC	2B	TGU14WXNEBC	2.5P	140	33	-	71	18	14.5	17	4	9	
7/8-14UNF	2B	TMU14QXNEBC	2.5P	125	24	-	64	18	14.5	17	4	11	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1-8UNC	2B	TGU16XXNEBC	2.5P	160	37	-	82	18	14.5	17	4	9	
1-12UNF	2B	TMU16SXNEBC	2.5P	140	27	-	71	18	14.5	17	4	11	
1 1/8-7UNC	2B	TGU18YXNEBC	2.5P	180	44	-	92	22	18	21	4	9	
1 1/8-12UNF	2B	TMU18SXNEBC	2.5P	150	27	-	77	22	18	21	4	11	
1 1/4-7UNC	2B	TGU20YXNEBC	2.5P	180	44	-	92	22	18	21	4	9	
1 1/4-12UNF	2B	TMU20SXNEBC	2.5P	150	27	-	77	22	18	21	4	11	
1 3/8-6UNC	2B	TGU22ZXNEBC	2.5P	200	52	-	102	28	22	25	4	9	
1 3/8-12UNF	2B	TMU22SXNEBC	2.5P	170	29	-	87	28	22	25	4	11	
1 1/2-6UNC	2B	TGU24ZXNEBC	2.5P	200	52	-	102	32	24	27	4	9	
1 1/2-12UNF	2B	TMU24SXNEBC	2.5P	170	29	-	87	32	24	27	4	11	
1 3/4-5UNC	2B	TGU287XNEBC	2.5P	220	66	-	112	36	29	32	4	9	
1 3/4-12UN	2B	TMU28SXNEBC	2.5P	180	31	-	92	36	29	32	4	11	
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Whitworth Threads													
3/32W48	-	TPW1HFONEB2	F	36	10	-	21	2.8	2.1	5	3	2	
		TPW1HFONEBU	M	36	10	-	21	2.8	2.1	5	3	2	
		TPW1HFONEB5	V	36	10	-	21	2.8	2.1	5	3	2	
1/8W40	-	TPW02HONEB2	F	40	11	-	25	3.5	2.7	6	3	2	
		TPW02HONEBU	M	40	11	-	25	3.5	2.7	6	3	2	
		TPW02HONEB5	V	40	11	-	25	3.5	2.7	6	3	2	
5/32W32	-	TPW2HJONEB2	F	45	13	-	27	4.5	3.4	6	3	2	
		TPW2HJONEBU	M	45	13	-	27	4.5	3.4	6	3	2	
		TPW2HJONEB5	V	45	13	-	27	4.5	3.4	6	3	2	
3/16W24	-	TPW03MONEB2	F	50	17	-	26	5.5	4.3	7	3	2	
		TPW03MONEBU	M	50	17	-	26	5.5	4.3	7	3	2	
		TPW03MONEB5	V	50	17	-	26	5.5	4.3	7	3	2	
1/4W20	-	TPW04NONEB2	F	56	21	-	-	6	4.9	8	3	6	
		TPW04NONEBU	M	56	21	-	-	6	4.9	8	3	6	
		TPW04NONEB5	V	56	21	-	-	6	4.9	8	3	6	
5/16W18	-	TPW050ONEB2	F	63	19	-	32	6	4.9	8	4	10	
		TPW050ONEBU	M	63	19	-	32	6	4.9	8	4	10	
		TPW050ONEB5	V	63	19	-	32	6	4.9	8	4	10	
3/8W16	-	TPW06PONEB2	F	70	23	-	36	7	5.5	8	4	10	
		TPW06PONEBU	M	70	23	-	36	7	5.5	8	4	10	
		TPW06PONEB5	V	70	23	-	36	7	5.5	8	4	10	
7/16W14	-	TPW07QONEB2	F	70	23	-	36	8	6.2	9	4	10	
		TPW07QONEBU	M	70	23	-	36	8	6.2	9	4	10	
		TPW07QONEB5	V	70	23	-	36	8	6.2	9	4	10	
1/2W12	-	TPW08SONEB2	F	80	26	-	41	9	7	10	4	10	
		TPW08SONEBU	M	80	26	-	41	9	7	10	4	10	
		TPW08SONEB5	V	80	26	-	41	9	7	10	4	10	
9/16W12	-	TPW09SONEB2	F	80	26	-	41	11	9	12	4	10	
		TPW09SONEBU	M	80	26	-	41	11	9	12	4	10	
		TPW09SONEB5	V	80	26	-	41	11	9	12	4	10	
5/8W11	-	TPW10UONEB2	F	90	26	-	46	12	9	12	4	10	
		TPW10UONEBU	M	90	26	-	46	12	9	12	4	10	
		TPW10UONEB5	V	90	26	-	46	12	9	12	4	10	
3/4W10	-	TPW12VONEB2	F	95	33	-	48	14	11	14	4	10	
		TPW12VONEBU	M	95	33	-	48	14	11	14	4	10	
		TPW12VONEB5	V	95	33	-	48	14	11	14	4	10	

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
7/8W9	-	TPW14W0NEB2	F	100	33	-	51	18	14.5	17	4	10	
		TPW14W0NEBU	M	100	33	-	51	18	14.5	17	4	10	
		TPW14W0NEB5	V	100	33	-	51	18	14.5	17	4	10	
1W8	-	TPW16X0NEB2	F	110	39	-	56	20	16	19	4	10	
		TPW16X0NEBU	M	110	39	-	56	20	16	19	4	10	
		TPW16X0NEB5	V	110	39	-	56	20	16	19	4	10	
1 1/8W7	-	TPW18Y0NEB2	F	125	46	-	64	22	18	21	4	10	
		TPW18Y0NEBU	M	125	46	-	64	22	18	21	4	10	
		TPW18Y0NEB5	V	125	46	-	64	22	18	21	4	10	
1 1/4W7	-	TPW20Y0NEB2	F	125	46	-	64	22	18	21	4	10	
		TPW20Y0NEBU	M	125	46	-	64	22	18	21	4	10	
		TPW20Y0NEB5	V	125	46	-	64	22	18	21	4	10	
1 3/8W6	-	TPW22Z0NEB2	F	150	52	-	77	28	22	25	4	10	
		TPW22Z0NEBU	M	150	52	-	77	28	22	25	4	10	
		TPW22Z0NEB5	V	150	52	-	77	28	22	25	4	10	
1 1/2W6	-	TPW24Z0NEB2	F	150	55	-	77	32	24	27	4	10	
		TPW24Z0NEBU	M	150	55	-	77	32	24	27	4	10	
		TPW24Z0NEB5	V	150	55	-	77	32	24	27	4	10	
1 5/8W5	-	TPW2670NEB2	F	150	66	-	77	32	24	27	4	10	
		TPW2670NEBU	M	150	66	-	77	32	24	27	4	10	
		TPW2670NEB5	V	150	66	-	77	32	24	27	4	10	
1 3/4W5	-	TPW2870NEB2	F	160	66	-	82	36	29	32	4	10	
		TPW2870NEBU	M	160	66	-	82	36	29	32	4	10	
		TPW2870NEB5	V	160	66	-	82	36	29	32	4	10	
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Pg Threads													
Pg 7	-	TYPG070NEBU	3.5P	70	21	-	36	9	7	10	4	12	●
Pg 9	-	TYPG090NEBU	3.5P	70	21	-	36	12	9	12	4	12	●
Pg 11	-	TYPG110NEBU	3.5P	80	21	-	41	14	11	14	4	12	●
Pg 13.5	-	TYPG130NEBU	3.5P	80	21	-	41	16	12	15	4	12	●
Pg 16	-	TYPG160NEBU	3.5P	80	21	-	41	18	14.5	17	4	12	●
Pg 21	-	TYPG210NEBU	3.5P	90	21	-	46	22	18	21	4	12	●
Pg 29	-	TYPG290NEBU	3.5P	100	24	-	51	28	22	25	4	12	
Pg 36	-	TYPG360NEBU	3.5P	140	39	-	71	36	29	32	4	12	
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads													
G1/16-28	-	TVG0010NEBC	2.5P	90	19	-	46	6	4.9	8	3	11	
		T9G0010NEB2	F	56	19	-	29	6	4.9	8	4	12	
		T9G0010NEB5	V	56	19	-	29	6	4.9	8	4	12	
G1/8-28	-	TVG0020NEBC	2.5P	90	19	-	46	7	5.5	8	3	11	
		T9G0020NEB2	F	63	19	-	32	7	5.5	8	4	12	●
		T9G0020NEB5	V	63	19	-	32	7	5.5	8	4	12	●
G1/4-19	-	TVG0040NEBC	2.5P	100	21	-	51	11	9	12	3	11	
		T9G0040NEB2	F	70	21	-	36	11	9	12	4	12	●
		T9G0040NEB5	V	70	21	-	36	11	9	12	4	12	●
G3/8-19	-	TVG0060NEBC	2.5P	100	21	-	51	12	9	12	3	11	
		T9G0060NEB2	F	70	21	-	36	12	9	12	4	12	●
		T9G0060NEB5	V	70	21	-	36	12	9	12	4	12	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Straight Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
G1/2-14	-	TVG0080NEBC	2.5P	125	24	-	64	16	12	15	3	11	
		T9G0080NEB2	F	80	21	-	41	16	12	15	4	12	●
		T9G0080NEB5	V	80	21	-	41	16	12	15	4	12	●
G5/8-14	-	TVG0100NEBC	2.5P	125	24	-	64	18	14.5	17	4	11	
		T9G0100NEB2	F	80	21	-	41	18	14.5	17	4	12	
		T9G0100NEB5	V	80	21	-	41	18	14.5	17	4	12	
G3/4-14	-	TVG0120NEBC	2.5P	140	27	-	71	20	16	19	4	11	
		T9G0120NEB2	F	90	21	-	46	20	16	19	4	12	●
		T9G0120NEB5	V	90	21	-	46	20	16	19	4	12	●
G7/8-14	-	TVG0140NEBC	2.5P	150	27	-	77	22	18	21	4	11	
		T9G0140NEB2	F	90	21	-	46	22	18	21	4	12	
		T9G0140NEB5	V	90	21	-	46	22	18	21	4	12	
G1-11	-	TVG0160NEBC	2.5P	160	29	-	82	25	20	23	4	11	
		T9G0160NEB2	F	100	24	-	51	25	20	23	4	12	●
		T9G0160NEB5	V	100	24	-	51	25	20	23	4	12	●
G1 1/8-11	-	TVG0180NEBC	2.5P	170	29	-	87	28	22	25	4	11	
		T9G0180NEB2	F	125	39	-	64	28	22	25	4	12	
		T9G0180NEB5	V	125	39	-	64	28	22	25	4	12	
G1 1/4-11	-	TVG0200NEBC	2.5P	170	29	-	87	32	24	27	4	11	
		T9G0200NEB2	F	125	39	-	64	32	24	27	4	12	
		T9G0200NEB5	V	125	39	-	64	32	24	27	4	12	
G1 1/2-11	-	TVG0240NEBC	2.5P	190	31	-	97	36	29	32	6	11	
		T9G0240NEB2	F	140	39	-	71	36	29	32	6	12	
		T9G0240NEB5	V	140	39	-	71	36	29	32	6	12	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

EH-HT

Straight Fluted Taps for Hard-to-Machine Materials

Specification

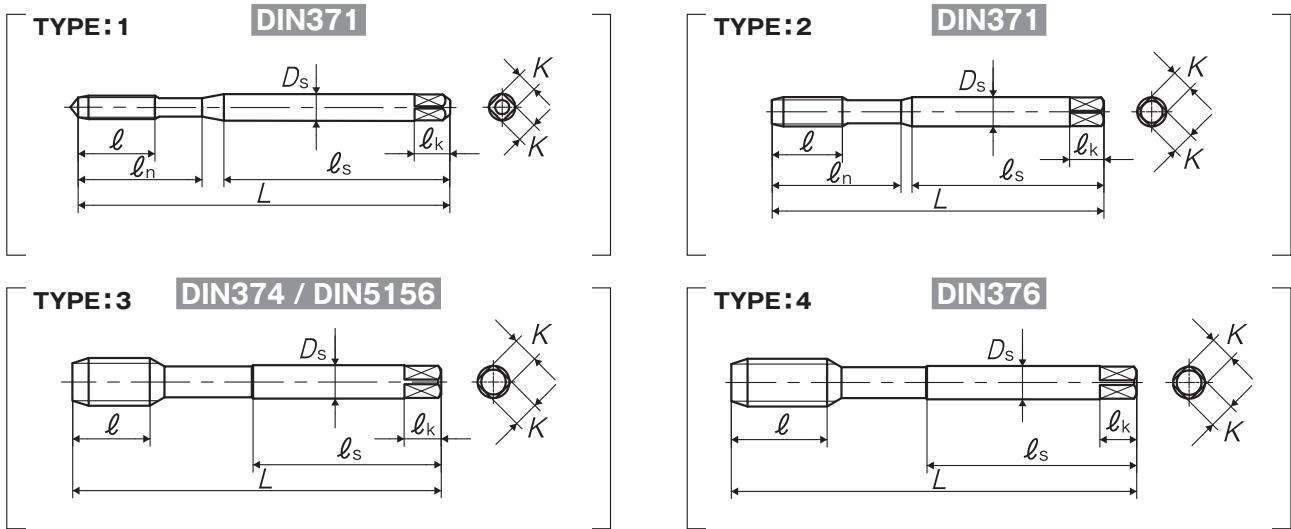


■EH-HT is the hand tap suitable for hard steels of 35-45HRC, such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels.

Recommended Tapping Speeds depending on Materials

Tool steel ISO P5 ~5 (m/min) 35~45HRC	High tensile strength steel ISO P6 ~5 (m/min)
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For icon explanation, refer to P.50



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	ISO2X	TD3.0GBDCBC	2.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	ISO2X	TD4.0IBDCBC	2.5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	ISO2X	TD5.0KBDCBC	2.5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	ISO2X	TD6.0MBDCBC	2.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	ISO2X	TD8.0NBDCBC	2.5P	90	19	35	47	8	6.2	9	4	2	●
M8 × 1	ISO2X	TM8.0MBDCBC	2.5P	90	19	-	46	6	4.9	8	4	3	●
M10 × 1.5	ISO2X	TD0100BDCBC	2.5P	100	23	39	52	10	8	11	4	2	●
M10 × 1.25	ISO2X	TM010NBDCBC	2.5P	100	23	-	51	7	5.5	8	4	3	●
M10 × 1	ISO2X	TM010MBDCBC	2.5P	90	19	-	46	7	5.5	8	4	3	●
M12 × 1.75	ISO2X	TG012PBDCBC	2.5P	110	26	-	56	9	7	10	4	4	●
M12 × 1.5	ISO2X	TM0120BDCBC	2.5P	100	21	-	51	9	7	10	4	3	●
M12 × 1.25	ISO2X	TM012NBDCBC	2.5P	100	21	-	51	9	7	10	4	3	●
M14 × 2	ISO2X	TG014QBDCBC	2.5P	110	26	-	56	11	9	12	4	4	●
M14 × 1.5	ISO2X	TM0140BDCBC	2.5P	100	21	-	51	11	9	12	4	3	●
M16 × 2	ISO2X	TG016QBDCBC	2.5P	110	26	-	56	12	9	12	4	4	●
M16 × 1.5	ISO2X	TM0160BDCBC	2.5P	100	21	-	51	12	9	12	4	3	●
M18 × 2.5	ISO2X	TG018RBDCBC	2.5P	125	33	-	64	14	11	14	4	4	
M18 × 1.5	ISO2X	TM0180BDCBC	2.5P	110	24	-	56	14	11	14	4	3	
M20 × 2.5	ISO2X	TG020RBDCBC	2.5P	140	33	-	71	16	12	15	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

EH-HT Straight Fluted Taps for Hard-to-Machine Materials

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M20 × 1.5	IS02X	TM0200BDCBC	2.5P	125	24	-	64	16	12	15	4	3	
M22 × 2.5	IS02X	TG022RBDCBC	2.5P	140	33	-	71	18	14.5	17	4	4	
M24 × 3	IS02X	TG024SBDCBC	2.5P	160	37	-	82	18	14.5	17	4	4	●
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads													
G1/8-28	-	TVG0020DCBC	2.5P	90	19	-	46	7	5.5	8	4	3	●
G1/4-19	-	TVG0040DCBC	2.5P	100	21	-	51	11	9	12	4	3	●
G3/8-19	-	TVG0060DCBC	2.5P	100	21	-	51	12	9	12	4	3	●
G1/2-14	-	TVG0080DCBC	2.5P	125	24	-	64	16	12	15	4	3	●

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps (Simple Inspection Tools)

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

GG-HT

Straight Fluted Taps for Cast Irons

Specification



Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

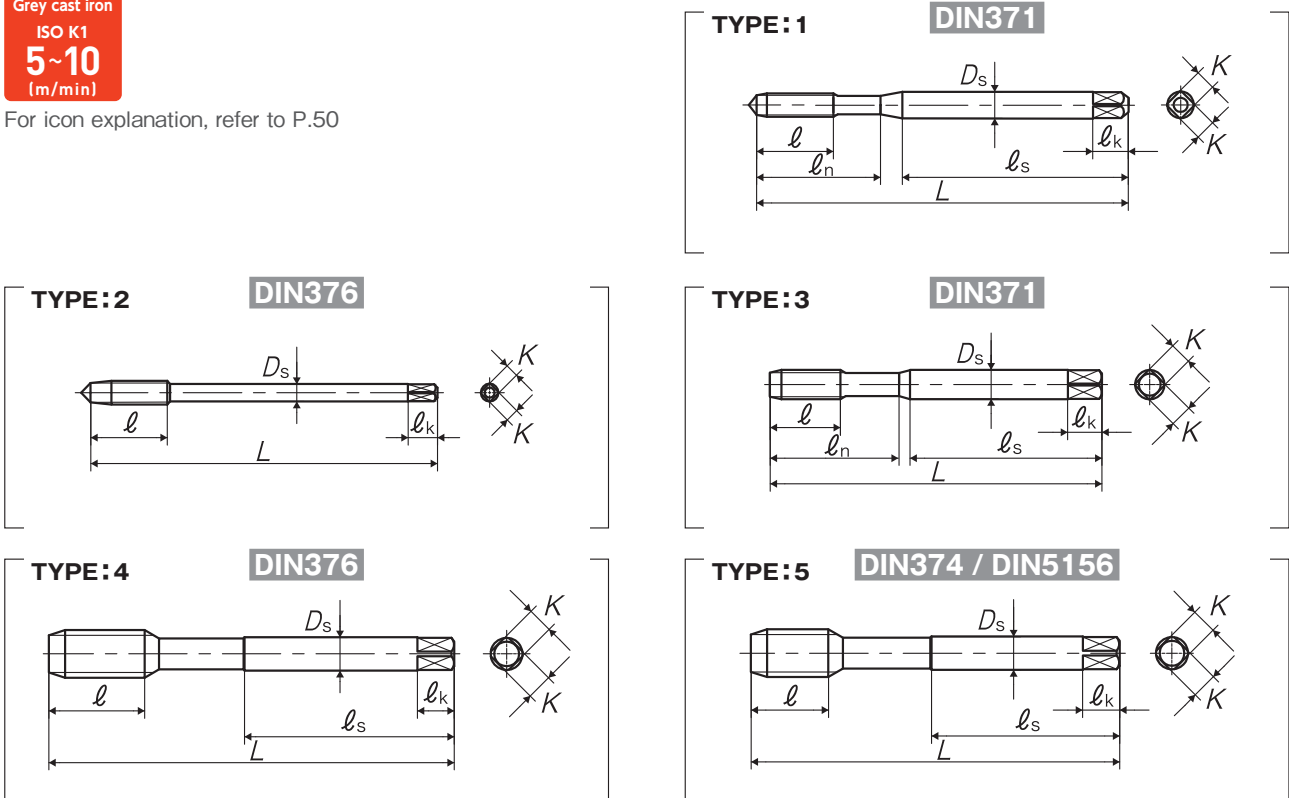


■ Suitable for hard and abrasive materials such as cast irons. Considering comparatively quick wear, GG-HT is properly oversized.

Recommended Tapping Speeds depending on Materials

Grey cast iron
ISO K1
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	TD3.0GBAENC	2.5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	TD4.0IBAENC	2.5P	63	13	21	38	4.5	3.4	6	4	1	●
M5 × 0.8	IS02X	TD5.0KBAENC	2.5P	70	14	25	39	6	4.9	8	4	1	●
		TG5.0KBAENC	2.5P	70	14	-	-	3.5	2.7	6	4	2	●
M6 × 1	IS02X	TD6.0MBAENC	2.5P	80	15	30	45	6	4.9	8	4	1	●
		TG6.0MBAENC	2.5P	80	15	-	-	4.5	3.4	6	4	2	●
M8 × 1.25	IS02X	TD8.0NBAENC	2.5P	90	19	35	47	8	6.2	9	4	3	●
		TG8.0NBAENC	2.5P	90	19	-	46	6	4.9	8	4	4	●
M8 × 1	IS02X	TM8.0MBAENC	2.5P	90	19	-	46	6	4.9	8	4	5	●
M10 × 1.5	IS02X	TD0100BAENC	2.5P	100	23	39	52	10	8	11	4	3	●
		TG0100BAENC	2.5P	100	23	-	51	7	5.5	8	4	4	●
M10 × 1.25	IS02X	TM010NBAENC	2.5P	100	23	-	51	7	5.5	8	4	5	●
M10 × 1	IS02X	TM010MBAENC	2.5P	90	19	-	46	7	5.5	8	4	5	●
M12 × 1.75	IS02X	TG012PBAENC	2.5P	110	26	-	56	9	7	10	4	4	●
M12 × 1.5	IS02X	TM0120BAENC	2.5P	100	21	-	51	9	7	10	4	5	●
M12 × 1.25	IS02X	TM012NBAENC	2.5P	100	21	-	51	9	7	10	4	5	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

GG-HT Straight Fluted Taps for Cast Irons

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1	IS02X	TM012MBAENC	2.5P	100	21	-	51	9	7	10	4	5	●
M14 × 2	IS02X	TG014QBAENC	2.5P	110	26	-	56	11	9	12	4	4	●
M14 × 1.5	IS02X	TM0140BAENC	2.5P	100	21	-	51	11	9	12	4	5	●
M16 × 2	IS02X	TG016QBAENC	2.5P	110	26	-	56	12	9	12	4	4	●
M16 × 1.5	IS02X	TM0160BAENC	2.5P	100	21	-	51	12	9	12	4	5	●
M18 × 2.5	IS02X	TG018RBAENC	2.5P	125	33	-	64	14	11	14	4	4	●
M18 × 1.5	IS02X	TM0180BAENC	2.5P	110	24	-	56	14	11	14	4	5	●
M20 × 2.5	IS02X	TG020RBAENC	2.5P	140	33	-	71	16	12	15	4	4	●
M20 × 1.5	IS02X	TM0200BAENC	2.5P	125	24	-	64	16	12	15	4	5	●
M22 × 2.5	IS02X	TG022RBAENC	2.5P	140	33	-	71	18	14.5	17	4	4	●
M22 × 1.5	IS02X	TM0220BAENC	2.5P	125	24	-	64	18	14.5	17	4	5	●
M24 × 3	IS02X	TG024SBAENC	2.5P	160	37	-	82	18	14.5	17	4	4	●
M24 × 1.5	IS02X	TM0240BAENC	2.5P	140	27	-	71	18	14.5	17	4	5	●
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads													
G1/8-28	-	TVG0020AENC	2.5P	90	19	-	46	7	5.5	8	4	5	●
G1/4-19	-	TVG0040AENC	2.5P	100	21	-	51	11	9	12	4	5	●
G3/8-19	-	TVG0060AENC	2.5P	100	21	-	51	12	9	12	4	5	●
G1/2-14	-	TVG0080AENC	2.5P	125	24	-	64	16	12	15	4	5	●
G3/4-14	-	TVG0120AENC	2.5P	140	27	-	71	20	16	19	4	5	●
G1-11	-	TVG0160AENC	2.5P	160	29	-	82	25	20	23	4	5	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

GG-HT(Coating)



Straight Fluted Taps for Cast Irons, Coated

Specification

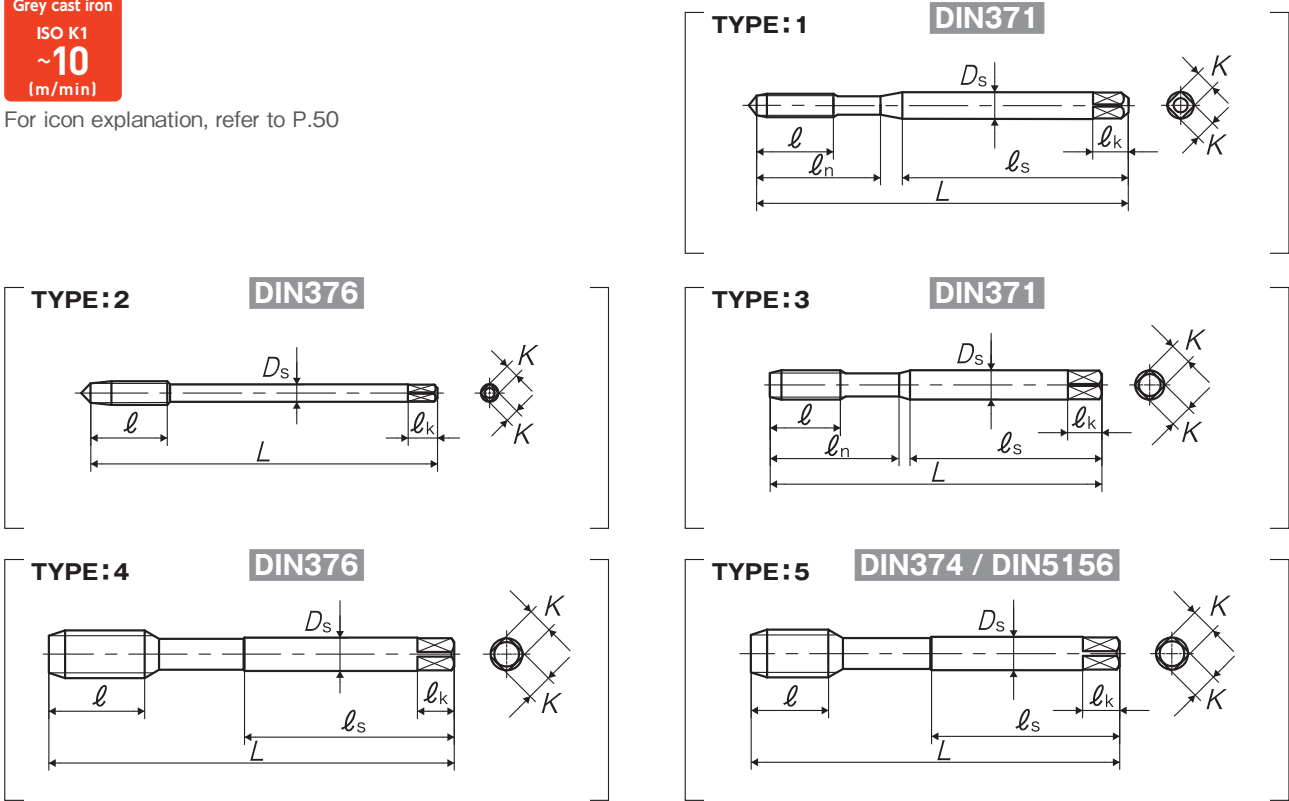


- Suitable for hard and abrasive materials such as cast irons. Considering comparatively quick wear, GG-HT is properly oversized.

Recommended Tapping Speeds depending on Materials

Grey cast iron
ISO K1
~10
(m/min)

For icon explanation, refer to P.50



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	96263.0TC	2.5P	56	9	18	34	3.5	2.7	6	3	1	
M4 × 0.7	IS02X	96264.0TC	2.5P	63	13	21	38	4.5	3.4	6	4	1	●
M5 × 0.8	IS02X	96265.0TC	2.5P	70	14	25	39	6	4.9	8	4	1	●
M6 × 1	IS02X	96266.0TC	2.5P	80	15	30	45	6	4.9	8	4	1	●
		97266.0TC	2.5P	80	15	-	-	4.5	3.4	6	4	2	
M8 × 1.25	IS02X	96268.0TC	2.5P	90	19	35	47	8	6.2	9	4	3	●
		97268.0TC	2.5P	90	19	-	46	6	4.9	8	4	4	
M8 × 1	IS02X	98268.0MTC	2.5P	90	19	-	46	6	4.9	8	4	5	●
M10 × 1.5	IS02X	9626010TC	2.5P	100	23	39	52	10	8	11	4	3	●
		9726010TC	2.5P	100	23	-	51	7	5.5	8	4	4	
M10 × 1.25	IS02X	9826010NTC	2.5P	100	23	-	51	7	5.5	8	4	5	●
M10 × 1	IS02X	9826010MTC	2.5P	90	19	-	46	7	5.5	8	4	5	●
M12 × 1.75	IS02X	9726012TC	2.5P	110	26	-	56	9	7	10	4	4	●
M12 × 1.5	IS02X	98260120TC	2.5P	100	21	-	51	9	7	10	4	5	●
M12 × 1.25	IS02X	9826012NTC	2.5P	100	21	-	51	9	7	10	4	5	●
M12 × 1	IS02X	9826012MTC	2.5P	100	21	-	51	9	7	10	4	5	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

GG-HT(Coating) Straight Fluted Taps for Cast Irons, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M14 × 2	IS02X	9726014TC	2.5P	110	26	-	56	11	9	12	4	4	●
M14 × 1.5	IS02X	98260140TC	2.5P	100	21	-	51	11	9	12	4	5	●
M16 × 2	IS02X	9726016TC	2.5P	110	26	-	56	12	9	12	4	4	●
M16 × 1.5	IS02X	98260160TC	2.5P	100	21	-	51	12	9	12	4	5	●
M18 × 2.5	IS02X	9726018TC	2.5P	125	33	-	64	14	11	14	4	4	●
M18 × 1.5	IS02X	98260180TC	2.5P	110	24	-	56	14	11	14	4	5	●
M20 × 2.5	IS02X	9726020TC	2.5P	140	33	-	71	16	12	15	4	4	●
M20 × 1.5	IS02X	98260200TC	2.5P	125	24	-	64	16	12	15	4	5	●
M22 × 2.5	IS02X	9726022TC	2.5P	140	33	-	71	18	14.5	17	4	4	●
M22 × 1.5	IS02X	98260220TC	2.5P	125	24	-	64	18	14.5	17	4	5	●
M24 × 3	IS02X	9726024TC	2.5P	160	37	-	82	18	14.5	17	4	4	●
M24 × 1.5	IS02X	98260240TC	2.5P	140	27	-	71	18	14.5	17	4	5	●
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads													
G1/8-28	-	9926R02TC	2.5P	90	19	-	46	7	5.5	8	4	5	●
G1/4-19	-	9926R04TC	2.5P	100	21	-	51	11	9	12	4	5	●
G3/8-19	-	9926R06TC	2.5P	100	21	-	51	12	9	12	4	5	●
G1/2-14	-	9926R08TC	2.5P	125	24	-	64	16	12	15	4	5	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

GG-HT-OH

Straight Fluted Taps for Cast Irons with Internal Coolant Hole

Specification

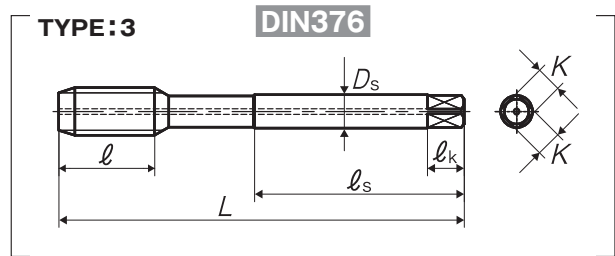
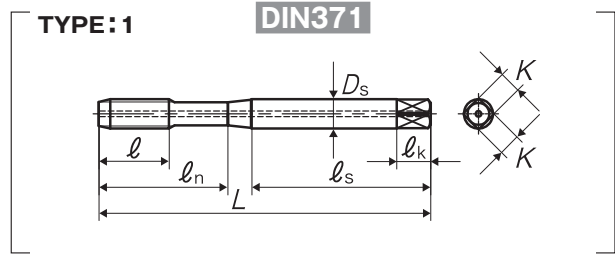
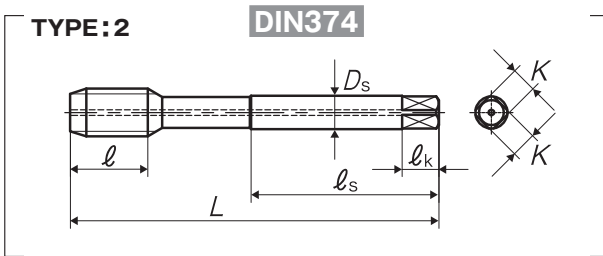


■ Suitable for hard and abrasive materials such as cast irons. Considering comparatively quick wear, GG-HT-OH is properly oversized.

Recommended Tapping Speeds depending on Materials

Grey cast iron
ISO K1
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	IS02X	TD6.0MBAFNC	2.5P	80	15	30	45	6	4.9	8	4	1	●
M8 × 1.25	IS02X	TD8.0NBAFNC	2.5P	90	19	35	47	8	6.2	9	4	1	●
M8 × 1	IS02X	TM8.0MBAFNC	2.5P	90	19	-	46	6	4.9	8	4	2	●
M10 × 1.5	IS02X	TD0100BAFNC	2.5P	100	23	39	52	10	8	11	4	1	●
M10 × 1.25	IS02X	TM010NBAFNC	2.5P	100	23	-	51	7	5.5	8	4	2	●
M10 × 1	IS02X	TM010MBAFNC	2.5P	90	19	-	46	7	5.5	8	4	2	●
M12 × 1.75	IS02X	TG012PBAFNC	2.5P	110	26	-	56	9	7	10	4	3	●
M12 × 1.5	IS02X	TM012NBAFNC	2.5P	100	21	-	51	9	7	10	4	2	●
M12 × 1.25	IS02X	TM012MBAFNC	2.5P	100	21	-	51	9	7	10	4	2	●
M14 × 2	IS02X	TG014QBAFNC	2.5P	110	26	-	56	11	9	12	4	3	●
M14 × 1.5	IS02X	TM014OBAFNC	2.5P	100	21	-	51	11	9	12	4	2	●
M14 × 1	IS02X	TM014MBAFNC	2.5P	100	21	-	51	11	9	12	4	2	●
M16 × 2	IS02X	TG016QBAFNC	2.5P	110	26	-	56	12	9	12	4	3	●
M16 × 1.5	IS02X	TM016OBAFNC	2.5P	100	21	-	51	12	9	12	4	2	●
M18 × 2.5	IS02X	TG018RBAFNC	2.5P	125	33	-	64	14	11	14	4	3	●
M18 × 1.5	IS02X	TM018OBAFNC	2.5P	110	24	-	56	14	11	14	4	2	●
M20 × 2.5	IS02X	TG020RBAFNC	2.5P	140	33	-	71	16	12	15	4	3	●
M20 × 1.5	IS02X	TM020OBAFNC	2.5P	125	24	-	64	16	12	15	4	2	●
M22 × 1.5	IS02X	TM022OBAFNC	2.5P	125	24	-	64	18	14.5	17	4	2	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

GG-HT-OH(Coating)



Straight Fluted Taps for Cast Irons with Internal Coolant Hole, Coated

Specification



■ Suitable for hard and abrasive materials such as cast irons. Considering comparatively quick wear, GG-HT-OH is properly oversized.

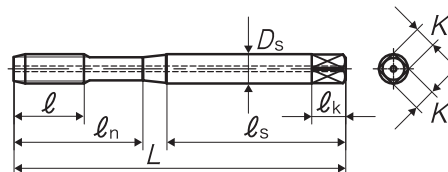
Recommended Tapping Speeds depending on Materials

Grey cast iron
ISO K1
~10
(m/min)

For icon explanation, refer to P.50

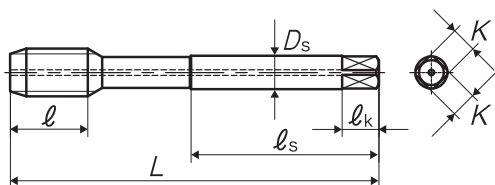
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DIN371



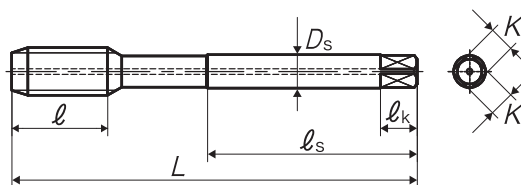
TYPE:2

DIN374



TYPE:3

DIN376



Segment: 1B

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	IS02X	96266.0TCOH	2.5P	80	15	30	45	6	4.9	8	4	1	●
M8 × 1.25	IS02X	96268.0TCOH	2.5P	90	19	35	47	8	6.2	9	4	1	●
M8 × 1	IS02X	98268.0MTCOH	2.5P	90	19	-	46	6	4.9	8	4	2	●
M10 × 1.5	IS02X	9626010TCOH	2.5P	100	23	39	52	10	8	11	4	1	●
M10 × 1.25	IS02X	9826010NTCOH	2.5P	100	23	-	51	7	5.5	8	4	2	●
M10 × 1	IS02X	9826010MTCOH	2.5P	90	19	-	46	7	5.5	8	4	2	●
M12 × 1.75	IS02X	9726012TCOH	2.5P	110	26	-	56	9	7	10	4	3	●
M12 × 1.5	IS02X	98260120TCOH	2.5P	100	21	-	51	9	7	10	4	2	●
M12 × 1.25	IS02X	9826012NTCOH	2.5P	100	21	-	51	9	7	10	4	2	●
M14 × 2	IS02X	9726014TCOH	2.5P	110	26	-	56	11	9	12	4	3	●
M14 × 1.5	IS02X	98260140TCOH	2.5P	100	21	-	51	11	9	12	4	2	●
M14 × 1	IS02X	9826014MTCOH	2.5P	100	21	-	51	11	9	12	4	2	●
M16 × 2	IS02X	9726016TCOH	2.5P	110	26	-	56	12	9	12	4	3	●
M16 × 1.5	IS02X	98260160TCOH	2.5P	100	21	-	51	12	9	12	4	2	●
M18 × 2.5	IS02X	9726018TCOH	2.5P	125	33	-	64	14	11	14	4	3	●
M18 × 1.5	IS02X	98260180TCOH	2.5P	110	24	-	56	14	11	14	4	2	●
M20 × 2.5	IS02X	9726020TCOH	2.5P	140	33	-	71	16	12	15	4	3	●
M20 × 1.5	IS02X	98260200TCOH	2.5P	125	24	-	64	16	12	15	4	2	●
M22 × 1.5	IS02X	98260220TCOH	2.5P	125	24	-	64	18	14.5	17	4	2	●

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

LA-HT

Straight Fluted Taps for Die Cast Materials

Specification

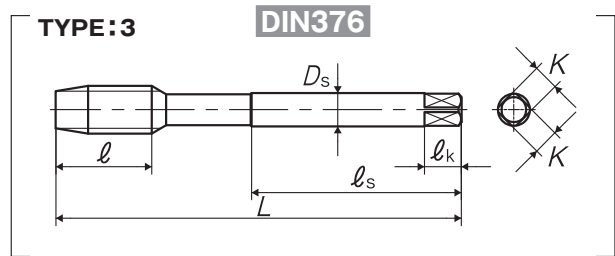
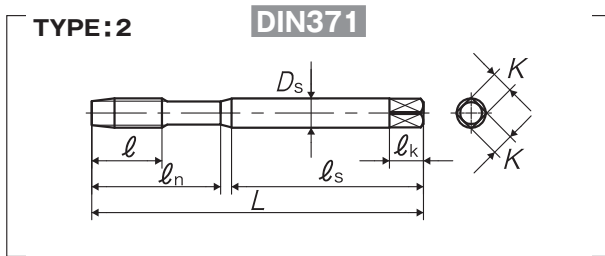
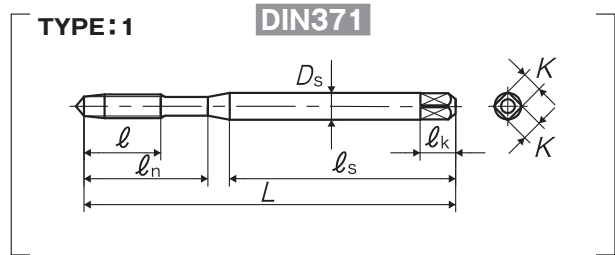


■ LA-HT is the oversized tap, and is suitable for the materials tending to shrink, such as aluminum alloy diecastings (ADC) and zinc alloy diecastings (ZDC).

Recommended Tapping Speeds depending on Materials

Aluminum alloy (<12% Si) ISO N1 5~15 (m/min)	Aluminum alloy (>12% Si) ISO N2 5~15 (m/min)
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For icon explanation, refer to P.50



Segment: 1B

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	TD3.0GBLEN5	5P	56	9	18	34	3.5	2.7	6	3	1	●
M4 × 0.7	IS02X	TD4.0IBLEN5	5P	63	13	21	38	4.5	3.4	6	3	1	●
M5 × 0.8	IS02X	TD5.0KBLEN5	5P	70	14	25	39	6	4.9	8	3	1	●
M6 × 1	IS02X	TD6.0MBLEN5	5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	TD8.0NBLEN5	5P	90	19	35	47	8	6.2	9	3	2	●
M10 × 1.5	IS02X	TD0100BLEN5	5P	100	23	39	52	10	8	11	4	2	●
M12 × 1.75	IS02X	TG012PBLEN5	5P	110	26	-	56	9	7	10	4	3	●
M14 × 2	IS02X	TG014QBLEN5	5P	110	26	-	56	11	9	12	4	3	
M16 × 2	IS02X	TG016QBLEN5	5P	110	26	-	56	12	9	12	4	3	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

AXE-HT

AXE Straight Fluted Taps

Specification



Recommended Tapping Speeds depending on Materials

Aluminum alloy
(>12% Si)
ISO N2
10~20
(m/min)

For icon explanation, refer to P.50

Product features

- In tapping Aluminum Alloy Castings and similar, AXE-HT realizes a huge improvement in its endurance due to the proprietary flute design.
- Special cutting edge design drastically reduces damage on the cutting edge.
Combination of premium powder HSS (featuring high wear resistance and heat resistance) and special coating brings out 5 times longer tool life than previous taps designed for aluminum.
- Stable and strong cutting edge allows high accurate internal thread with optimal surface finishing.
- Most preferable combination of negative rake angle and eccentric relief enables AXE taps to be applicable in wider range of cutting speed, from middle speed to high speed.

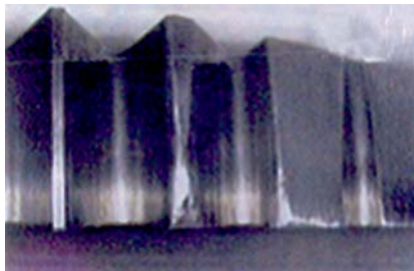
Tapping data

Comparison of tool life between AXE and LA-O (previous product)

Tap M8×1.25

AXE	HSS-P Special coating
LA-O	HSS-E NI surface treatment
Work material	G-AMg5
Tapping speed	10m/min
Bored hole	φ6.8
Tapping length	13mm (blind hole)
Feed	Lead screw feed
Machine	Transfer machine
Tapping fluid	Water soluble oil (x30)

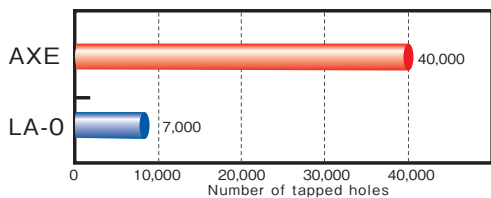
Damage at cutting edge after 7000 holes tapping



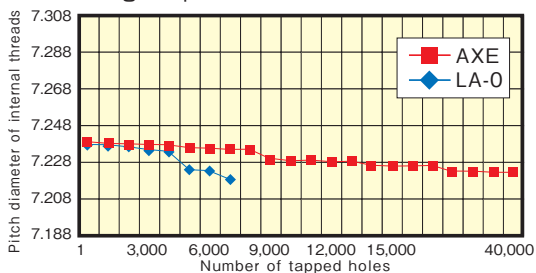
LA-O



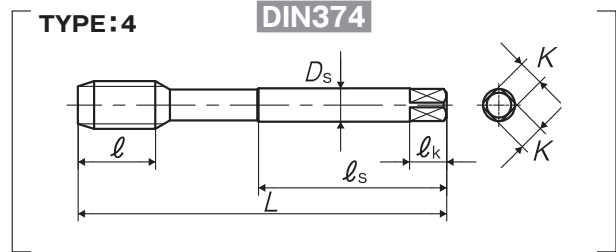
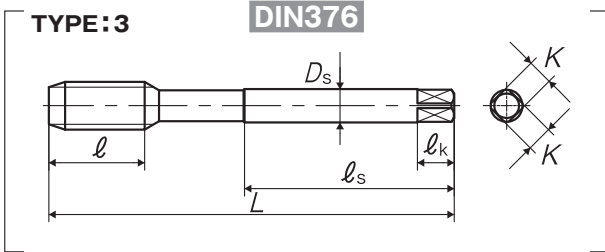
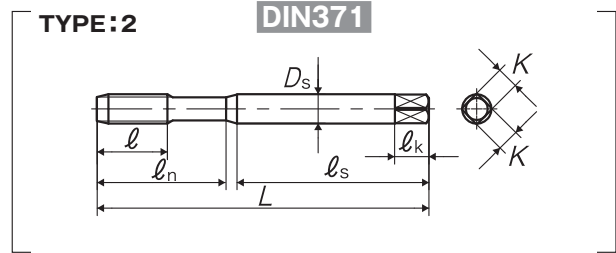
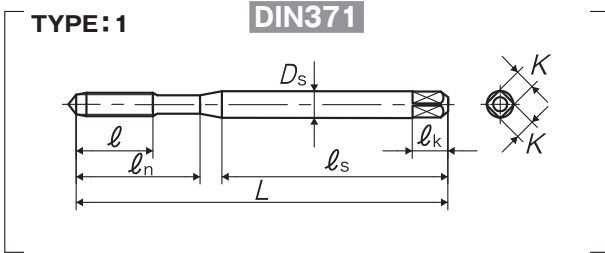
AXE



Change of pitch diameter of internal threads



Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	IS02X	TD6.0MBLPVA	1.5P	80	15	30	45	6	4.9	8	3	1	●
M8 × 1.25	IS02X	TD8.0NBLPVA	1.5P	90	19	35	47	8	6.2	9	4	2	●
M10 × 1.5	IS02X	TD0100BLPVA	1.5P	100	23	39	52	10	8	11	4	2	●
M10 × 1.25	IS02X	TM010NBLPVA	1.5P	100	23	-	51	7	5.5	8	4	4	●
M10 × 1	IS02X	TM010MBLPVA	1.5P	90	19	-	46	7	5.5	8	4	4	●
M12 × 1.75	IS02X	TG012PBLPVA	1.5P	110	26	-	56	9	7	10	4	3	●
M12 × 1.5	IS02X	TM0120BLPVA	1.5P	100	21	-	51	9	7	10	4	4	●
M12 × 1.25	IS02X	TM012NBLPVA	1.5P	100	21	-	51	9	7	10	4	4	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

DIN LINE UP

CEMENTED CARBIDE TAP SERIES



CT-FC

CT-1

EH-CT

CT-3

UH-CT

CT-5

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

CT-FC

Carbide Taps for Cast Irons

Specification

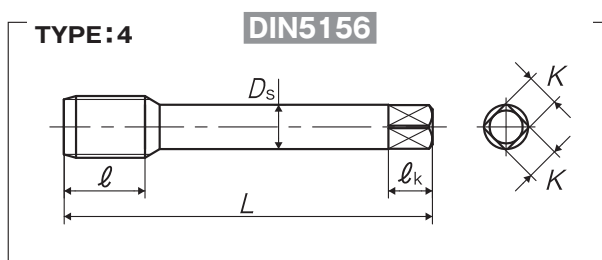
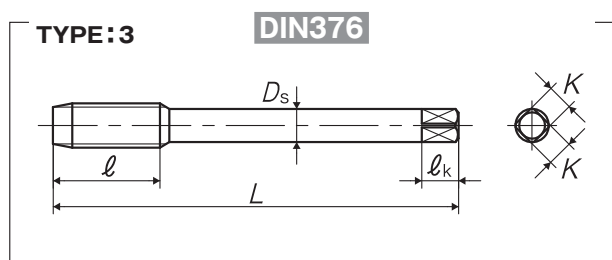
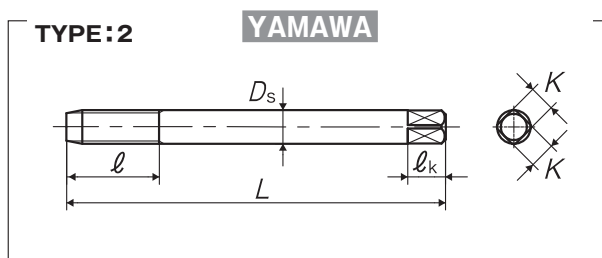
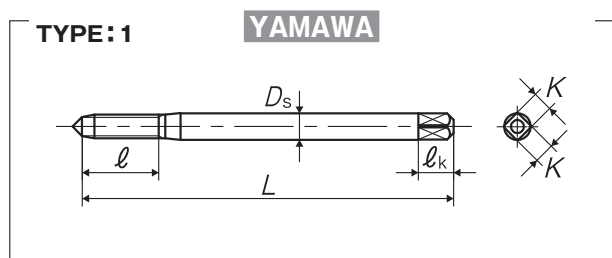


■CT-FC is the carbide tap suitable for hard and abrasive materials such as cast irons. For volume production.

Recommended Tapping Speeds depending on Materials

Grey cast iron ISO K1 5~15 (m/min)	Nodular cast iron ISO K2 5~15 (m/min)
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For icon explanation, refer to P.50



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads											
M3 × 0.5	ISO2X	36263.0	5P	56	11	3.5	2.7	6	4	1	
M4 × 0.7	ISO2X	36264.0	5P	63	13	4.5	3.4	6	4	1	●
M5 × 0.8	ISO2X	36265.0	5P	70	16	6	4.9	8	4	1	●
M6 × 1	ISO2X	36266.0	5P	80	19	6	4.9	8	4	1	●
M8 × 1.25	ISO2X	36268.0	5P	90	22	8	6.2	9	4	2	●
M10 × 1.5	ISO2X	3626010	5P	100	24	10	8	11	4	2	●
M12 × 1.75	ISO2X	3726012	5P	110	29	9	7	10	4	3	●
M14 × 2	ISO2X	3726014	5P	110	30	11	9	12	4	3	●
M16 × 2	ISO2X	3726016	5P	110	32	12	9	12	4	3	●
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For G Threads											
G3/8-19	-	3926G06	2.5P	100	22	12	9	12	4	4	



Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

EH-CT

Carbide Taps for Hard Materials
Specification



Recommended Tapping Speeds depending on Materials

Hardened steel
(\sim 55 HRC)
ISO H
 \sim 5
(m/min)

Obtainable from Video site
shown in right

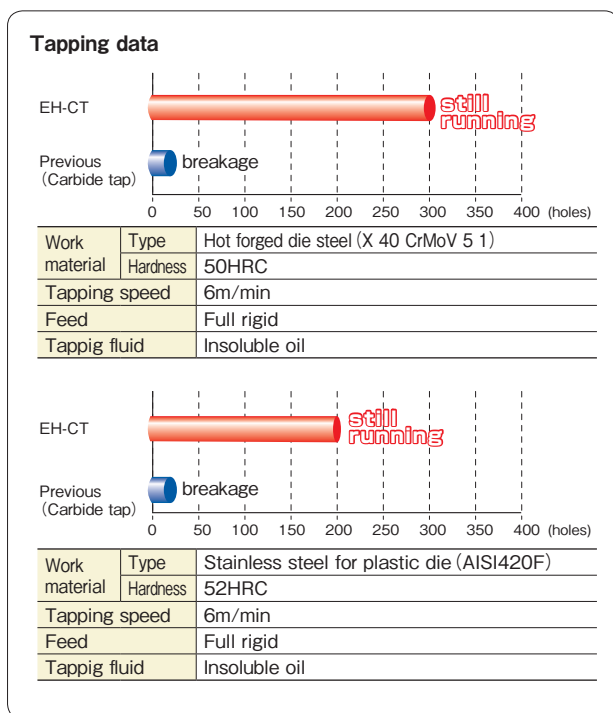


For icon explanation, refer to P.50

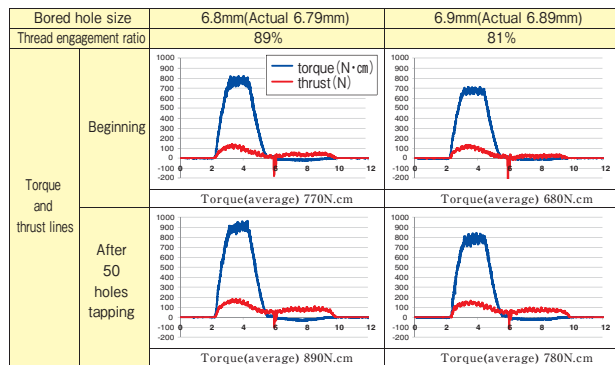
Product features

- Most suitable for tapping high hardness steels of 45-55HRC such as steels for hot-forging die (100 MnCrW 4, X 155 CrV Mo 12 1, etc.)
- Ultra fine grain carbide alloys with superior wear resistance and shock resistance are adopted.
- By using the tap blanks in which both the run-out tolerance and the shank concentricity are improved, the high accuracy in screw threads can be obtained.
- For bored hole diameter, maximum of minor diameter tolerance of 6H internal threads is recommended.

Tapping data [M8×1.25]



(Torque line in the different bored hole size)



Tapping condition

Work material	DAC (equivalent to X 40 CrMoV 5 1) 50HRC
Tapping speed	6m/min
Feed	Rigid
Tapping fluid	Insoluble oil

Bored hole size enlarged by 0.1mm can reduce the tapping resistance torque by 10%.

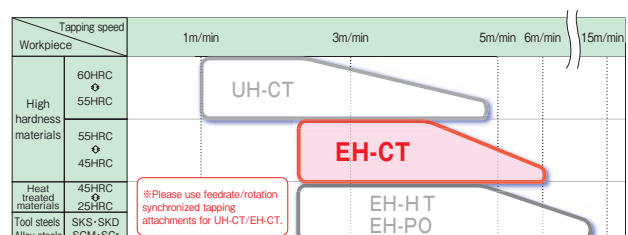
In tapping the material of high hardness, it is recommendable to make the bored hole size as large as possible.

Recommended bored hole size (for reference)

unit : mm

Size	Recommended bored hole size	Minor dia. of ISO 6H class internal thread	
		Max.	Min.
M3 X0.5	2.55	2.599	2.459
M4 X0.7	3.4	3.422	3.242
M5 X0.8	4.3	4.334	4.134
M6 X1	5.1	5.153	4.917
M8 X1.25	6.9	6.912	6.647
M10X1.5	8.6	8.676	8.376
M12X1.75	10.4	10.441	10.106

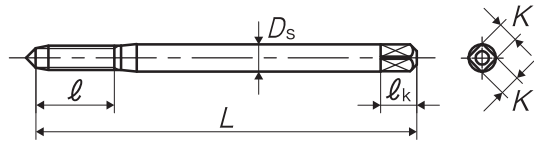
Application



Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	D _s	K	ℓ _k

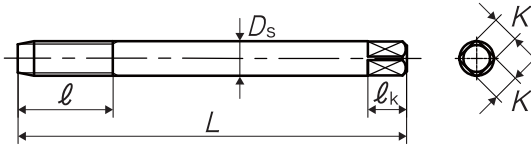
TYPE:1

YAMAWA



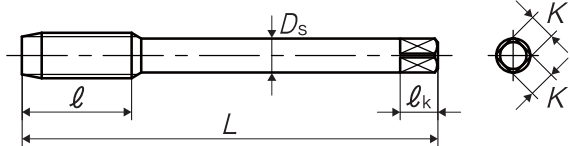
TYPE:2

YAMAWA



TYPE:3

DIN376



Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads											
M3 × 0.5	IS02X	TD3.0GBCWA5	5P	56	11	3.5	2.7	6	4	1	●
M4 × 0.7	IS02X	TD4.0IBCWA5	5P	63	13	4.5	3.4	6	4	1	●
M5 × 0.8	IS02X	TD5.0KBCWA5	5P	70	16	6	4.9	8	4	1	●
M6 × 1	IS02X	TD6.0MBCWA5	5P	80	19	6	4.9	8	5	1	●
M8 × 1.25	IS02X	TD8.0NBCWA5	5P	90	22	8	6.2	9	5	2	●
M10 × 1.5	IS02X	TD10.0BCWA5	5P	100	24	10	8	11	5	2	●
M12 × 1.75	IS02X	TG012PBCWA5	5P	110	29	9	7	10	5	3	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

UH-CT

Carbide Taps for Ultra Hard Materials
Specification



Recommended Tapping Speeds depending on Materials

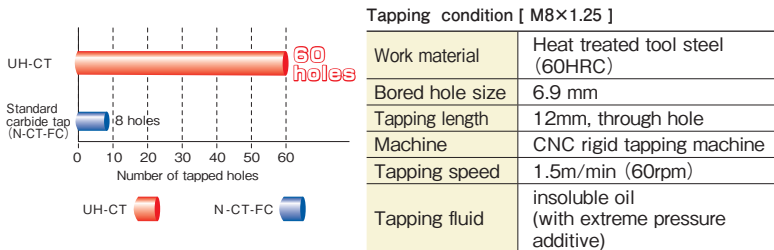
Hardened steel
(~ 63 HRC)
ISO H
 ~ 5
(m/min)

For icon explanation, refer to P.50

Product features

- Ultra fine grain carbide alloys with superior wear resistance and shock resistance are adopted.
- By using the tap blanks in which both the run-out tolerance and the shank concentricity are improved, the high accuracy in screw threads can be obtained.
- Possible for tapping heat treated tool steels and hardened steels which hardness ranges in 55-60HRC (Maximum hardness 63HRC).
- Thread length should be less than 1.5D. Considering the tool life, the number of chamfer threads is 5.
- For bored hole diameter, maximum of the minor diameter tolerance of 6H internal threads is recommended.

Tapping data

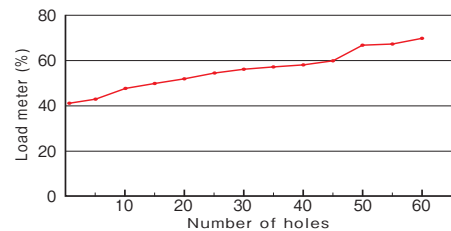


Upper graph shows comparison data in tapping heat-treated tool steel by the standard carbide tap (N-CT) and by the carbide tap for high hardness steel (UH-CT) Chipping occurred in 8th tapping with N-CT. 60 hole tappings were obtained with UH-CT.

Note: It is necessary to change the drill much earlier because the damage on the edge of drill is larger when drilling high hardness steels.

*Bored hole in this test was prepared by using a carbide drill under such condition as could cause no work-hardening (cutting speed 6m/min, feed 0.04mm/rev.).

(Tapping Torque)

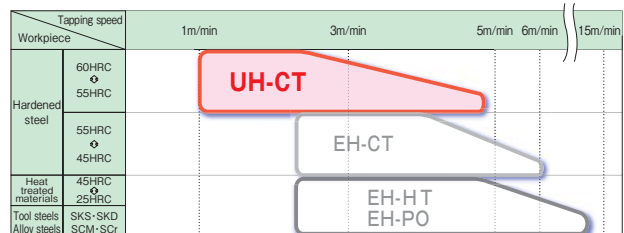


Upper graph shows the relation between the number of tapped holes and the load meter data of the machine on the tapping test up to 60 holes with UH-CT tap. Percentage of load meter figure tends to increase after tapping 50 holes. This means from this cutting area the damage on the tool's cutting edge becomes larger rapidly. If we continue tapping further from this area, we might have tap breakage. It is important to pay special attention to the number of tapping holes (tool life) from the view point of safety when tapping high hardness steel materials.

Recommended bored hole size (for reference)

Size	Recommended bored hole size	Minor dia. of ISO 6H class internal thread		Size	Recommended bored hole size	Minor dia. of ISO 6H class internal thread	
		Max.	Min.			Max.	Min.
M2 X0.4	1.65	1.679	1.567	M12X1.25	10.9	10.912	10.647
M2.5X0.45	2.1	2.138	2.013	M14X2	12.2	12.210	11.835
M2.6X0.45	2.2	2.238	2.113	M14X1.5	12.6	12.676	12.376
M3 X0.5	2.55	2.599	2.459	M16X2	14.2	14.210	13.835
M4 X0.7	3.4	3.422	3.242	M16X1.5	14.6	14.676	14.376
M5 X0.8	4.3	4.334	4.134	M18X2.5	15.7	15.744	15.294
M6 X1	5.1	5.153	4.917	M18X1.5	16.6	16.676	16.376
M8 X1.25	6.9	6.912	6.647	M20X2.5	17.7	17.744	17.294
M10X1.5	8.6	8.676	8.376	M20X1.5	18.6	18.676	18.376
M10X1.25	8.9	8.912	8.647				
M12X1.75	10.4	10.441	10.106				
M12X1.5	10.6	10.676	10.376				

Application



*Please use feedrate/rotation synchronized tapping attachments for UH-CT/EH-CT.

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

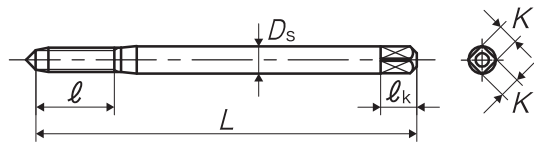
Center Drills

Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	D _s	K	ℓ _k

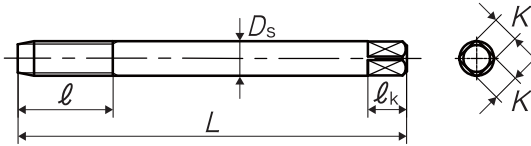
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YAMAWA



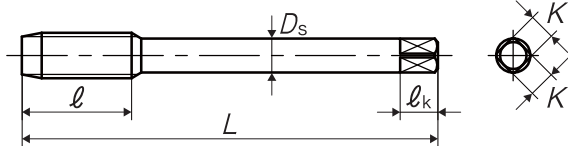
TYPE:2

YAMAWA



TYPE:3

DIN376



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads											
M3 × 0.5	IS02X	TD3.0GBBWA5	5P	56	11	3.5	2.7	6	4	1	●
M4 × 0.7	IS02X	TD4.0IBBWA5	5P	63	13	4.5	3.4	6	4	1	●
M5 × 0.8	IS02X	TD5.0KBBWA5	5P	70	16	6	4.9	8	4	1	●
M6 × 1	IS02X	TD6.0MBBWA5	5P	80	19	6	4.9	8	5	1	●
M8 × 1.25	IS02X	TD8.0NBBWA5	5P	90	22	8	6.2	9	5	2	●
M10 × 1.5	IS02X	TD10.0BBWA5	5P	100	24	10	8	11	5	2	●
M12 × 1.75	IS02X	TG012PBBWA5	5P	110	29	9	7	10	5	3	●
M14 × 2	IS02X	TG014QBBWA5	5P	110	30	11	9	12	6	3	●
M16 × 2	IS02X	TG016QBBWA5	5P	110	32	12	9	12	6	3	●
M18 × 2.5	IS02X	TG018RBBWA5	5P	125	34	14	11	14	6	3	●
M20 × 2.5	IS02X	TG020RBBWA5	5P	140	34	16	12	15	6	3	●

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

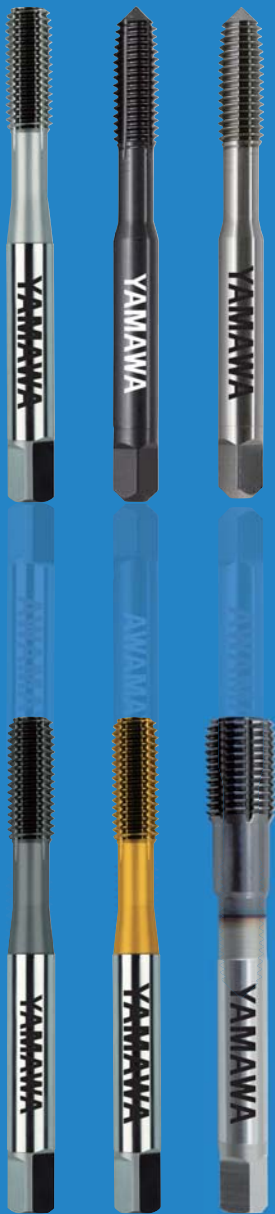
Centering Tools

MEMO

Horizontal solid line at the top, followed by 20 horizontal dashed lines for writing, and a horizontal solid line at the bottom.

DIN LINE UP

ROLL TAP SERIES



R-D

R0-1

R-D (Coating)

R0-2, R0-3

N+RS/N-RS

R0-4

N+RZ/N-RZ

R0-5

OL+RZ

R0-6

HP+RZ/HP-RZ

R0-7

MHRZ

R0-9

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

R-D

Thread Forming Taps for Soft Structural Steel Sheets

Specification

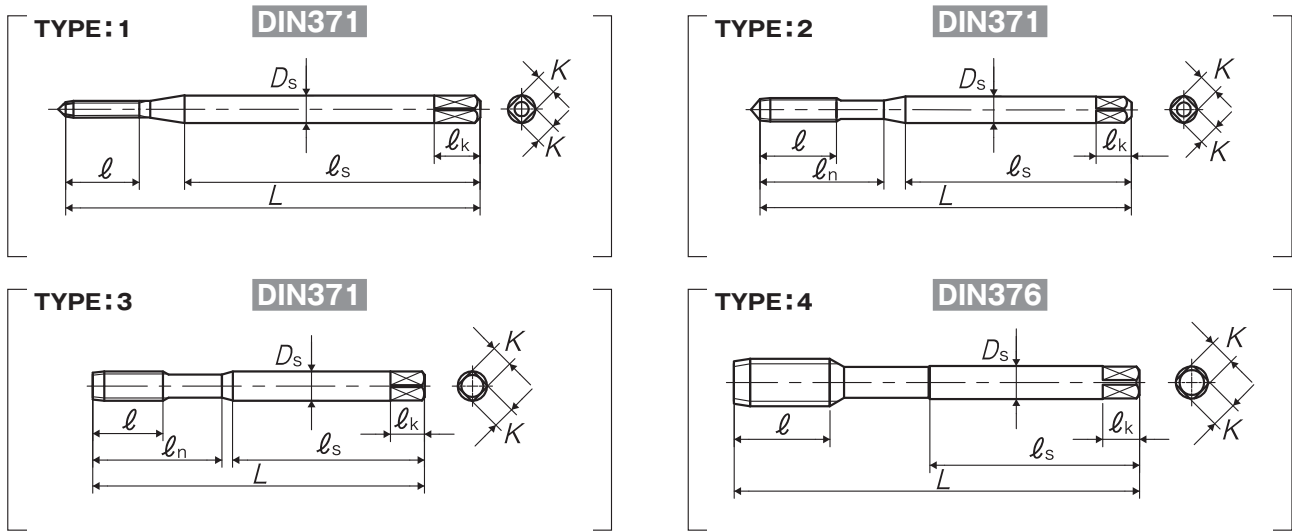


■ R-D is the forming tap suitable for steel materials.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel
ISO P1
5~15
(m/min)

For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	Type	Stock
For Metric Threads													
M2 × 0.4	ISO2X	RD2.0EBNEBB	2P	45	8	-	32	2.8	2.1	5	4	1	●
M2.5 × 0.45	ISO2X	RD2.5FBNEBB	2P	50	8	15	33	2.8	2.1	5	4	2	●
M3 × 0.5	ISO2X	RD3.0GBNEBB	2P	56	9	18	34	3.5	2.7	6	4	2	●
M3.5 × 0.6	ISO2X	RD3.5HBNEBB	2P	56	11	20	32	4	3	6	4	2	
M4 × 0.7	ISO2X	RD4.0IBNEBB	2P	63	13	21	38	4.5	3.4	6	4	2	●
M5 × 0.8	ISO2X	RD5.0KBNEBB	2P	70	14	25	39	6	4.9	8	4	2	●
M6 × 1	ISO2X	RD6.0MBNEBB	2P	80	15	30	45	6	4.9	8	4	2	●
M8 × 1.25	ISO2X	RD8.0NBNEBB	2P	90	19	35	47	8	6.2	9	6	3	●
M10 × 1.5	ISO2X	RD10.0BNEBB	2P	100	23	39	52	10	8	11	8	3	●
M12 × 1.75	ISO2X	RG012PBNEBB	2P	110	26	-	56	9	7	10	8	4	●
M14 × 2	ISO2X	RG014QBNEBB	2P	110	26	-	56	11	9	12	8	4	●
M16 × 2	ISO2X	RG016QBNEBB	2P	110	26	-	56	12	9	12	8	4	●
For G Threads													
G1/8-28	-	RVG0026NEBB	2P	90	19	-	46	7	5.5	8	8	4	●
G1/4-19	-	RVG0047NEBB	2P	100	21	-	51	11	9	12	8	4	●
G3/8-19	-	RVG0067NEBB	2P	100	21	-	51	12	9	12	8	4	●

Number of oil grooves : M2.5 and smaller = non, M3~M6 = 4, M8 = 3, M10 and larger = 4
Taps for M6 and smaller : External centers on thread end are removed.

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

R-D(Coating)



Thread Forming Taps for Soft Structural Steel Sheets, Coated

Specification

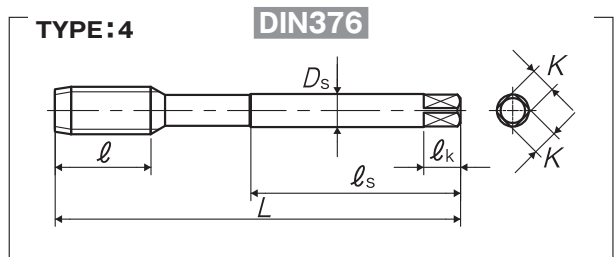
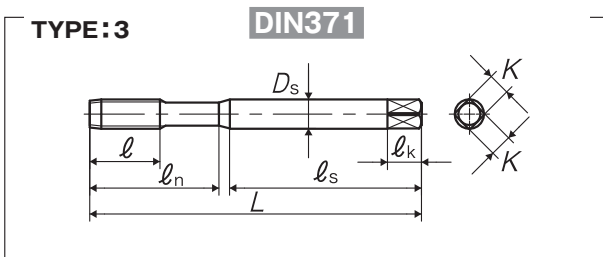
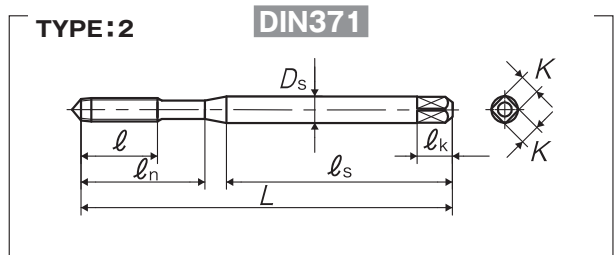
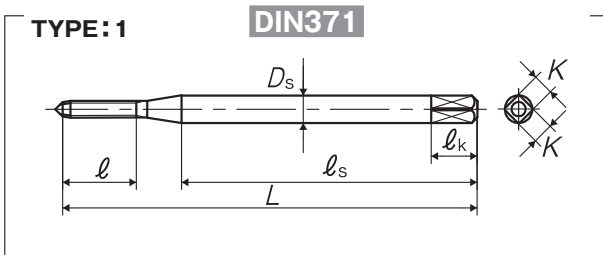


■R-D is the forming tap suitable for steel materials.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel
ISO P1
10~20
(m/min)

For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	K (mm)	l _k (mm)	Lobe	Type	Stock
For Metric Threads													
M2 × 0.4	IS02X	93532.0BTI	2P	45	8	-	32	2.8	2.1	5	4	1	●
M2.5 × 0.45	IS02X	93532.5BTI	2P	50	8	15	33	2.8	2.1	5	4	2	●
M3 × 0.5	IS02X	93533.0BTI	2P	56	9	18	34	3.5	2.7	6	4	2	●
M3.5 × 0.6	IS02X	93533.5BTI	2P	56	11	20	32	4	3	6	4	2	
M4 × 0.7	IS02X	93534.0BTI	2P	63	13	21	38	4.5	3.4	6	4	2	●
M5 × 0.8	IS02X	93535.0BTI	2P	70	14	25	39	6	4.9	8	4	2	●
M6 × 1	IS02X	93536.0BTI	2P	80	15	30	45	6	4.9	8	4	2	●
M8 × 1.25	IS02X	93538.0BTI	2P	90	19	35	47	8	6.2	9	6	3	●
M10 × 1.5	IS02X	9353010BTI	2P	100	23	39	52	10	8	11	8	3	●
M12 × 1.75	IS02X	9353012BTI	2P	110	26	-	56	9	7	10	8	4	●
M14 × 2	IS02X	9353014BTI	2P	110	26	-	56	11	9	12	8	4	●
M16 × 2	IS02X	9353016BTI	2P	110	26	-	56	12	9	12	8	4	●
For G Threads													
G1/8-28	-	9953R02TI	2P	90	19	-	46	7	5.5	8	8	4	●
G1/4-19	-	9953R04TI	2P	100	21	-	51	11	9	12	8	4	●
G3/8-19	-	9953R06TI	2P	100	21	-	51	12	9	12	8	4	●

Number of oil grooves : M2.5 and smaller = non, M3~M6 = 4, M8 = 3, M10 and larger = 4
Taps for M6 and smaller : External centers on thread end are removed.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

R-D(Coating)



Thread Forming Taps for Soft Structural Steel Sheets, Coated

Specification

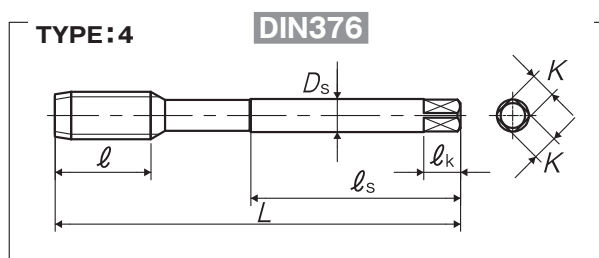
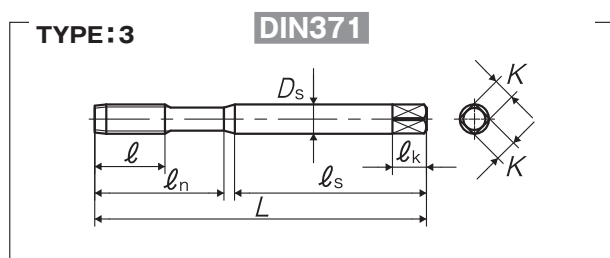
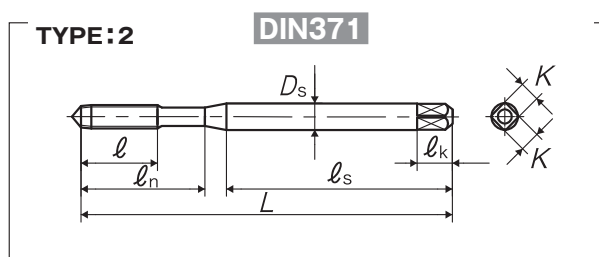
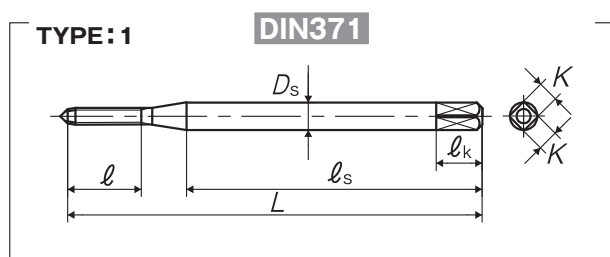


■ R-D is the forming tap suitable for steel materials.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel
ISO P1
10~20
(m/min)

For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	Lobe	Type	Stock
For Metric Threads													
M2 × 0.4	IS02X	93532.0BTC	2P	45	8	-	32	2.8	2.1	5	4	1	
M2.5 × 0.45	IS02X	93532.5BTC	2P	50	8	15	33	2.8	2.1	5	4	2	
M3 × 0.5	IS02X	93533.0BTC	2P	56	9	18	34	3.5	2.7	6	4	2	
M3.5 × 0.6	IS02X	93533.5BTC	2P	56	11	20	32	4	3	6	4	2	
M4 × 0.7	IS02X	93534.0BTC	2P	63	13	21	38	4.5	3.4	6	4	2	
M5 × 0.8	IS02X	93535.0BTC	2P	70	14	25	39	6	4.9	8	4	2	
M6 × 1	IS02X	93536.0BTC	2P	80	15	30	45	6	4.9	8	4	2	
M8 × 1.25	IS02X	93538.0BTC	2P	90	19	35	47	8	6.2	9	6	3	
M10 × 1.5	IS02X	9353010BTC	2P	100	23	39	52	10	8	11	8	3	
M12 × 1.75	IS02X	9353012BTC	2P	110	26	-	56	9	7	10	8	4	
M14 × 2	IS02X	9353014BTC	2P	110	26	-	56	11	9	12	8	4	
M16 × 2	IS02X	9353016BTC	2P	110	26	-	56	12	9	12	8	4	

Number of oil grooves : M2.5 and smaller = non, M3~M6 = 4, M8 = 3, M10 and larger = 4

Taps for M6 and smaller : External centers on thread end are removed.

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

N+RS/N-RS



Thread Forming Taps for Non-Ferrous Materials

Specification



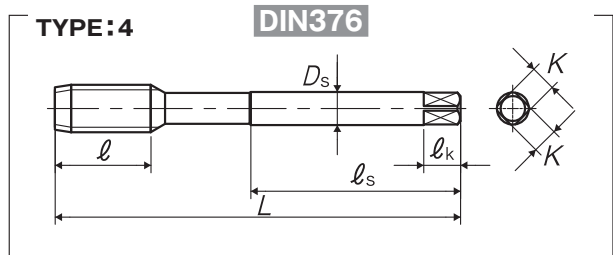
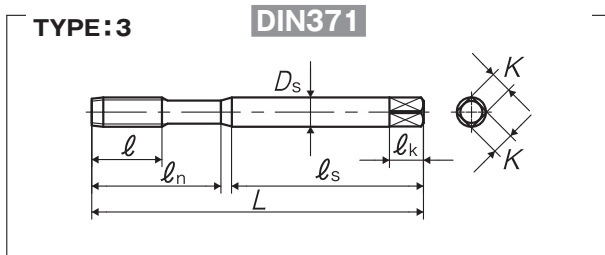
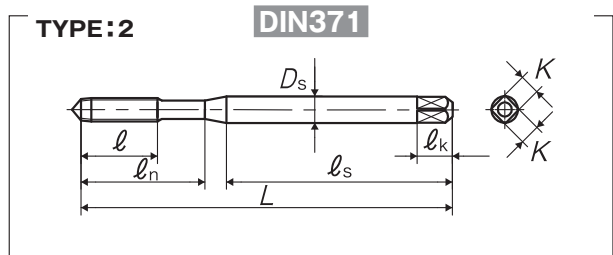
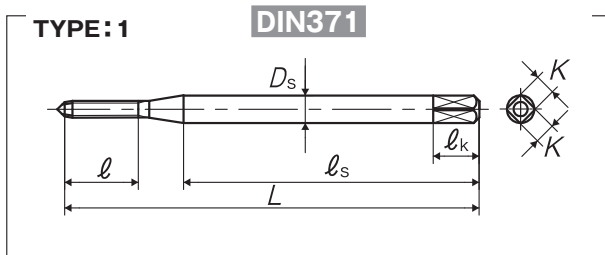
■N+RS/N-RS is the forming tap suitable for non-ferrous materials such as aluminum castings, aluminum die castings and brass.

Recommended Tapping Speeds depending on Materials

Aluminum alloy (<12% Si) ISO N1 5~15 (m/min)	Aluminum alloy (>12% Si) ISO N2 5~15 (m/min)
---	---

N+RS	~ M6
N-RS	M8 ~

For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	Type	Stock
For Metric Threads													
M2 × 0.4	IS02X	RE2.0EBKENB	2P	45	8	-	32	2.8	2.1	5	4	1	●
M2.3 × 0.4	IS02X	RE2.3EBKENB	2P	45	9	-	32	2.8	2.1	5	4	1	
M2.5 × 0.45	IS02X	RE2.5FBKENB	2P	50	8	15	33	2.8	2.1	5	4	2	●
M3 × 0.5	IS02X	RE3.0GBKENB	2P	56	9	18	34	3.5	2.7	6	4	2	●
M4 × 0.7	IS02X	RE4.0IBKENB	2P	63	13	21	38	4.5	3.4	6	4	2	●
M5 × 0.8	IS02X	RE5.0KBKENB	2P	70	14	25	39	6	4.9	8	4	2	●
M6 × 1	IS02X	RE6.0MBKENB	2P	80	15	30	45	6	4.9	8	4	2	●
M8 × 1.25	IS02X	RD8.0NBKENB	2P	90	19	35	47	8	6.2	9	6	3	●
M10 × 1.5	IS02X	RD10.0OBKENB	2P	100	23	39	52	10	8	11	6	3	●
M12 × 1.75	IS02X	RG012PBKENB	2P	110	26	-	56	9	7	10	6	4	

Number of oil grooves : M2.5 and smaller = non, M3 and larger = 1

Taps for M6 and smaller : External centers on thread end are removed.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

N+RZ/N-RZ

Thread Forming Taps for Steels
Specification



Recommended Tapping Speeds depending on Materials

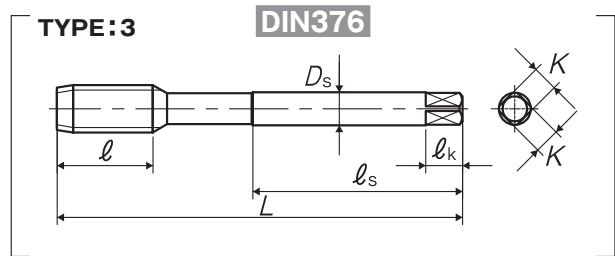
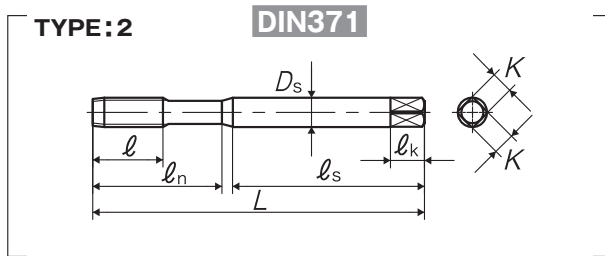
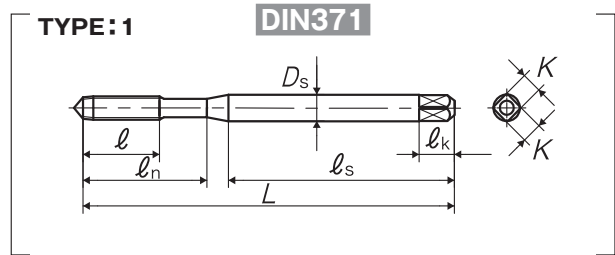
Free cutting and structural steel ISO P1 5~15 (m/min)	Carbon steel and low alloy steel ISO P2 5~15 (m/min)
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For icon explanation, refer to P.50



■ N+RZ/N-RZ is the forming tap suitable for steel materials such as carbon steels, alloy steels, and stainless steels.

N+RZ	~M6
N-RZ	M8~



Segment: 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	RE3.0GBHEXB	2P	56	9	18	34	3.5	2.7	6	4	1	●
M3.5 × 0.6	IS02X	RE3.5HBHEXB	2P	56	11	20	32	4	3	6	4	1	
M4 × 0.7	IS02X	RE4.0IBHEXB	2P	63	13	21	38	4.5	3.4	6	4	1	●
M5 × 0.8	IS02X	RE5.0KBHEXB	2P	70	14	25	39	6	4.9	8	4	1	●
M6 × 1	IS02X	RE6.0MBHEXB	2P	80	15	30	45	6	4.9	8	4	1	●
M8 × 1.25	IS02X	RD8.0NBHEXB	2P	90	19	35	47	8	6.2	9	6	2	●
M10 × 1.5	IS02X	RD0100BHEXB	2P	100	23	39	52	10	8	11	8	2	●
M12 × 1.75	IS02X	RG012PBHEXB	2P	110	26	-	56	9	7	10	8	3	
M16 × 2	IS02X	RG016QBHEXB	2P	110	26	-	56	12	9	12	8	3	

Number of oil grooves : M3~M6 = 4, M8 = 3, M10 and larger = 4

Taps for M6 and smaller : External centers on thread end are removed.

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

OL+RZ

Thread Forming Taps for Dry Tapping, Coated

Specification

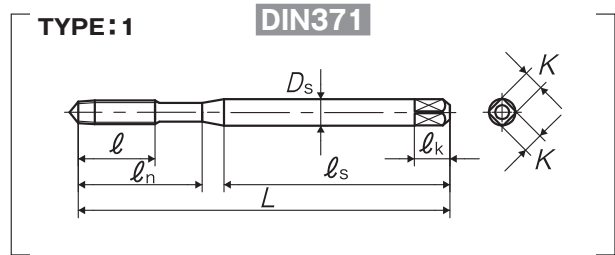


■OL+RZ is the forming taps enabling dry tapping under following condition : tapping sizes of smaller than M6, thin steel sheets having burring operation, and steel parts with rather short length. Optimum coating suitable to the tapping condition.

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 15~30 (m/min)	Carbon steel and low alloy steel ISO P2 15~30 (m/min)	Medium alloy steel and heat treated steel ISO P3 15~25 (m/min)	High alloy steel ISO P4 15~25 (m/min)	Ferritic and austenitic stainless steel ISO M1~M3 10~25 (m/min)
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For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
For Metric Threads													
M3 × 0.5	IS02X	RE3.0GBHPTP	4P	56	9	18	34	3.5	2.7	6	4	1	
M4 × 0.7	IS02X	RE4.0IBHPTP	4P	63	13	21	38	4.5	3.4	6	4	1	
M5 × 0.8	IS02X	RE5.0KBHPTP	4P	70	14	25	39	6	4.9	8	4	1	
M6 × 1	IS02X	RE6.0MBHPTP	4P	80	15	30	45	6	4.9	8	4	1	

Number of oil grooves : non

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HP+RZ/HP-RZ



High Performance Thread Forming Taps, Coated

Specification



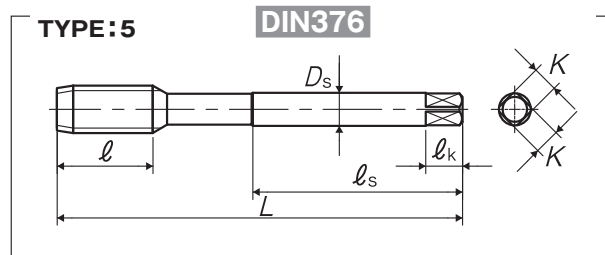
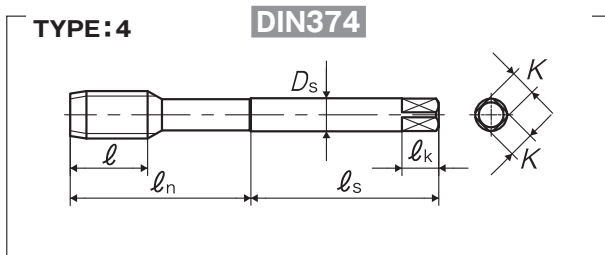
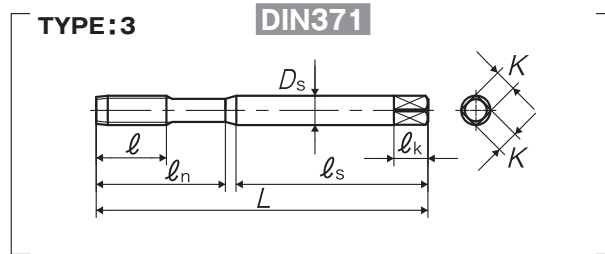
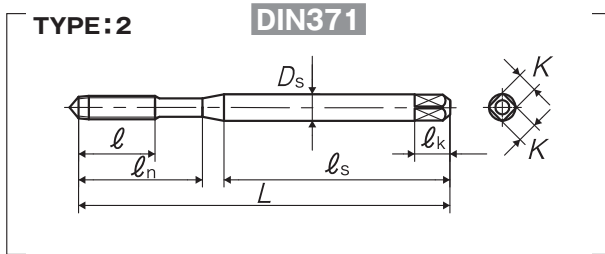
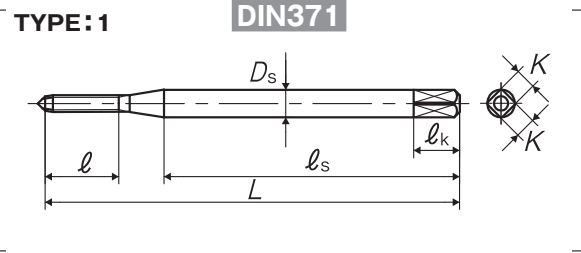
■ HP+RZ/HP-RZ is the forming tap suitable for steels (lower than 35HRC) and light alloys, and applicable to the high speed tapping. Optimum coating suitable to the tapping condition.

HP+RZ	~ M6
HP-RZ	M8 ~

Recommended Tapping Speeds depending on Materials

Free cutting and structural steel ISO P1 15~30 (m/min)	Carbon steel and low alloy steel ISO P2 15~30 (m/min)	Medium alloy steel and heat treated steel ISO P3 15~25 (m/min)	High alloy steel ISO P4 15~25 (m/min)	Ferritic and austenitic stainless steel ISO M1~M3 10~25 (m/min)
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For icon explanation, refer to P.50



Oversize
Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
For Metric Threads													
M2 × 0.4	ISO2X	RE2.0EBFPTB	2P	45	8	-	32	2.8	2.1	5	4	1	●
	ISO3X	RE2.0ENFPTB	2P	45	8	-	32	2.8	2.1	5	4	1	●
M2.5 × 0.45	ISO2X	RE2.5FBFPTB	2P	50	8	15	33	2.8	2.1	5	4	2	●
	ISO3X	RE2.5FNFPTB	2P	50	8	15	33	2.8	2.1	5	4	2	●
M3 × 0.5	ISO2X	RE3.0GBFPTB	2P	56	9	18	34	3.5	2.7	6	4	2	●
	ISO3X	RE3.0GNFPTB	2P	56	9	18	34	3.5	2.7	6	4	2	●
M4 × 0.7	ISO2X	RE4.0IBFPTB	2P	63	13	21	38	4.5	3.4	6	4	2	●
	ISO3X	RE4.0INFPTB	2P	63	13	21	38	4.5	3.4	6	4	2	●
M5 × 0.8	ISO2X	RE5.0KBFPTB	2P	70	14	25	39	6	4.9	8	4	2	●
	ISO3X	RE5.0KNFPTB	2P	70	14	25	39	6	4.9	8	4	2	●
M6 × 1	ISO2X	RE6.0MBFPTB	2P	80	15	30	45	6	4.9	8	4	2	●
	ISO3X	RE6.0MNFPTB	2P	80	15	30	45	6	4.9	8	4	2	●
M8 × 1.25	ISO2X	RD8.0NBFPTB	2P	90	19	35	47	8	6.2	9	6	3	●
	ISO3X	RD8.0NNFPTB	2P	90	19	35	47	8	6.2	9	6	3	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HP+RZ/HP-RZ High Performance Thread Forming Taps, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M10 × 1.5	IS02X	RD0100BFPTB	2P	100	23	39	52	10	8	11	8	3	●
	IS03X	RD0100NFPTB	2P	100	23	39	52	10	8	11	8	3	●
M10 × 1.25	IS02X	RM010NBFPTB	2P	100	23	-	51	7	5.5	8	8	4	●
M12 × 1.75	IS02X	RG012PBFPTB	2P	110	26	-	56	9	7	10	8	5	●
	IS03X	RG012PNFPTB	2P	110	26	-	56	9	7	10	8	5	●
M12 × 1.5	IS02X	RM0120BFPTB	2P	100	21	-	51	9	7	10	8	4	●
M12 × 1.25	IS02X	RM012NBFPTB	2P	100	21	-	51	9	7	10	8	4	●
M14 × 2	IS02X	RG014QBFPTB	2P	110	26	-	56	11	9	12	8	5	●
M14 × 1.5	IS02X	RM0140BFPTB	2P	100	21	-	51	11	9	12	8	4	●
M16 × 2	IS02X	RG016QBFPTB	2P	110	26	-	56	12	9	12	8	5	●
M16 × 1.5	IS02X	RM0160BFPTB	2P	100	21	-	51	12	9	12	8	4	●

Number of oil grooves : M2.5 and smaller = non, M3~M6 = 2, M8 = 3, M10 and larger = 4

Taps for M6 and smaller : External centers on thread end are removed.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

MHRZ



Roll Taps for Carbon Steels of Middle Hardness

Specification



Recommended Tapping Speeds depending on Materials

Medium alloy steel and heat treated steel ISO P3 10~30 (m/min)	High alloy steel ISO P4 10~30 (m/min)	Tool steel ISO P5 10~20 (m/min)
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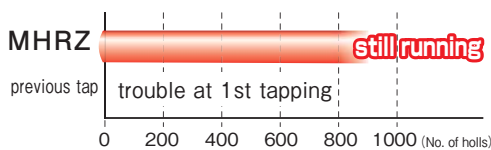
For icon explanation, refer to P.50

Product features

- Due to Yamawa's proprietary design, the tapping torque decreases.
- With a combination of wear-resistant tool material and a unique coating, the tool's durability improves tremendously.
- Consistent tapping of Heat treated steels (~35HRC) is ensured.
- Tapping with water soluble tapping fluid is possible.

Tapping data

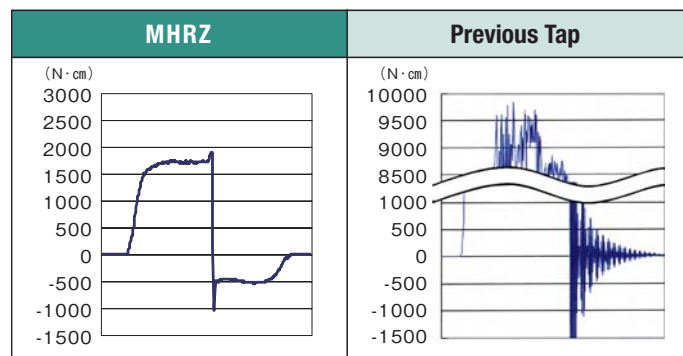
Tapping result (number of holes)



Tapping condition [M12×1.5]

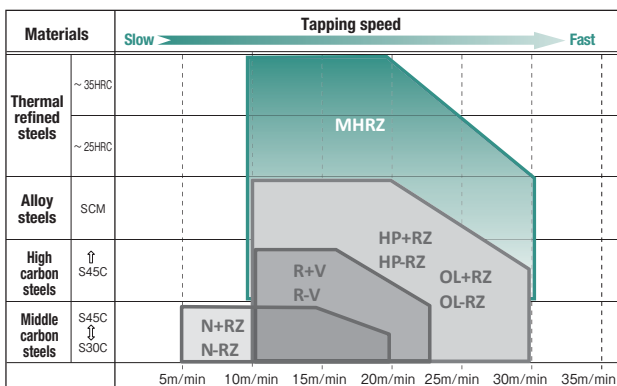
Work material	42 CrMo 4 (Heat treated steels) / 35HRC
Tapping speed	20m/min
Hole size	φ11.3mm
Tapping length	18mm, through hole
Machine	MC (Synchronous feed)
Tapping fluid	Water soluble oil

Comparison of tapping torque

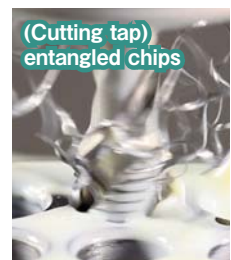


Consistent tapping in 42 CrMo 4 (Heat treated steels) at 35HRC becomes possible. Before the MHRZ, this material was thought to be difficult for thread forming.

Application

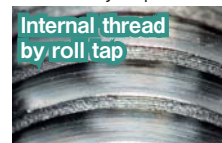


No more worries!!



(Cutting tap) entangled chips

◆ By adopting roll taps, the worries about the problems caused by chips are completely solved.



Internal thread by roll tap

Internal thread by cutting tap

◆ A great improvement in surface finish of internal threads

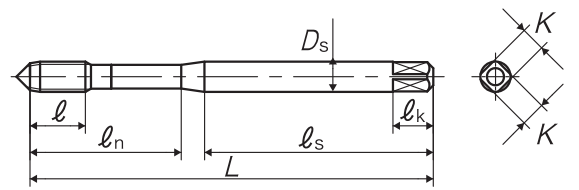


Obtainable from Video site shown in right

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	ℓ_s	D_s	K	ℓ_k

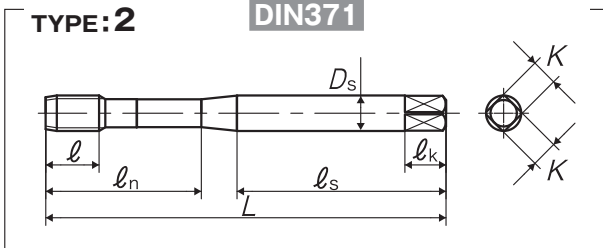
TYPE: 1

DIN371



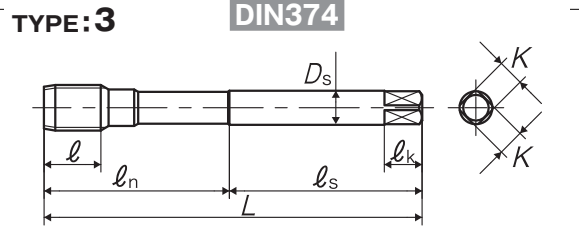
TYPE: 2

DIN371



TYPE: 3

DIN374



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	Type	Stock
For Metric Threads													
M6 × 1	IS02X	RD6.0MBOCTP	4P	80	11	30	45	6	4.9	8	5	1	●
		RD6.0MBOCTB	2P										
M8 × 1.25	IS02X	RD8.0NBOCTP	4P	90	12	35	47	8	6.2	9	6	2	●
		RD8.0NBOCTB	2P										
M10 × 1.5	IS02X	RD0100BOCTP	4P	100	13	39	52	10	8	11	8	2	●
		RD0100BOCTB	2P										
M10 × 1.25	IS02X	RM010NBOCTP	4P	100	13	-	51	7	6.2	9	8	3	●
		RM010NBOCTB	2P										
M12 × 1.5	IS02X	RM0120BOCTP	4P	100	15	-	51	9	7	10	8	3	●
		RM0120BOCTB	2P										
M12 × 1.25	IS02X	RM012NBOCTP	4P	100	15	-	51	9	7	10	8	3	●
		RM012NBOCTB	2P										
M14 × 1.5	IS02X	RM0140BOCTP	4P	100	14	-	51	11	9	12	8	3	●
		RM0140BOCTB	2P										

Number of oil grooves : M6 = 5, M8 = 6, M10 and larger = 8

Taps with 2 thread chamfer M6 and smaller : External centers on thread end are removed.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

DIN LINE UP

Dies



DPO

Di-1

DPO

HSS Spiral Pointed Dies

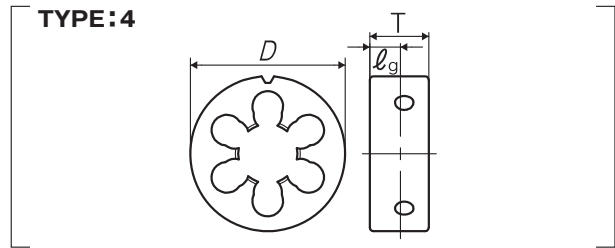
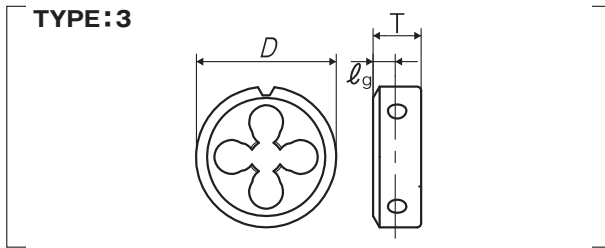
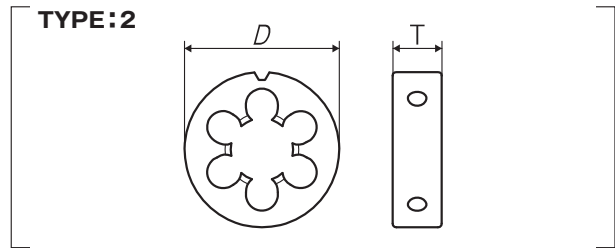
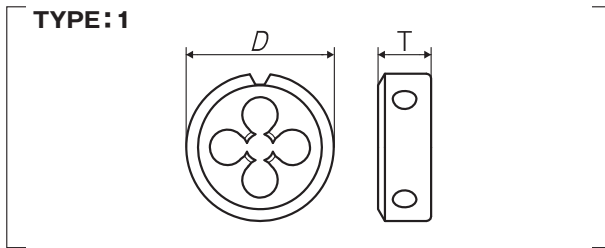
Specification



For icon explanation, refer to P.50



- Due to the effect of spiral pointed flutes, DPO pushes out chips toward the cutting direction and reduces the troubles caused by chips.
- DPO due to its design can be used one side only.
- DPO combined with YAMAWA RD-DA die holder (P.315 or 636) can be easily applied on machining center.



Segment : 32, 33

Size	Class	Code	D (mm)	T (mm)	Clearance Holes	Type	Stock
For Metric threads							
M1 × 0.25	6g	PDD1.0BLNEBC	16	5	3	1	
M1.1 × 0.25	6g	PDD1.1BLNEBC	16	5	3	1	
M1.2 × 0.25	6g	PDD1.2BLNEBC	16	5	3	1	
M1.4 × 0.3	6g	PDD1.4CLNEBC	16	5	3	1	
M1.6 × 0.35	6g	PDD1.6DLNEBC	16	5	3	1	●
M1.7 × 0.35	6g	PDD1.7DLNEBC	16	5	3	1	
M1.8 × 0.35	6g	PDD1.8DLNEBC	16	5	3	1	
M2 × 0.4	6g	PDD2.0ELNEBC	16	5	3	1	●
M2 × 0.25	6g	PDD2.0BLNEBC	16	5	3	1	
M2.2 × 0.45	6g	PDD2.2FLNEBC	16	5	3	1	
M2.3 × 0.4	6g	PDD2.3ELNEBC	16	5	3	1	
M2.5 × 0.45	6g	PDD2.5FLNEBC	16	5	3	1	●
M2.5 × 0.35	6g	PDD2.5DLNEBC	16	5	3	1	
M2.6 × 0.45	6g	PDD2.6FLNEBC	16	5	3	1	
M3 × 0.5	6g	PDE3.0GLNEBC	20	5	3	1	●
M3 × 0.35	6g	PDE3.0DLNEBC	20	5	3	1	
M3.5 × 0.6	6g	PDE3.5HLNEBC	20	5	3	1	
M4 × 0.7	6g	PDE4.0ILNEBC	20	5	3	1	●
M4 × 0.5	6g	PDE4.0GLNEBC	20	5	3	1	

Outside diameter	Thickness
D	T

DPO HSS Spiral Pointed Dies

Size	Class	Code	D (mm)	T (mm)	Clearance Holes	Type	Stock
M5 × 0.8	6g	PDE5.0KLNEBC	20	7	4	1	●
M5 × 0.5	6g	PDE5.0GLNEBC	20	5	4	1	
M6 × 1	6g	PDE6.0MLNEBC	20	7	4	1	●
M6 × 0.75	6g	PDE6.0JLNEBC	20	7	4	1	
M6 × 0.5	6g	PDE6.0GLNEBC	20	5	4	1	
M7 × 1	6g	PDG7.0MLNEBC	25	9	4	1	●
M7 × 0.75	6g	PDG7.0JLNEBC	25	9	4	1	
M8 × 1.25	6g	PDG8.0NLNEBC	25	9	4	1	●
M8 × 1	6g	PDG8.0MLNEBC	25	9	4	1	●
M8 × 0.75	6g	PDG8.0JLNEBC	25	9	4	1	
M8 × 0.5	6g	PDG8.0GLNEBC	25	9	4	1	
M9 × 1.25	6g	PDG9.0NLNEBC	25	9	5	1	
M9 × 1	6g	PDG9.0MLNEBC	25	9	5	1	
M10 × 1.5	6g	PDH0100LNEBC	30	11	4	1	●
M10 × 1.25	6g	PDH010NLNEBC	30	11	4	1	●
M10 × 1	6g	PDH010MLNEBC	30	11	4	1	●
M10 × 0.75	6g	PDH010JLNEBC	30	11	4	1	
M10 × 0.5	6g	PDH010GLNEBC	30	11	4	1	
M11 × 1.5	6g	PDH0110LNEBC	30	11	5	1	
M12 × 1.75	6g	PDJ012PLNEBC	38	14	4	1	●
M12 × 1.5	6g	PDJ0120LNEBC	38	10	4	1	●
M12 × 1.25	6g	PDJ012NLNEBC	38	10	4	1	●
M12 × 1	6g	PDJ012MLNEBC	38	10	4	1	●
M12 × 0.75	6g	PDJ012JLNEBC	38	10	4	1	
M12 × 0.5	6g	PDJ012GLNEBC	38	10	4	1	
M14 × 2	6g	PDJ014QLNEBC	38	14	5	1	●
M14 × 1.5	6g	PDJ0140LNEBC	38	10	5	1	●
M14 × 1.25	6g	PDJ014NLNEBC	38	10	5	1	●
M14 × 1	6g	PDJ014MLNEBC	38	10	5	1	
M15 × 1.5	6g	PDJ0150LNEBC	38	10	5	1	
M16 × 2	6g	PDL016QLNEBC	45	18	5	1	●
M16 × 1.5	6g	PDL0160LNEBC	45	14	5	1	●
M16 × 1	6g	PDL016MLNEBC	45	14	5	1	
M18 × 2.5	6g	PDL018RLNEBC	45	18	5	1	●
M18 × 2	6g	PDL018QLNEBC	45	14	5	1	
M18 × 1.5	6g	PDL0180LNEBC	45	14	5	1	●
M18 × 1	6g	PDL018MLNEBC	45	14	5	1	
M20 × 2.5	6g	PDL020RLNEBC	45	18	5	1	●
M20 × 2	6g	PDL020QLNEBC	45	14	5	1	
M20 × 1.5	6g	PDL0200LNEBC	45	14	5	1	●
M20 × 1	6g	PDL020MLNEBC	45	14	5	1	
M22 × 2.5	6g	PDP022RLNEBC	55	22	5	1	●
M22 × 2	6g	PDP022QLNEBC	55	16	5	1	
M22 × 1.5	6g	PDP0220LNEBC	55	16	5	1	●
M22 × 1	6g	PDP022MLNEBC	55	16	5	1	
M24 × 3	6g	PDP024SLNEBC	55	22	5	1	●
M24 × 2	6g	PDP024QLNEBC	55	16	5	1	●
M24 × 1.5	6g	PDP0240LNEBC	55	16	5	1	●
M24 × 1	6g	PDP024MLNEBC	55	16	5	1	
M26 × 1.5	6g	PDP0260LNEBC	55	16	6	1	

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

DPO HSS Spiral Pointed Dies

Size	Class	Code	D (mm)	T (mm)	Clearance Holes	Type	Stock
M27 × 3	6g	PDS027SLNEBC	65	25	6	2	●
M27 × 2	6g	PDS027QLNEBC	65	18	6	2	
M27 × 1.5	6g	PDS0270LNEBC	65	18	6	2	
M27 × 1	6g	PDS027MLNEBC	65	18	6	2	
M28 × 2	6g	PDS028QLNEBC	65	18	6	2	
M28 × 1.5	6g	PDS0280LNEBC	65	18	6	2	
M30 × 3.5	6g	PDS030TLNEBC	65	25	6	2	●
M30 × 1.5	6g	PDS0300LNEBC	65	18	6	2	
M33 × 3.5	6g	PDS033TLNEBC	65	25	8	2	
M36 × 4	6g	PDS036ULNEBC	65	25	8	2	
Size	Class	Code	D (mm)	T (mm)	Clearance Holes	Type	Stock
For Unified Threads							
No.0-80UNF	2A	PDDUN0BGNEBC	16	5	3	1	
No.1-64UNC	2A	PDDUN1DGNEBC	16	5	3	1	
No.1-72UNF	2A	PDDUN1CGNEBC	16	5	3	1	
No.2-56UNC	2A	PDDUN2EGNEBC	16	5	3	1	
No.2-64UNF	2A	PDDUN2DGNEBC	16	5	3	1	
No.3-48UNC	2A	PDDUN3FGNEBC	16	5	3	1	
No.3-56UNF	2A	PDDUN3EGNEBC	16	5	3	1	
No.4-40UNC	2A	PDEUN4HGNEBC	20	5	3	1	
No.4-48UNF	2A	PDEUN4FGNEBC	20	5	3	1	
No.5-40UNC	2A	PDEUN5HGNEBC	20	5	3	1	
No.5-44UNF	2A	PDEUN5GGNEBC	20	5	3	1	
No.6-32UNC	2A	PDEUN6JGNEBC	20	7	3	1	
No.6-40UNF	2A	PDEUN6HGNEBC	20	5	3	1	
No.8-32UNC	2A	PDEUN8JGNEBC	20	7	3	1	
No.8-36UNF	2A	PDEUN8IGNEBC	20	7	3	1	
No.10-24UNC	2A	PDEUNAMGNEBC	20	7	4	1	
No.10-32UNF	2A	PDEUNAJGNEBC	20	7	4	1	
No.12-24UNC	2A	PDEUNCMGNEBC	20	7	4	1	
No.12-28UNF	2A	PDEUNCKGNEBC	20	7	4	1	
1/4-20UNC	2A	PDGU04NGNEBC	25	9	4	1	
1/4-28UNF	2A	PDGU04KGNEBC	25	9	4	1	
5/16-18UNC	2A	PDGU050GNEBC	25	9	4	1	
5/16-24UNF	2A	PDGU05MGNEBC	25	9	4	1	
3/8-16UNC	2A	PDHU06PGNEBC	30	11	4	1	
3/8-24UNF	2A	PDHU06MGNEBC	30	11	4	1	
7/16-14UNC	2A	PDHU07QGNEBC	30	11	5	1	
7/16-20UNF	2A	PDHU07NGNEBC	30	11	5	1	
1/2-13UNC	2A	PDJU08RGNEBC	38	14	4	1	
1/2-20UNF	2A	PDJU08NGNEBC	38	10	4	1	
9/16-12UNC	2A	PDJU09SGNEBC	38	14	5	1	
9/16-18UNF	2A	PDJU090GNEBC	38	10	5	1	
5/8-11UNC	2A	PDLU10UGNEBC	45	18	5	1	
5/8-18UNF	2A	PDLU100GNEBC	45	14	5	1	
3/4-10UNC	2A	PDLU12VGNEBC	45	18	5	1	
3/4-16UNF	2A	PDLU12PGNEBC	45	14	5	1	

Outside diameter	Thickness	Position of basic dia
D	T	lg

DPO HSS Spiral Pointed Dies

Size	Class	Code	D (mm)	T (mm)	Clearance Holes	Type	Stock
7/8-9UNC	2A	PDPU14WGNEBC	55	22	5	1	
7/8-14UNF	2A	PDPU14QGNEBC	55	16	5	1	
1-8UNC	2A	PDPU16XGNEBC	55	22	5	1	
1-12UNF	2A	PDPU16SGNEBC	55	16	5	1	
For G Threads							
G1/8-28	-	PVHG0020NEBC	30	11	4	1	●
G1/4-19	-	PVJG0040NEBC	38	10	5	1	●
G3/8-19	-	PVLG0060NEBC	45	14	5	1	●
G1/2-14	-	PVLG0080NEBC	45	16	5	1	●
G5/8-14	-	PVPG0100NEBC	55	16	5	1	
G3/4-14	-	PVPG0120NEBC	55	16	6	1	●
G7/8-14	-	PVSG0140NEBC	65	18	6	2	
G1-11	-	PVSG0160NEBC	65	18	8	2	●
G1 1/4-11	-	PVUG0200NEBC	75	20	8	2	
G1 1/2-11	-	PVXG0240NEBC	90	22	8	2	

Size	Class	Code	D (mm)	T (mm)	lg (mm)	Clearance Holes	Type	Stock
For NPT Threads								
NPT1/8-27	-	PDJNT020NEBC	38	10	5	4	3	
NPT1/4-18	-	PDJNT040NEBC	38	15	8	5	3	
NPT3/8-18	-	PDLNT060NEBC	45	15	8	5	3	
NPT1/2-14	-	PDLNT080NEBC	45	19	10	6	3	
NPT3/4-14	-	PDSNT120NEBC	65	20	10	6	4	
NPT1-11.5	-	PDSNT160NEBC	65	25	12.5	8	4	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

DIN LINE UP

Center Drills



CD-A

CE-1

CD-R

CE-2

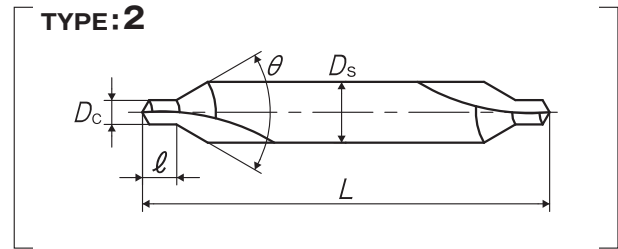
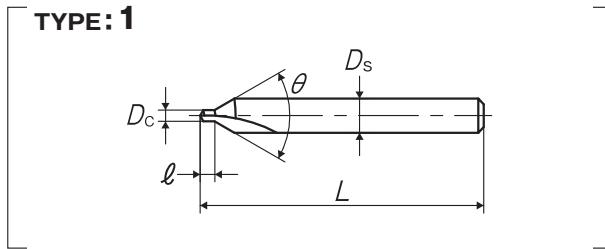
Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

CD-A

Low Helix Center Drills-Type A 60°
Specification

HSS

For icon explanation, refer to P.50



Segment : 1J

Size	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
For Metric threads						
0.5 × 60° × 3.15	00210.5	3.15	25	0.8	1	●
0.8 × 60° × 3.15	00210.8	3.15	25	1.1	1	
1 × 60° × 3.15	00211.0	3.15	31.5	1.3	2	●
1.25 × 60° × 3.15	00211.2	3.15	31.5	1.6	2	
1.6 × 60° × 4	00211.6	4	35.5	2	2	●
2 × 60° × 5	00212.0	5	40	2.5	2	●
2.5 × 60° × 6.3	00212.5	6.3	45	3.1	2	●
3.15 × 60° × 8	00213.1	8	50	3.9	2	●
4 × 60° × 10	00214.0	10	56	5	2	●
5 × 60° × 12.5	00215.0	12.5	63	6.3	2	●
6.3 × 60° × 16	00216.3	16	71	8	2	●
8 × 60° × 20	00218.0	20	80	10.1	2	●
10 × 60° × 25	0021010	25	100	12.8	2	●

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

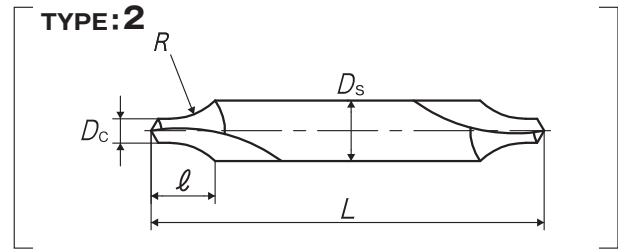
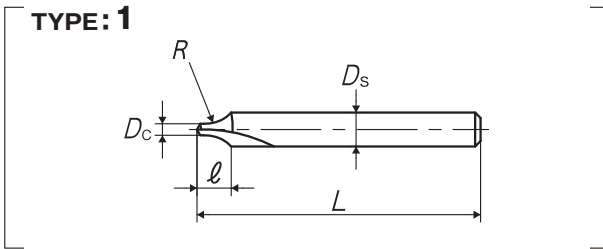
Drill dia.	Shank dia.	Overall length	Cut length	Rmax (mm)	Rmin (mm)
Dc	Ds	L	ℓ	-	-

CD-R

Low Helix Center Drills-Type R Specification

HSS

For icon explanation, refer to P.50



Segment : 1J

Size	Code	Ds (mm)	L (mm)	ℓ (mm)	Rmax (mm)	Rmin (mm)	Type	Stock
For Metric threads								
0.5 × R × 3.15	00230.5	3.15	25	2.12	1.6	1.25	1	
0.8 × R × 3.15	00230.8	3.15	25	2.65	2.5	2	1	
1 × R × 3.15	00231.0	3.15	31.5	3	3.15	2.5	2	
1.25 × R × 3.15	00231.2	3.15	31.5	3.35	4	3.15	2	
1.6 × R × 4	00231.6	4	35.5	4.25	5	4	2	
2 × R × 5	00232.0	5	40	5.3	6.3	5	2	●
2.5 × R × 6.3	00232.5	6.3	45	6.7	8	6.3	2	●
3.15 × R × 8	00233.1	8	50	8.5	10	8	2	●
4 × R × 10	00234.0	10	56	10.6	12.5	10	2	●
5 × R × 12.5	00235.0	12.5	63	13.2	16	12.5	2	●
6.3 × R × 16	00236.3	16	71	17	20	16	2	●
8 × R × 20	00238.0	20	80	21.2	25	20	2	
10 × R × 25	0023010	25	100	26.5	31.5	25	2	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

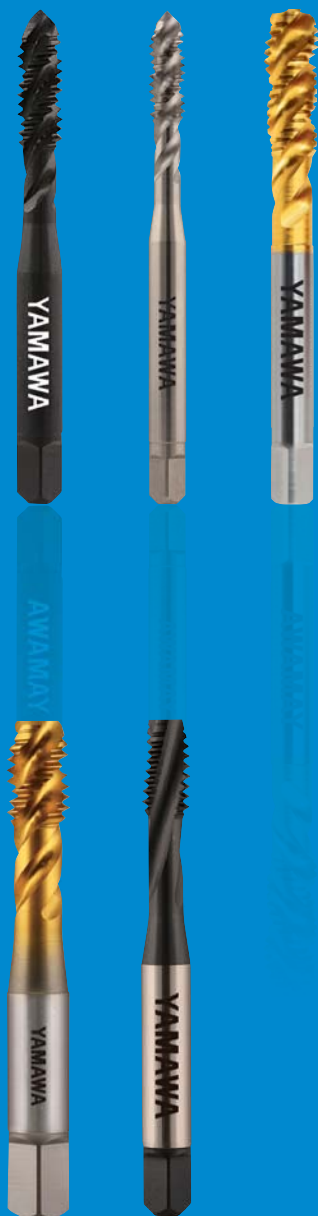
Dies

Center Drills

Centering Tools

ANSI LINE UP

SPIRAL FLUTED TAP SERIES FOR BLIND HOLE



<u>ISP</u>	<u>SP-1</u>	<u>ZELX AL SP</u>	<u>SP-18</u>
<u>SP</u>	<u>SP-2</u>	<u>ZELX ALS SP</u>	<u>SP-20</u>
<u>SP OX</u>	<u>SP-6</u>	<u>SP STI</u>	<u>SP-22</u>
<u>SP</u>	<u>SP-9</u>	<u>SP OX STI</u>	<u>SP-24</u>
<u>LO-SP</u>	<u>SP-10</u>	<u>ZELX TI SP</u>	<u>SP-26</u>
<u>AU+SP</u>	<u>SP-11</u>	<u>ZELX NI SP</u>	<u>SP-28</u>
<u>ZELX SS SP</u>	<u>SP-12</u>	<u>ZELX NI SP STI</u>	<u>SP-31</u>
<u>ZELX SS SP 6"</u>	<u>SP-17</u>	<u>ZELX FR</u>	<u>SP-33</u>

Spiral Fluted Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

ISP

Spiral Fluted Taps for General Purpose Specification



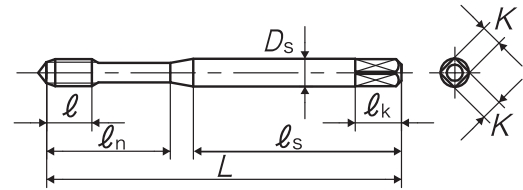
■ Suitable for low speed tapping of steels. For manual use and drilling machine use.

Recommended Tapping Speed depending on Materials

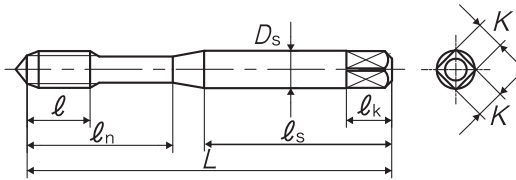
Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50

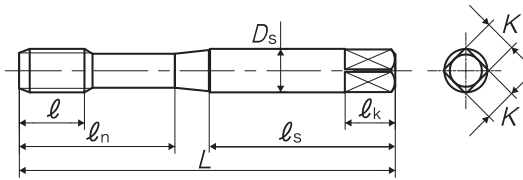
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Unified Threads												
No.6-32UNC	-	UAUN6JXHEX	2.5P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
No.8-32UNC	-	UAUN8JXHEX	2.5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
No.10-24UNC	-	UAUNAMXHEX	2.5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
1/4-20UNC	-	UAU04NXHEX	2.5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
5/16-18UNC	-	UAU050XHEX	2.5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	UAU06PXHEX	2.5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3
For Unified Threads (In blister package)												
No.6-32UNC	-	UAUN6JXHEXR	2.5P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
No.8-32UNC	-	UAUN8JXHEXR	2.5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
No.10-24UNC	-	UAUNAMXHEXR	2.5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
1/4-20UNC	-	UAU04NXHEXR	2.5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
5/16-18UNC	-	UAU050XHEXR	2.5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	UAU06PXHEXR	2.5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3

Blister Package



Centering Tools Center Drills Thread Mills Pipe Taps Simple Inspection Tools Roll Taps Carbide Taps Hand Taps Spiral Pointed Taps (for through hole) Spiral Fluted Taps (for through hole) Spiral Fluted Taps (for blind hole)

Centering Tools Center Drills Thread Mills Pipe Taps Simple Inspection Tools Roll Taps Carbide Taps Hand Taps Spiral Pointed Taps (for through hole) Spiral Fluted Taps (for through hole) Spiral Fluted Taps (for blind hole)

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP

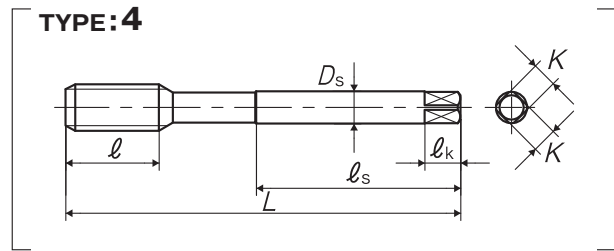
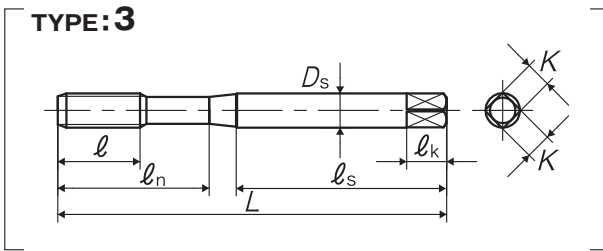
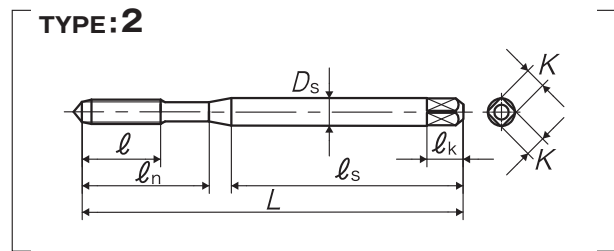
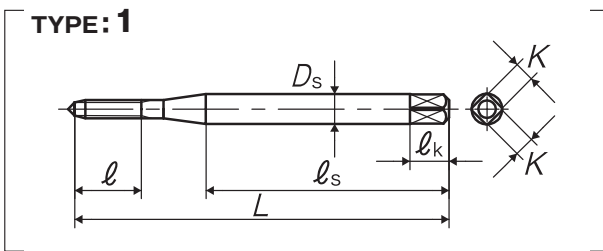
Spiral Fluted Taps Specification



Recommended Tapping Speed depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
For Unified Threads												
No.2-56UNC	GH1	SSUN2E1NEB	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
	GH2	SSUN2E2NEB										
No.2-64UNF	GH1	SSUN2D1NEB	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
	GH2	SSUN2D2NEB										
No.3-48UNC	GH1	SSUN3F1NEB	2.5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	2	2
	GH2	SSUN3F2NEB										
No.3-56UNF	GH1	SSUN3E1NEB	2.5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	2	2
	GH2	SSUN3E2NEB										
No.4-40UNC	GH1	SSUN4H1NEB	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
	GH2	SSUN4H2NEB										
No.4-48UNF	GH1	SSUN4F1NEB	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
	GH2	SSUN4F2NEB										
No.5-40UNC	GH1	SSUN5H1NEB	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH2	SSUN5H2NEB										
No.5-44UNF	GH1	SSUN5G1NEB	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH2	SSUN5G2NEB										
No.6-32UNC	GH1	SSUN6J1NEB	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
	GH2	SSUN6J2NEB										
	GH3	SSUN6J3NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
No.6-32UNC	GH4	SSUN6J4NEB	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
	GH1	SSUN6H1NEB										
No.6-40UNF	GH2	SSUN6H2NEB	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
	GH2	SSUN8J2NEB										
No.8-32UNC	GH2	SSUN8J2NEB	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
	GH3	SSUN8J3NEB										
No.8-36UNF	GH2	SSUN8I2NEB	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
	GH3	SSUN8I3NEB										
No.10-24UNC	GH2	SSUNAM2NEB	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
	GH3	SSUNAM3NEB										
No.10-32UNF	GH2	SSUNAJ2NEB	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
	GH3	SSUNAJ3NEB										
No.12-24UNC	GH2	SSUNCM2NEB	2.5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	3	2
	GH3	SSUNCM3NEB										
No.12-28UNF	GH2	SSUNCK2NEB	2.5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	3	2
	GH3	SSUNCK3NEB										
1/4-20UNC	GH2	SSU04N2NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
	GH3	SSU04N3NEB										
	GH5	SSU04N5NEB										
	GH11	SSU04N-EEB										
1/4-28UNF	GH2	SSU04K2NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
	GH3	SSU04K3NEB										
	GH4	SSU04K4NEB										
	GH11	SSU04K-EEB										
5/16-18UNC	GH2	SSU05O2NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
	GH3	SSU05O3NEB										
	GH5	SSU05O5NEB										
	GH11	SSU05O-EEB										
5/16-24UNF	GH2	SSU05M2NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
	GH3	SSU05M3NEB										
	GH4	SSU05M4NEB										
	GH5	SSU05M5NEB										
	GH11	SSU05M-EEB										
3/8-16UNC	GH3	SSU06P3NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
	GH4	SSU06P4NEB										
	GH5	SSU06P5NEB										
	GH11	SSU06P-EEB										
3/8-24UNF	GH2	SSU06M2NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
	GH3	SSU06M3NEB										
	GH4	SSU06M4NEB										
	GH11	SSU06M-EEB										
7/16-14UNC	GH3	SSU07Q3NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
	GH4	SSU07Q4NEB										
	GH5	SSU07Q5NEB										
7/16-20UNF	GH2	SSU07N2NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
	GH3	SSU07N3NEB										
	GH5	SSU07N5NEB										
1/2-13UNC	GH3	SSU08R3NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH4	SSU08R4NEB										
	GH5	SSU08R5NEB										
	GH11	SSU08R-EEB										

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
1/2-20UNF	GH2	SSU08N2NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH3	SSU08N3NEB										
	GH5	SSU08N5NEB										
	GH11	SSU08N-EEB										
9/16-12UNC	GH3	SSU09S3NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
	GH4	SSU09S4NEB										
	GH5	SSU09S5NEB										
9/16-18UNF	GH3	SSU09O3NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
	GH4	SSU09O4NEB										
	GH5	SSU09O5NEB										
5/8-11UNC	GH3	SSU10U3NEB	2.5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	4
	GH4	SSU10U4NEB										
	GH5	SSU10U5NEB										
	GH11	SSU10U-EEB										
5/8-18UNF	GH3	SSU10O3NEB	2.5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	4
	GH4	SSU10O4NEB										
	GH5	SSU10O5NEB										
	GH11	SSU10O-EEB										
3/4-10UNC	GH3	SSU12V3NEB	2.5P	4.921	1.299	-	2.52	0.590	0.442	0.687	4	4
	GH5	SSU12V5NEB										
	GH11	SSU12V-EEB										
3/4-16UNF	GH3	SSU12P3NEB	2.5P	4.921	1.299	-	2.52	0.590	0.442	0.687	4	4
	GH4	SSU12P4NEB										
	GH5	SSU12P5NEB										
	GH11	SSU12P-EEB										
7/8-9UNC	GH4	SSU14W4NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	4
	GH5	SSU14W5NEB										
	GH6	SSU14W6NEB										
7/8-14UNF	GH3	SSU14Q3NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	4
	GH4	SSU14Q4NEB										
	GH6	SSU14Q6NEB										
1-8UNC	GH4	SSU16X4NEB	2.5P	6.299	1.457	-	3.228	0.800	0.6	0.812	4	4
	GH5	SSU16X5NEB										
	GH6	SSU16X6NEB										
1-12UNF	GH3	SSU16S3NEB	2.5P	6.299	1.457	-	3.228	0.800	0.6	0.812	4	4
	GH4	SSU16S4NEB										
	GH5	SSU16S5NEB										
	GH6	SSU16S6NEB										
1 1/8-7UNC	GH4	SSU18Y4NEB	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
	GH6	SSU18Y6NEB										
1 1/8-12UNF	GH4	SSU18S4NEB	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
	GH5	SSU18S5NEB										
1 1/4-7UNC	GH4	SSU20Y4NEB	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
	GH6	SSU20Y6NEB										
1 1/4-12UNF	GH4	SSU20S4NEB	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
	GH5	SSU20S5NEB										
1 3/8-6UNC	GH5	SSU22Z5NEB	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
	GH6	SSU22Z6NEB										
1 3/8-12UNF	GH4	SSU22S4NEB	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
	GH5	SSU22S5NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
1 1/2-6UNC	GH5	SSU24Z5NEB	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
	GH6	SSU24Z6NEB										
1 1/2-12UNF	GH4	SSU24S4NEB	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
	GH5	SSU24S5NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Pipe Taps
Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SP OX

Spiral Fluted Taps, Oxidized
Specification

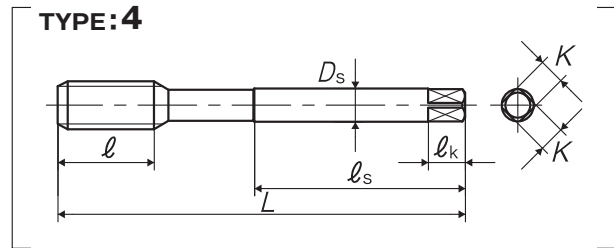
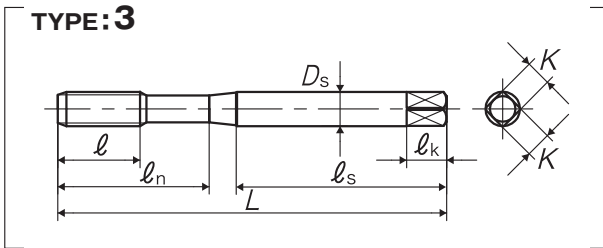
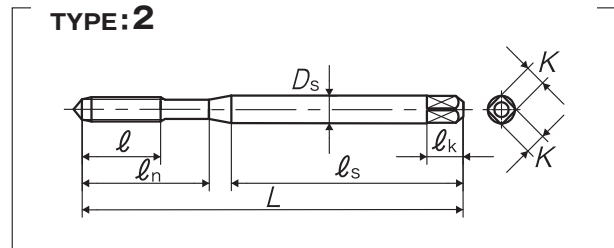
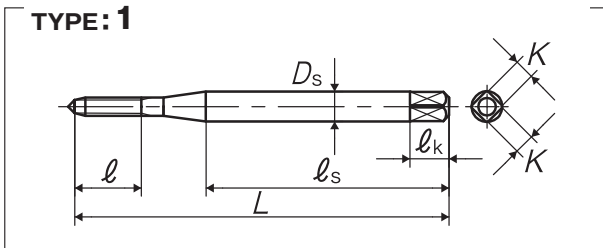


1 1/8U~

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Unified Threads												
No.2-56UNC	GH1	SSUN2E1NEX	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
	GH2	SSUN2E2NEX										
No.2-64UNF	GH1	SSUN2D1NEX	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
	GH2	SSUN2D2NEX										
No.3-48UNC	GH1	SSUN3F1NEX	2.5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	2	2
	GH2	SSUN3F2NEX										
No.3-56UNF	GH1	SSUN3E1NEX	2.5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	2	2
	GH2	SSUN3E2NEX										
No.4-40UNC	GH1	SSUN4H1NEX	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
	GH2	SSUN4H2NEX										
No.4-48UNF	GH1	SSUN4F1NEX	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
	GH2	SSUN4F2NEX										
No.5-40UNC	GH1	SSUN5H1NEX	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH2	SSUN5H2NEX										
No.5-44UNF	GH1	SSUN5G1NEX	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH2	SSUN5G2NEX										
No.6-32UNC	GH1	SSUN6J1NEX	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
	GH2	SSUN6J2NEX										
	GH3	SSUN6J3NEX										
	GH4	SSUN6J4NEX										

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Spiral Fluted Tap

SP OX Spiral Fluted Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
No.6-40UNF	GH1	SSUN6H1NEX	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
	GH2	SSUN6H2NEX										
No.8-32UNC	GH2	SSUN8J2NEX	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
	GH3	SSUN8J3NEX										
No.8-36UNF	GH2	SSUN8I2NEX	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
	GH3	SSUN8I3NEX										
No.10-24UNC	GH2	SSUNAM2NEX	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
	GH3	SSUNAM3NEX										
No.10-32UNF	GH2	SSUNAJ2NEX	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
	GH3	SSUNAJ3NEX										
No.12-24UNC	GH2	SSUNCM2NEX	2.5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	2
	GH3	SSUNCM3NEX										
No.12-28UNF	GH2	SSUNCK2NEX	2.5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	2
	GH3	SSUNCK3NEX										
1/4-20UNC	GH2	SSU04N2NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
	GH3	SSU04N3NEX										
	GH5	SSU04N5NEX										
	GH11	SSU04N-EEX										
1/4-28UNF	GH2	SSU04K2NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
	GH3	SSU04K3NEX										
	GH4	SSU04K4NEX										
	GH11	SSU04K-EEX										
5/16-18UNC	GH2	SSU05O2NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
	GH3	SSU05O3NEX										
	GH5	SSU05O5NEX										
	GH11	SSU05O-EEX										
5/16-24UNF	GH2	SSU05M2NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
	GH3	SSU05M3NEX										
	GH4	SSU05M4NEX										
	GH5	SSU05M5NEX										
	GH11	SSU05M-EEX										
3/8-16UNC	GH3	SSU06P3NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
	GH4	SSU06P4NEX										
	GH5	SSU06P5NEX										
	GH11	SSU06P-EEX										
3/8-24UNF	GH2	SSU06M2NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
	GH3	SSU06M3NEX										
	GH4	SSU06M4NEX										
	GH11	SSU06M-EEX										
7/16-14UNC	GH3	SSU07Q3NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
	GH4	SSU07Q4NEX										
	GH5	SSU07Q5NEX										
7/16-20UNF	GH2	SSU07N2NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
	GH3	SSU07N3NEX										
	GH5	SSU07N5NEX										
1/2-13UNC	GH3	SSU08R3NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH4	SSU08R4NEX										
	GH5	SSU08R5NEX										
	GH11	SSU08R-EEX										
1/2-20UNF	GH2	SSU08N2NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH3	SSU08N3NEX										

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps, Oxided

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
1/2-20UNF	GH5	SSU08N5NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH11	SSU08N-EEX										
9/16-12UNC	GH3	SSU09S3NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
	GH4	SSU09S4NEX										
	GH5	SSU09S5NEX										
9/16-18UNF	GH3	SSU0903NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
	GH4	SSU0904NEX										
	GH5	SSU0905NEX										
5/8-11UNC	GH3	SSU10U3NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	4
	GH4	SSU10U4NEX										
	GH5	SSU10U5NEX										
	GH11	SSU10U-EEX										
5/8-18UNF	GH3	SSU1003NEX	2.5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	4
	GH4	SSU1004NEX										
	GH5	SSU1005NEX										
	GH11	SSU100-EEX										
3/4-10UNC	GH3	SSU12V3NEX	2.5P	4.921	1.299	-	2.52	0.590	0.442	0.687	4	4
	GH5	SSU12V5NEX										
	GH11	SSU12V-EEX										
3/4-16UNF	GH3	SSU12P3NEX	2.5P	4.921	1.299	-	2.52	0.590	0.442	0.687	4	4
	GH4	SSU12P4NEX										
	GH5	SSU12P5NEX										
	GH11	SSU12P-EEX										
7/8-9UNC	GH4	SSU14W4NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	4
	GH5	SSU14W5NEX										
	GH6	SSU14W6NEX										
7/8-14UNF	GH3	SSU14Q3NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	4
	GH4	SSU14Q4NEX										
	GH6	SSU14Q6NEX										
1-8UNC	GH4	SSU16X4NEX	2.5P	6.299	1.457	-	3.228	0.800	0.6	0.812	4	4
	GH5	SSU16X5NEX										
	GH6	SSU16X6NEX										
1-12UNF	GH3	SSU16S3NEX	2.5P	6.299	1.457	-	3.228	0.800	0.6	0.812	4	4
	GH4	SSU16S4NEX										
	GH5	SSU16S5NEX										
	GH6	SSU16S6NEX										
1 1/8-7UNC	GH4	SSU18Y4NEX	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
	GH6	SSU18Y6NEX										
1 1/8-12UNF	GH4	SSU18S4NEX	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
	GH5	SSU18S5NEX										
1 1/4-7UNC	GH4	SSU20Y4NEX	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
	GH6	SSU20Y6NEX										
1 1/4-12UNF	GH4	SSU20S4NEX	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
	GH5	SSU20S5NEX										
1 3/8-6UNC	GH5	SSU22Z5NEX	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
	GH6	SSU22Z6NEX										
1 3/8-12UNF	GH4	SSU22S4NEX	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
	GH5	SSU22S5NEX										
1 1/2-6UNC	GH5	SSU24Z5NEX	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
	GH6	SSU24Z6NEX										
1 1/2-12UNF	GH4	SSU24S4NEX	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
	GH5	SSU24S5NEX										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	ℓ_s	Ds	K	ℓ_k

SP

Spiral Fluted Taps for Alloy Steels

Specification



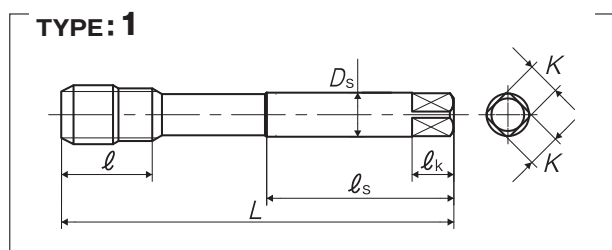
1 1/8U~

Recommended Tapping Speed depending on Materials

High carbon steels	Alloy steels
3~8 (m/min)	3~8 (m/min)

For icon explanation, refer to P.50

- Spiral Fluted Taps suitable for Alloy Steels and High Carbon Steels. Due to improvement of chip ejection and reduction of tapping torque, SP is optimal for blind hole tapping of larger diameter.



Segment: 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	ℓ_s (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Unified Threads												
1-8UNC	2BX	SSU16XYEEXJ	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	1
1 1/8-8UN	2BX	SSU18XYEEXJ	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	1
1 1/4-8UN	2BX	SSU20XYEEXJ	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	1
1 3/8-8UN	2BX	SSU22XYEEXJ	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	1
1 1/2-8UN	2BX	SSU24XYEEXJ	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	1

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

LO-SP

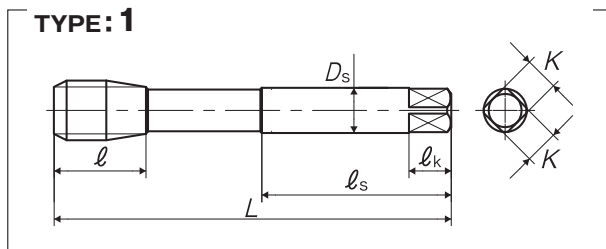
Low Spiral Fluted Taps for Alloy Steels Specification



Recommended Tapping Speed depending on Materials

High carbon steels	Alloy steels
3~8 (m/min)	3~8 (m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	l (inch)	ln (inch)	ls (inch)	Ds (inch)	K (inch)	lk (inch)	No. of flutes	Type
For Unified Threads												
1-8UNC	2BX	SSU16XYEEXHT	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	1
1 1/8-8UN	2BX	SSU18XYEEXHT	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	1
1 1/4-8UN	2BX	SSU20XYEEXHT	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	1
1 3/8-8UN	2BX	SSU22XYEEXHT	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	1
1 1/2-8UN	2BX	SSU24XYEEXHT	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	1

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	l	ln	ls	Ds	K	lk



■ Low Spiral Fluted Taps suitable for Alloy Steels and High Carbon Steels. Due to improvement of chip ejection and reduction of tapping torque, LO-SP is optimal for blind hole tapping of larger diameter.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

AU+SP

Plus Series Spiral Fluted Taps, Coated
Specification

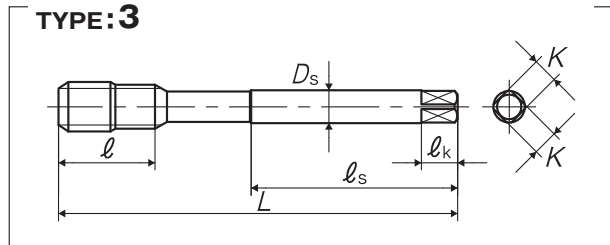
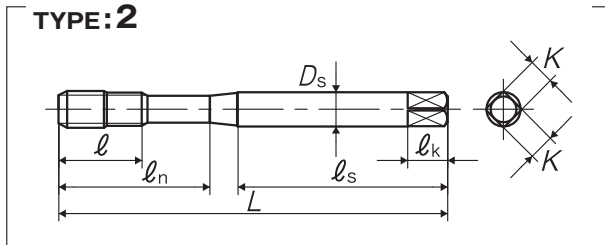
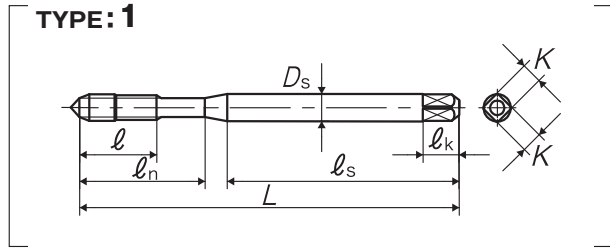


■ For wide range of materials.

Recommended Tapping Speed depending on Materials

Low carbon steels 10~20 (m/min)	Medium carbon steels 10~20 (m/min)	High carbon steels 10~20 (m/min)	Alloy steels 10~20 (m/min)
Stainless steels 5~10 (m/min)	Aluminum alloy castings 20~30 (m/min)	Zinc alloy castings 20~30 (m/min)	

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Metric threads												
M3 × 0.5	D3	ST3.0G3NEV	2.5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	1
M4 × 0.7	D4	ST4.0I4NEV	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	1
M5 × 0.8	D4	ST5.0K4NEV	2.5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
M6 × 1	D5	ST6.0M5NEV	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D5	ST8.0N5NEV	2.5P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	3	2
M8 × 1	D5	ST8.0M5NEV	2.5P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	3	2
M10 × 1.5	D6	ST01006NEV	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
M10 × 1.25	D5	ST010N5NEV	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
M10 × 1	D5	ST010M5NEV	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
M12 × 1.75	D6	ST012P6NEV	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
M12 × 1.5	D6	ST01206NEV	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
M12 × 1.25	D5	ST012N5NEV	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_s	Ds	K	ℓ_k

ZELX SS SP



Spiral Fluted Taps for Stainless Steels Specification



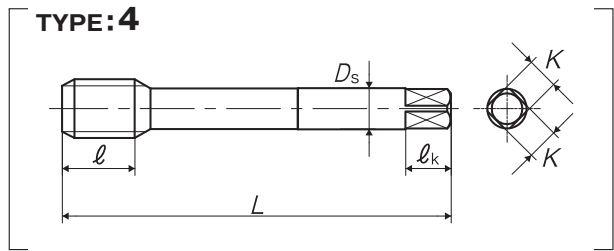
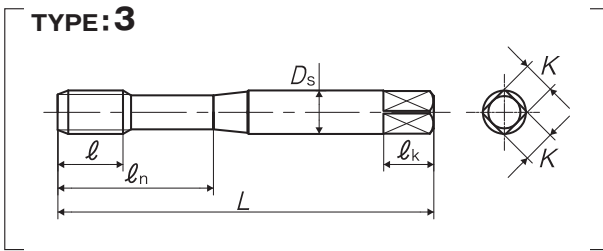
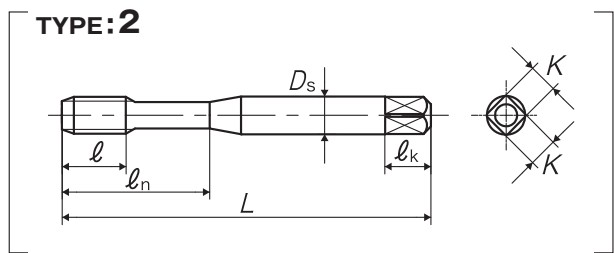
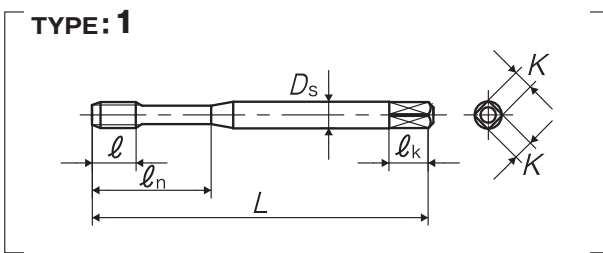
1 1/8U~

Recommended Tapping Speed depending on Materials

Alloy steels	Stainless steels
~10 (m/min)	~10 (m/min)

For icon explanation, refer to P.50

■ Suitable for stainless steels, sticky and tending to work-harden, as well as chrome steels and chrome molybdenum steels. Blind hole use.



Segment: 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads											
M3 × 0.5	D3	Y74615	2.5P	1.937	0.197	0.625	0.141	0.11	0.187	3	1
		Y74015	1.5P								
M3.5 × 0.6	D4	Y74616	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
		Y74617	2.5P								
M4 × 0.7	D4	Y74617	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
		Y74017	1.5P								
M5 × 0.8	D4	Y74619	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
		Y74019	1.5P								
M6 × 1	D5	Y74620	2.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
		Y74020	1.5P								
M7 × 1	D5	Y74621	2.5P	2.718	0.433	1.125	0.318	0.238	0.375	3	3
		Y74623	2.5P								
M8 × 1.25	D5	Y74623	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
		Y74023	1.5P								
M8 × 1	D5	Y74622	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
		Y74022	1.5P								
M10 × 1.5	D6	Y74625	2.5P	2.937	0.512	1.25	0.381	0.286	0.437	3	3
		Y74025	1.5P								
M10 × 1.25	D5	Y74624	2.5P	2.937	0.472	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y74627	2.5P	3.375	0.591	-	0.367	0.275	0.437	3	4
		Y74027	1.5P								

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap

ZELX SS SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
M12 × 1.25	D5	Y74626	2.5P	3.375	0.551	-	0.367	0.275	0.437	3	4
		Y74026	1.5P								
M14 × 2	D7	Y74629	2.5P	3.593	0.709	-	0.429	0.322	0.5	3	4
		Y74029	1.5P								
M14 × 1.5	D6	Y74628	2.5P	3.593	0.551	-	0.429	0.322	0.5	3	4
		Y74028	1.5P								
M16 × 2	D7	Y74631	2.5P	3.812	0.709	-	0.480	0.36	0.562	3	4
		Y74031	1.5P								
M16 × 1.5	D6	Y74630	2.5P	3.812	0.551	-	0.480	0.36	0.562	3	4
M18 × 2.5	D7	Y74633	2.5P	4.031	0.787	-	0.542	0.406	0.625	4	4
M18 × 1.5	D6	Y74632	2.5P	4.031	0.551	-	0.542	0.406	0.625	4	4
M20 × 2.5	D7	Y74635	2.5P	4.468	0.787	-	0.652	0.489	0.687	4	4
M24 × 3	D8	Y74639	2.5P	4.906	0.984	-	0.760	0.57	0.75	4	4
For Unified Threads											
No.2-56UNC	GH2	Y84623	2.5P	1.75	0.157	0.437	0.141	0.11	0.187	2	1
No.3-48UNC	GH2	Y84600	2.5P	1.812	0.197	0.5	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y84601	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
		Y84001	1.5P								
	GH3	Y84602	2.5P								
		Y84002	1.5P								
	GH4	Y84629	2.5P								
GH5	Y84634	2.5P									
No.4-48UNF	GH2	Y84683	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.5-40UNC	GH2	Y84603	2.5P	1.937	0.236	0.625	0.141	0.11	0.187	3	1
		Y84003	1.5P								
No.6-32UNC	GH2	Y84604	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
		Y84004	1.5P								
	GH3	Y84605	2.5P								
		Y84005	1.5P								
	GH4	Y84636	2.5P								
	GH5	Y84635									
	GH6	Y84659									
GH7	Y84665										
No.6-40UNF	GH2	Y84684	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
		Y84084	1.5P								
	GH3	Y84685	2.5P								
No.8-32UNC	GH2	Y84606	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
		Y84607	2.5P								
	GH3	Y84007	1.5P								
		GH4	Y84638								
	GH5	Y84637									
	GH6	Y84660									
GH7	Y84667										
No.8-36UNF	GH3	Y84687	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH2	Y84624	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
		Y84609	2.5P								
	GH3	Y84009	1.5P								
		GH5	Y84639								
	Y84039		1.5P								
	GH6	Y84690	2.5P								
	GH7	Y84669									

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX SS SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
No.10-32UNF	GH2	Y84611	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
	GH3	Y84610									
	GH4	Y84010	1.5P								
	GH5	Y84630	2.5P								
	GH6	Y84640	1.5P								
	GH7	Y84040	2.5P								
	GH7	Y84662	1.5P								
No.12-24UNC	GH3	Y84688	2.5P	2.375	0.354	0.937	0.220	0.165	0.281	3	1
No.12-28UNF	GH3	Y84689	2.5P	2.375	0.276	0.937	0.220	0.165	0.281	3	1
1/4-20UNC	GH3	Y84613	2.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
	GH3	Y84013	1.5P								
	GH5	Y84643	2.5P								
	GH5	Y84043	1.5P								
	GH7	Y84673	2.5P								
1/4-28UNF	GH3	Y84614	2.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
	GH3	Y84014	1.5P								
	GH4	Y84631	2.5P								
	GH5	Y84644	1.5P								
	GH5	Y84044	2.5P								
	GH7	Y84674	1.5P								
5/16-18UNC	GH3	Y84615	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
	GH3	Y84015	1.5P								
	GH5	Y84645	2.5P								
	GH5	Y84045	1.5P								
	GH7	Y84675	2.5P								
5/16-24UNF	GH3	Y84616	2.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
	GH3	Y84016	1.5P								
	GH4	Y84632	2.5P								
	GH5	Y84646	1.5P								
	GH5	Y84046	2.5P								
	GH7	Y84676	1.5P								
3/8-16UNC	GH3	Y84617	2.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
	GH3	Y84017	1.5P								
	GH5	Y84647	2.5P								
	GH5	Y84047	1.5P								
	GH7	Y84677	2.5P								
	GH7	Y84077	1.5P								
3/8-24UNF	GH3	Y84618	2.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
	GH3	Y84018	1.5P								
	GH4	Y84633	2.5P								
	GH4	Y84033	1.5P								
	GH5	Y84648	2.5P								
	GH5	Y84048	1.5P								
7/16-14UNC	GH3	Y84619	2.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
	GH3	Y84019	1.5P								
	GH5	Y84649	2.5P								
	GH5	Y84049	1.5P								
	GH7	Y84679	2.5P								

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap

ZELX SS SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ϕ (inch)	ϕ_n (inch)	Ds (inch)	K (inch)	ϕ_k (inch)	No. of flutes	Type
7/16-20UNF	GH3	Y84620	2.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
		Y84020	1.5P								
	GH5	Y84650	2.5P								
		Y84050	1.5P								
		GH6	Y84691								
GH7	Y84680	2.5P									
1/2-13UNC	GH3	Y84621	2.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
		Y84021	1.5P								
	GH5	Y84651	2.5P								
		Y84051	1.5P								
		GH7	Y84681								
1/2-20UNF	GH3	Y84622	2.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
		Y84022	1.5P								
	GH5	Y84652	2.5P								
		Y84052	1.5P								
		GH6	Y84692								
GH7	Y84682	2.5P									
9/16-12UNC	GH3	Y84653	2.5P	3.593	0.709	-	0.429	0.322	0.5	3	4
		Y84053	1.5P								
9/16-18UNF	GH3	Y84654	2.5P	3.593	0.512	-	0.429	0.322	0.5	3	4
		Y84054	1.5P								
	GH5	Y84698	2.5P								
5/8-11UNC	GH3	Y84625	2.5P	3.812	0.748	-	0.480	0.36	0.562	3	4
		Y84025	1.5P								
	GH5	Y84655	2.5P								
		Y84055	1.5P								
5/8-18UNF	GH3	Y84626	2.5P	3.812	0.512	-	0.480	0.36	0.562	3	4
		Y84026	1.5P								
	GH5	Y84656	2.5P								
		Y84056	1.5P								
		GH7	Y84672								
3/4-10UNC	GH3	Y84627	2.5P	4.25	0.827	-	0.590	0.442	0.687	4	4
		Y84027	1.5P								
	GH5	Y84657	2.5P								
3/4-16UNF	GH3	Y84628	2.5P	4.25	0.591	-	0.590	0.442	0.687	4	4
		Y84028	1.5P								
	GH5	Y84658	2.5P								
		GH7	Y84686								
7/8-9UNC	GH4	Y84695	2.5P	4.687	0.827	-	0.697	0.523	0.75	4	4
7/8-14UNF	GH4	Y84696	2.5P	4.687	0.709	-	0.697	0.523	0.75	4	4
	GH6	Y84694									
1-8UNC	GH4	Y84697	2.5P	5.125	0.984	-	0.800	0.6	0.812	4	4
1-12UNF	GH4	Y84668	2.5P	5.125	0.709	-	0.800	0.6	0.812	4	4
1 1/8-7UNC	GH6	Y84701	2.5P	5.437	1.181	-	0.896	0.672	0.875	4	4
1 1/8-12UNF	GH5	Y84702	2.5P	5.437	0.787	-	0.896	0.672	0.875	4	4
1 1/4-7UNC	GH6	Y84703	2.5P	5.75	1.181	-	1.021	0.766	1	4	4
1 1/4-12UNF	GH5	Y84705	2.5P	5.75	0.787	-	1.021	0.766	1	4	4
1 3/8-6UNC	GH6	Y84706	2.5P	6.062	1.575	-	1.108	0.831	1.062	4	4
1 3/8-12UNF	GH5	Y84707	2.5P	6.062	0.787	-	1.108	0.831	1.062	4	4
1 1/2-6UNC	GH6	Y84709	2.5P	6.375	1.575	-	1.233	0.925	1.125	4	4

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX SS SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
1 1/2-12UNF	GH5	Y84711	2.5P	6.375	0.787	-	1.233	0.925	1.125	4	4
1 3/4-5UNC	GH7	Y84714	2.5P	7	1.772	-	1.43	1.072	1.25	4	4
2-4.5UNC	GH7	Y84715	2.5P	7.625	1.969	-	1.644	1.233	1.375	4	4

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX SS SP 6"



Long Shank Spiral Fluted Taps for Stainless Steels

Specification

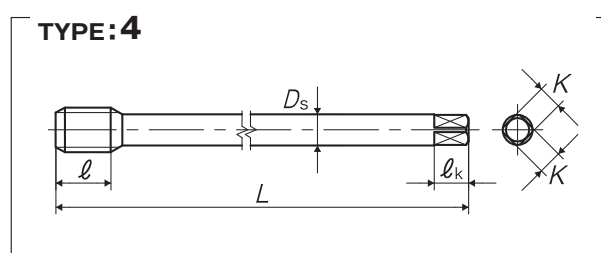
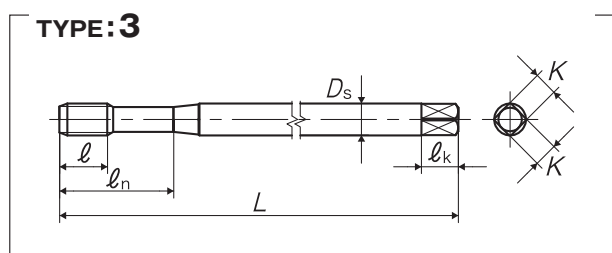
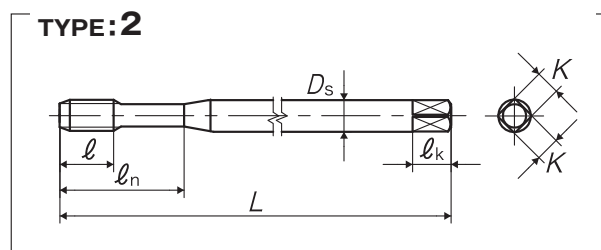
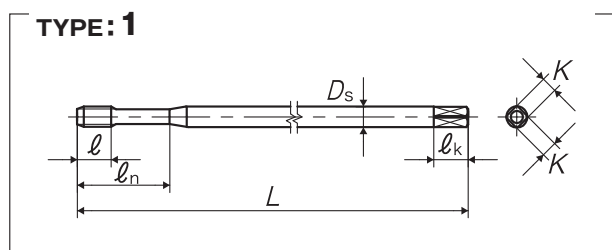


■ Suitable for stainless steels, sticky and tending to work-harden, as well as chrome steels and chrome molybdenum steels. Blind hole use.

Recommended Tapping Speed depending on Materials

Alloy steels	Stainless steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Unified Threads											
No.2-56UNC	GH2	Y84523	2.5P	6	0.157	0.437	0.141	0.11	0.187	2	1
No.3-48UNC	GH2	Y84500	2.5P	6	0.197	0.5	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y84501	2.5P	6	0.236	0.562	0.141	0.11	0.187	2	1
No.6-32UNC	GH3	Y84505	2.5P	6	0.276	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y84507	2.5P	6	0.276	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y84509	2.5P	6	0.354	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y84510	2.5P	6	0.276	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y84513	2.5P	6	0.433	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y84514	2.5P	6	0.354	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y84515	2.5P	6	0.472	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y84516	2.5P	6	0.394	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y84517	2.5P	6	0.551	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y84518	2.5P	6	0.394	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y84519	2.5P	6	0.591	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y84520	2.5P	6	0.472	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y84521	2.5P	6	0.63	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y84522	2.5P	6	0.472	-	0.367	0.275	0.437	3	4

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX AL SP

Spiral Fluted Taps for Aluminum
Specification

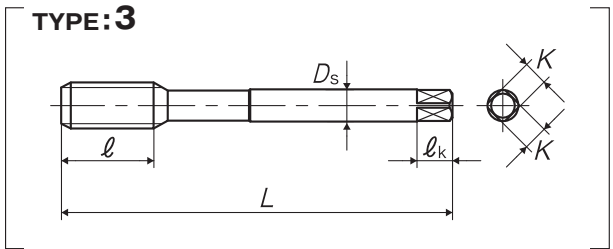
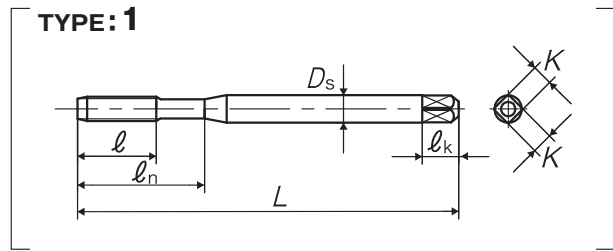
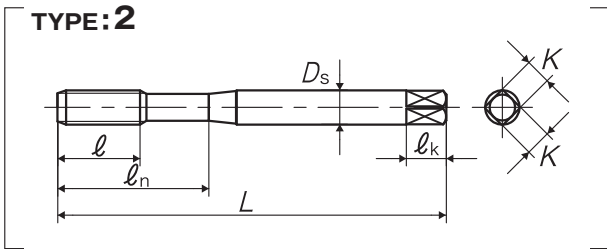


■ In aluminum die casting and aluminum casting tapping, ZELX AL SP solves such problems as chip jamming, chip clogging, and torn threads.

Recommended Tapping Speed depending on Materials

Brass 10~25 (m/min)	Brass castings 10~25 (m/min)	Bronze 10~25 (m/min)	Wrought aluminum 10~25 (m/min)	Aluminum alloy castings 10~25 (m/min)
Magnesium alloy die castings 10~25 (m/min)	Zinc alloy castings 10~25 (m/min)			

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads											
M3 × 0.5	D3	Y86528	2.5P	2.205	0.433	0.709	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y86530	2.5P	2.48	0.512	0.827	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y86531	2.5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
M6 × 1	D5	Y86532	2.5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1
M8 × 1.25	D5	Y86535	2.5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
M8 × 1	D5	Y86534	2.5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
M10 × 1.5	D6	Y86537	2.5P	3.937	0.945	1.535	0.381	0.286	0.437	3	2
M12 × 1.75	D6	Y86540	2.5P	4.331	1.142	-	0.367	0.275	0.437	3	3
For Unified Threads											
No.2-56UNC	GH2	Y86500	2.5P	1.772	0.276	0.472	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y86501	2.5P	2.205	0.433	0.709	0.141	0.11	0.187	2	1
No.5-40UNC	GH2	Y86502	2.5P	2.205	0.433	0.709	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y86503	2.5P	2.205	0.512	0.787	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y86504	2.5P	2.48	0.512	0.827	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y86505	2.5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y86506	2.5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y86507	2.5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1
	GH5	Y86508									
1/4-28UNF	GH3	Y86509	2.5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1
	GH4	Y86511									
5/16-18UNC	GH3	Y86512	2.5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
3/8-16UNC	GH3	Y86516	2.5P	3.937	0.945	1.535	0.381	0.286	0.437	3	2
	GH5	Y86517									
3/8-24UNF	GH3	Y86518	2.5P	3.543	0.787	1.535	0.381	0.286	0.437	3	2

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Spiral Fluted Tap

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX AL SP Spiral Fluted Taps for Aluminum

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
7/16-14UNC	GH3	Y86520	2.5P	3.937	0.945	-	0.323	0.242	0.406	3	3
1/2-13UNC	GH3	Y86524	2.5P	4.331	1.142	-	0.367	0.275	0.437	3	3
	GH5	Y86525									
1/2-20UNF	GH3	Y86526	2.5P	3.937	0.866	-	0.367	0.275	0.437	3	3

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Pipe Taps
Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX ALS SP



Spiral Fluted Taps for Aluminum Specification

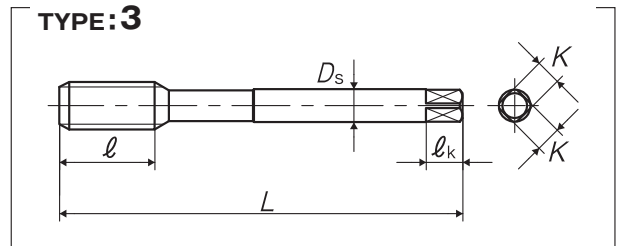
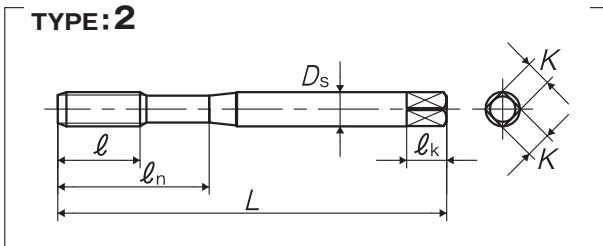
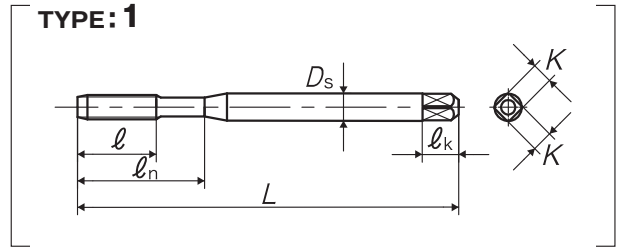


■ In aluminum die casting and aluminum casting tapping, ZELX ALS SP solves such problems as chip jamming, chip clogging, and torn threads.

Recommended Tapping Speed depending on Materials

Brass	Bronze	Wrought aluminum	Aluminum alloy castings
10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads											
M3 × 0.5	D3	Y86428	2.5P	2.205	0.433	0.709	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y86429	2.5P	2.205	0.512	0.787	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y86430	2.5P	2.48	0.512	0.827	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y86431	2.5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
M6 × 1	D5	Y86432	2.5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1
M7 × 1	D5	Y86433	2.5P	3.15	0.748	1.181	0.318	0.238	0.375	3	2
M8 × 1.25	D5	Y86435	2.5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
M8 × 1	D5	Y86434	2.5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
M10 × 1.5	D6	Y86437	2.5P	3.937	0.945	1.535	0.381	0.286	0.437	3	2
M10 × 1.25	D5	Y86436	2.5P	3.937	0.945	1.535	0.381	0.286	0.437	3	2
M12 × 1.75	D6	Y86440	2.5P	4.331	1.142	-	0.367	0.275	0.437	3	3
M12 × 1.25	D5	Y86438	2.5P	3.937	0.866	-	0.367	0.275	0.437	3	3
For Unified Threads											
No.2-56UNC	GH2	Y86400	2.5P	1.772	0.276	0.472	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y86401	2.5P	2.205	0.433	0.709	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y86402	2.5P	2.205	0.433	0.709	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y86403	2.5P	2.205	0.512	0.787	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y86404	2.5P	2.48	0.512	0.827	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y86405	2.5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y86406	2.5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y86407	2.5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1
	GH5	Y86408									
1/4-28UNF	GH3	Y86409	2.5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Spiral Fluted Tap

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX ALS SP Spiral Fluted Taps for Aluminum

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
5/16-18UNC	GH3	Y86412	2.5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
5/16-24UNF	GH3	Y86414	2.5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
3/8-16UNC	GH3	Y86416	2.5P	3.937	0.945	1.535	0.381	0.286	0.437	3	2
	GH5	Y86417									
3/8-24UNF	GH3	Y86418	2.5P	3.543	0.787	1.535	0.381	0.286	0.437	3	2
7/16-14UNC	GH3	Y86420	2.5P	3.937	0.945	-	0.323	0.242	0.406	3	3
7/16-20UNF	GH3	Y86422	2.5P	3.937	0.945	-	0.323	0.242	0.406	3	3
1/2-13UNC	GH3	Y86424	2.5P	4.331	1.142	-	0.367	0.275	0.437	3	3
1/2-20UNF	GH3	Y86426	2.5P	3.937	0.866	-	0.367	0.275	0.437	3	3

- Spiral Fluted Taps (for blind hole)
- Spiral Fluted Taps (for through hole)
- Spiral Pointed Taps (for through hole)
- Hand Taps
- Cemented Carbide Taps
- Roll Taps
- Pipe Taps Simple Inspection Tools
- Thread Mills
- Dies
- Center Drills
- Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SP STI

Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts

Specification



Recommended Tapping Speed depending on Materials

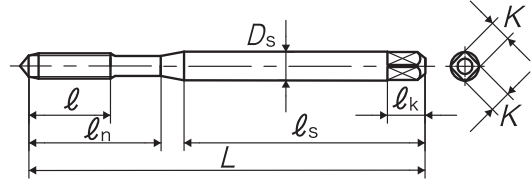
Brass 5~15 (m/min)	Brass castings 5~15 (m/min)	Bronze 5~15 (m/min)	Wrought aluminum 5~15 (m/min)	Aluminum alloy castings 5~15 (m/min)
Magnesium alloy die castings 5~15 (m/min)	Zinc alloy castings 5~15 (m/min)			

For icon explanation, refer to P.50

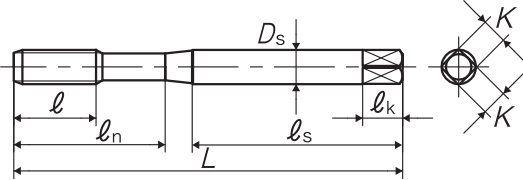


■ On parts made from comparatively soft materials, helical coil wire thread inserts are often used in order to strengthen internal screws and increase toughness. SP STI produces threads oversize enough to accommodate helical coil wire thread inserts.

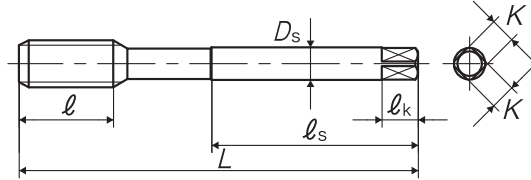
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Helical Coil Wire Screw Thread Inserts, for Unified Threads												
STI No.2-56UNC	GH1	SUUN2E1NEB	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
	GH2	SUUN2E2NEB										
STI No.4-40UNC	GH1	SUUN4H1NEB	2P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
	GH2	SUUN4H2NEB										
STI No.6-32UNC	GH1	SUUN6J1NEB	2P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
	GH2	SUUN6J2NEB										
STI No.8-32UNC	GH1	SUUN8J1NEB	2P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	3	1
	GH2	SUUN8J2NEB										
STI No.10-24UNC	GH2	SUUNAM2NEB	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
	GH3	SUUNAM3NEB										
STI No.10-32UNF	GH2	SUUNA J2NEB	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
	GH3	SUUNA J3NEB										
STI 1/4-20UNC	GH2	SUU04N2NEB	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
	GH3	SUU04N3NEB										
STI 1/4-28UNF	GH2	SUU04K2NEB	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
	GH3	SUU04K3NEB										
STI 5/16-18UNC	GH2	SUU05O2NEB	2P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	3	2
	GH3	SUU05O3NEB										
STI 5/16-24UNF	GH2	SUU05M2NEB	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	2
	GH3	SUU05M3NEB										
STI 3/8-16UNC	GH2	SUU06P2NEB	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
	GH3	SUU06P3NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP STI Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
STI 3/8-24UNF	GH2	SUU06M2NEB	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
	GH3	SUU06M3NEB										
STI 7/16-14UNC	GH2	SUU07Q2NEB	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
	GH3	SUU07Q3NEB										
STI 7/16-20UNF	GH2	SUU07N2NEB	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
	GH3	SUU07N3NEB										
STI 1/2-13UNC	GH2	SUU08R2NEB	2P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	3
	GH3	SUU08R3NEB										
STI 1/2-20UNF	GH2	SUU08N2NEB	2P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	3
	GH3	SUU08N3NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Pipe Taps
Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SP OX STI



Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Specification

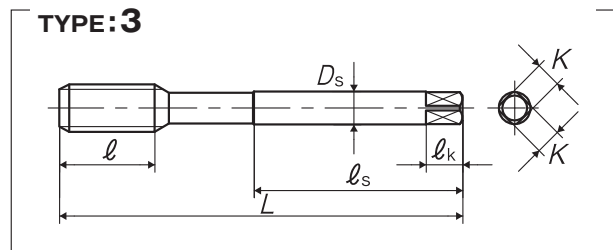
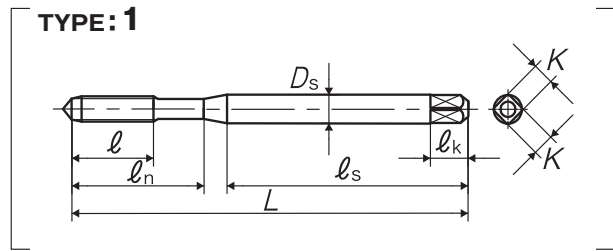
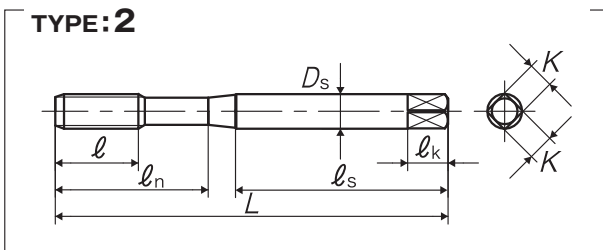


Recommended Tapping Speed depending on Materials

Low carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

■ On parts made from comparatively soft materials, helical coil wire thread inserts are often used in order to strengthen internal screws and increase toughness. SP OX STI produces threads oversize enough to accommodate helical coil wire thread inserts.



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Helical Coil Wire Screw Thread Inserts, for Unified Threads												
STI No.2-56UNC	GH1	SUUN2E1NEX	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
	GH2	SUUN2E2NEX										
STI No.4-40UNC	GH1	SUUN4H1NEX	2P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
	GH2	SUUN4H2NEX										
STI No.6-32UNC	GH1	SUUN6J1NEX	2P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
	GH2	SUUN6J2NEX										
STI No.8-32UNC	GH1	SUUN8J1NEX	2P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	3	1
	GH2	SUUN8J2NEX										
STI No.10-24UNC	GH2	SUUNAM2NEX	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
	GH3	SUUNAM3NEX										
STI No.10-32UNF	GH2	SUUNAJ2NEX	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
	GH3	SUUNAJ3NEX										
STI 1/4-20UNC	GH2	SUU04K2NEX	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
	GH3	SUU04N3NEX										
STI 1/4-28UNF	GH2	SUU04N2NEX	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
	GH3	SUU04K3NEX										
STI 5/16-18UNC	GH2	SUU0502NEX	2P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	3	2
	GH3	SUU0503NEX										
STI 5/16-24UNF	GH2	SUU05M2NEX	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	2
	GH3	SUU05M3NEX										
STI 3/8-16UNC	GH2	SUU06P2NEX	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
	GH3	SUU06P3NEX										
STI 3/8-24UNF	GH2	SUU06M2NEX	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
	GH3	SUU06M3NEX										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX STI Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
STI 7/16-14UNC	GH2	SUU07Q2NEX	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
	GH3	SUU07Q3NEX										
STI 7/16-20UNF	GH2	SUU07N2NEX	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
	GH3	SUU07N3NEX										
STI 1/2-13UNC	GH2	SUU08R2NEX	2P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	3
	GH3	SUU08R3NEX										
STI 1/2-20UNF	GH2	SUU08N2NEX	2P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	3
	GH3	SUU08N3NEX										

- Spiral Fluted Taps (for blind hole)
- Spiral Fluted Taps (for through hole)
- Spiral Pointed Taps (for through hole)
- Hand Taps
- Cemented Carbide Taps
- Roll Taps
- Pipe Taps
- Simple Inspection Tools
- Thread Mills
- Dies
- Center Drills
- Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX TI SP

Spiral Fluted Taps for Titanium Alloys
Specification

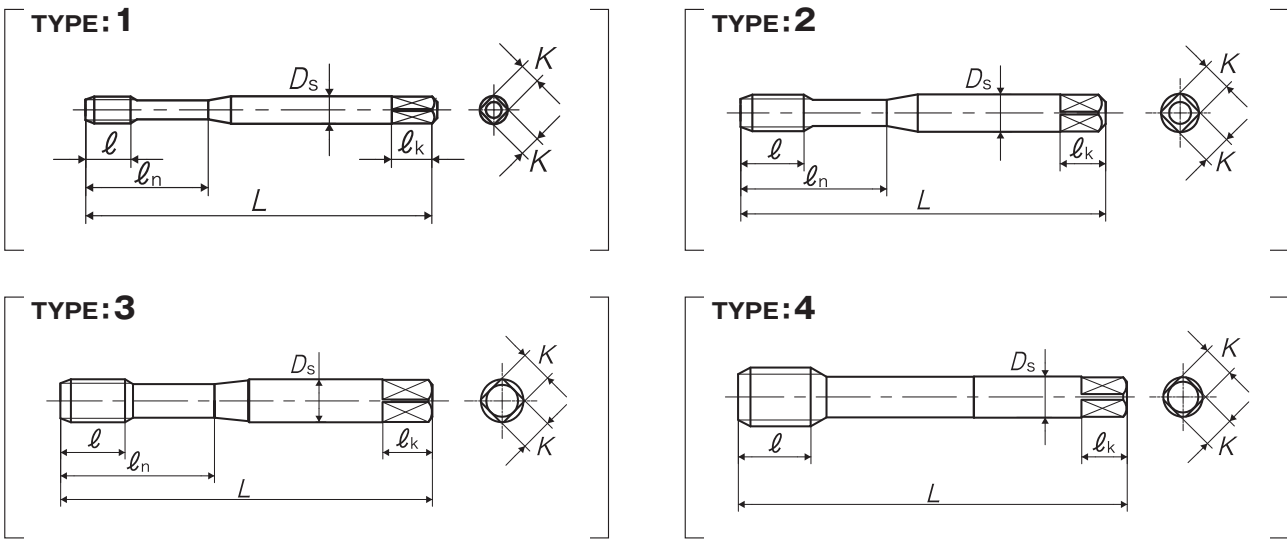


■ Spiral Fluted Tap suitable for titanium alloys which, including titanium as the main composition, are tough, light and heat resistant.

Recommended Tapping Speed depending on Materials

Titanium alloys
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
For Metric threads											
M2.5 × 0.45	D3	Y87700	3P	1.812	0.157	0.5	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y87701	3P	1.937	0.197	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y87702	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y87703	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y87704	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y87705	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y87706	3P	2.718	0.433	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y87708	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y87707	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y87710	3P	2.937	0.512	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y87709	3P	2.937	0.472	1.25	0.381	0.286	0.437	3	3
M12 × 1.25	D5	Y87711	3P	3.375	0.551	-	0.367	0.275	0.437	3	4
For Unified Threads											
No.2-56UNC	GH2	Y87623	3P	1.75	0.157	0.437	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y87601	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
	GH4	Y87612									
		Y87001	1.5P								
No.6-32UNC	GH3	Y87605	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
		Y87606	1.5P								

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Spiral Fluted Tap

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX TI SP Spiral Fluted Taps for Titanium Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
No.6-32UNC	GH4	Y87608	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
	GH5	Y87635									
No.8-32UNC	GH3	Y87607	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
		Y87007	1.5P								
	GH4	Y87629	3P								
	GH5	Y87637									
	GH6	Y87660									
GH7	Y87667										
No.10-24UNC	GH3	Y87609	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
		Y81608	1.5P								
No.10-32UNF	GH3	Y87610	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
		Y87010	1.5P								
	GH4	Y87630	3P								
	GH5	Y87640									
	GH6	Y87661									
GH7	Y87670										
1/4-20UNC	GH3	Y87613	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
		Y87628	1.5P								
1/4-28UNF	GH3	Y87614	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
		Y87014	1.5P								
	GH4	Y87631	3P								
	GH5	Y87644									
	GH6	Y87662									
GH7	Y87674										
5/16-18UNC	GH3	Y87615	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
		Y87695	1.5P								
5/16-24UNF	GH3	Y87616	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
		Y87016	1.5P								
	GH4	Y87632	3P								
	GH5	Y87646									
	GH6	Y87663									
GH7	Y87676										
3/8-16UNC	GH3	Y87617	3P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
		Y87611	1.5P								
3/8-24UNF	GH3	Y87618	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
		Y87018	1.5P								
	GH4	Y87633	3P								
	GH5	Y87648									
	GH6	Y87664									
GH7	Y87678										
7/16-14UNC	GH3	Y87619	3P	3.156	0.591	-	0.323	0.242	0.406	3	4
		Y81629	1.5P								
7/16-20UNF	GH3	Y87620	3P	3.156	0.472	-	0.323	0.242	0.406	3	4
		Y87020	1.5P								
	GH5	Y87650	3P								
1/2-13UNC	GH3	Y87621	3P	3.375	0.630	-	0.367	0.275	0.437	3	4
		Y87021	1.5P								
	GH5	Y87626	3P								
1/2-20UNF	GH3	Y87622	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
		Y87023	1.5P								
	GH5	Y87652	3P								

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Pipe Taps Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX NI SP

Spiral Fluted Taps for Nickel Base Alloys Specification

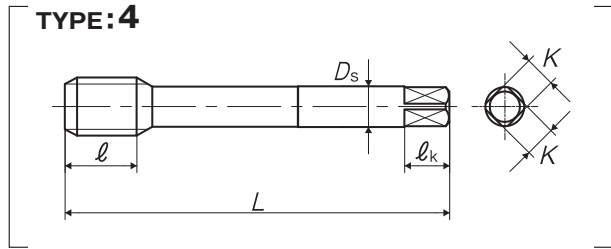
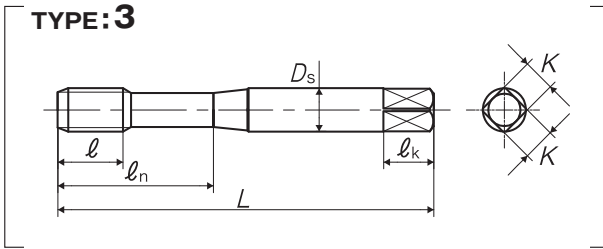
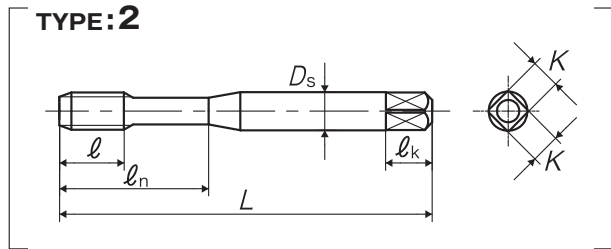
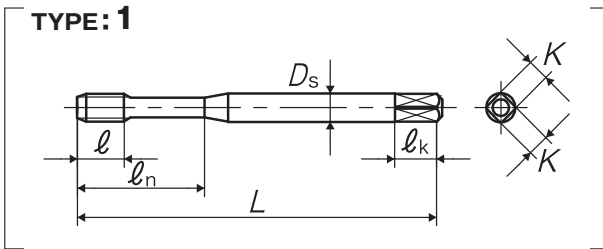


■ ZELX NI SP is the spiral fluted tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels.

Recommended Tapping Speed depending on Materials

Low carbon steels 5~15 (m/min)	Medium carbon steels 5~15 (m/min)	Stainless steels 5~15 (m/min)	Nickel base alloys 5~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads											
M2.5 × 0.45	D3	Y88320	3P	1.812	0.157	0.5	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y88321	3P	1.937	0.197	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y88322	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y88323	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y88324	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y88325	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y88326	3P	2.718	0.433	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y88328	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y88327	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y88330	3P	2.937	0.512	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y88329	3P	2.937	0.472	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y88332	3P	3.375	0.591	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y88331	3P	3.375	0.551	-	0.367	0.275	0.437	3	4
For Unified Threads											
No.2-56UNC	GH2	Y87523	3P	1.75	0.157	0.437	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y87501	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
		Y87502									
	GH3	Y87002	1.5P								
	GH2	Y87583									
	GH4	Y87512	3P								

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap

ZELX NI SP Spiral Fluted Taps for Nickel Base Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
No.4-40UNC	GH5	Y87534	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y87503	3P	1.937	0.236	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH2	Y87504	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
		Y87006	1.5P								
	GH3	Y87505	3P								
		Y87005	1.5P								
	GH4	Y87508	3P								
	GH5	Y87535									
	GH6	Y87559	3P								
GH7	Y87565										
No.8-32UNC	GH2	Y87506	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
	GH3	Y87507									
		Y87580	1.5P								
	GH4	Y87529	3P								
		Y87537									
	GH5	Y87037	1.5P								
	GH6	Y87560	3P								
GH7	Y87567										
No.10-24UNC	GH3	Y87509	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
		Y87009	1.5P								
	GH5	Y87539	3P								
No.10-32UNF	GH2	Y87511	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
	GH3	Y87510									
		Y81556	1.5P								
	GH4	Y87530	3P								
	GH5	Y87540	1.5P								
	GH6	Y87561	3P								
	GH7	Y87570									
1/4-20UNC	GH3	Y87513	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
		Y87013	1.5P								
		Y87543	3P								
	GH5	Y87043	1.5P								
1/4-28UNF	GH3	Y87514	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
		Y87579	1.5P								
	GH4	Y87531	3P								
		Y87031	1.5P								
	GH5	Y87544	3P								
		Y87443	1.5P								
	GH6	Y87562									
GH7	Y87574	3P									
5/16-18UNC	GH3	Y87515	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
		Y87015	1.5P								
	GH5	Y87545	3P								
		Y87045	1.5P								
5/16-24UNF	GH3	Y87516	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
		Y87577	1.5P								
	GH4	Y87532									
	GH5		3P								
		Y87546									

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI SP Spiral Fluted Taps for Nickel Base Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
5/16-24UNF	GH6	Y87563	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
	GH7	Y87576									
3/8-16UNC	GH3	Y87517	3P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
		Y87017	1.5P								
	GH5	Y87547	3P								
		Y87047	1.5P								
3/8-24UNF	GH3	Y87518	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
		Y87533	1.5P								
	GH4	Y87033									
	GH5	Y87548	3P								
		GH6									
GH7	Y87578										
7/16-14UNC	GH3	Y87519	3P	3.156	0.591	-	0.323	0.242	0.406	3	4
	GH5	Y87549									
7/16-20UNF	GH3	Y87520	3P	3.156	0.472	-	0.323	0.242	0.406	3	4
		Y87573	1.5P								
	GH5	Y87550	3P								
		Y87050	1.5P								
1/2-13UNC	GH3	Y87521	3P	3.375	0.630	-	0.367	0.275	0.437	3	4
		Y87500	1.5P								
	GH5	Y87551	3P								
		Y87051	1.5P								
	GH7	Y87581	3P								
1/2-20UNF	GH3	Y87522	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
		Y87022	1.5P								
	GH5	Y87552	3P								
		GH7									
9/16-18UNF	GH3	Y88554	3P	3.593	0.512	-	0.429	0.322	0.5	3	4
	GH5	Y88542									
5/8-11UNC	GH3	Y87525	3P	3.812	0.748	-	0.480	0.36	0.562	4	4
	GH5	Y87555									
	GH7	Y87585									
5/8-18UNF	GH3	Y87526	3P	3.812	0.512	-	0.480	0.36	0.562	4	4
		Y81508	1.5P								
	GH5	Y87536	3P								
		Y87556									
3/4-10UNC	GH3	Y87527	3P	4.25	0.827	-	0.590	0.442	0.687	4	4
		Y87027	1.5P								
	GH5	Y87557	3P								
3/4-16UNF	GH3	Y87528	3P	4.25	0.591	-	0.590	0.442	0.687	4	4
	GH5	Y87558									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

ZELX NI SP STI



Spiral Fluted Taps for Nickel Base Alloys, for Helical Coil Wire Screw Thread Inserts
Specification

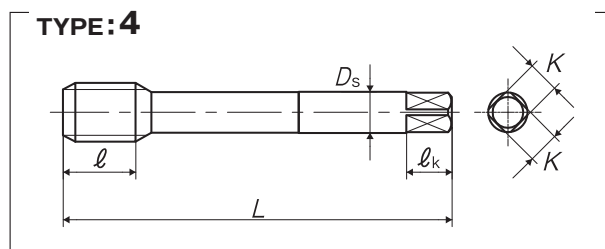
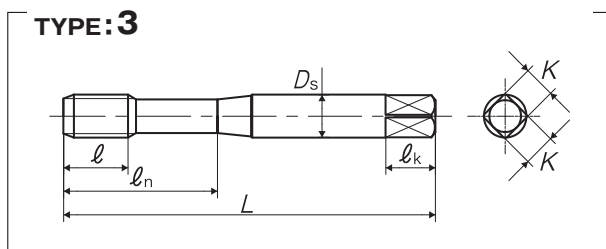
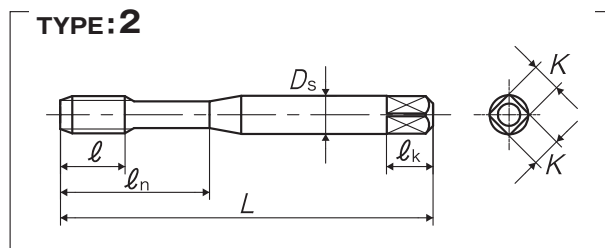
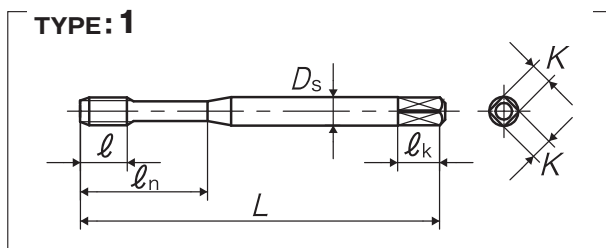


■ ZELX NI SP STI is the tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and higher heat resistance than steels, and produces threads oversize enough to accommodate helical coil wire thread inserts.

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels	Stainless steels	Nickel base alloys
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	l (inch)	ln (inch)	Ds (inch)	K (inch)	lk (inch)	No. of flutes	Type
For Helical Coil Wire Screw Thread Inserts, for Unified Threads											
STI No.2-56UNC	GH2	Y87400	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
	GH1	Y87403	3P								
STI No.4-40UNC	GH2	Y87404	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
	GH3	Y87004	1.5P								
	GH3	Y87420	3P								
	GH3	Y87419	1.5P								
STI No.6-32UNC	GH2	Y87408	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
	GH3	Y87008	1.5P								
	GH3	Y87424	3P								
STI No.6-40UNF	GH2	Y87409	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
STI No.8-32UNC	GH1	Y81409		2.375	0.354	0.937	0.22	0.165	0.281	3	1
	GH2	Y87410	3P								
	GH3	Y87426									
STI No.10-24UNC	GH2	Y87412	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
	GH3	Y87428									
	GH3	Y87028	1.5P								
STI No.10-32UNF	GH2	Y87413	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
	GH3	Y87429									
	GH3	Y87029	1.5P								
	GH5	Y87057									

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI SP STI Spiral Fluted Taps for Nickel Base Alloys, for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
STI 1/4-20UNC	GH2	Y87448	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
	GH3	Y87458									
		Y87058	1.5P								
STI 1/4-28UNF	GH2	Y87449	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
	GH3	Y87459									
STI 5/16-18UNC	GH3	Y87460	3P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
	GH4	Y87470									
STI 5/16-24UNF	GH2	Y87451	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
	GH3	Y87461									
		Y87061	1.5P								
STI 3/8-16UNC	GH3	Y87462	3P	3.375	0.630	-	0.367	0.275	0.437	3	4
	GH4	Y87472									
STI 3/8-24UNF	GH2	Y87453	3P	3.156	0.472	-	0.323	0.242	0.406	3	4
		Y87063	1.5P								
	GH3	Y87463	3P								
STI 7/16-14UNC	GH3	Y87464	3P	3.593	0.709	-	0.429	0.322	0.5	3	4
STI 7/16-20UNF	GH3	Y87465	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
	GH4	Y87475									
STI 1/2-13UNC	GH3	Y87466	3P	3.812	0.748	-	0.480	0.36	0.562	3	4
STI 1/2-20UNF		Y87467	3P	3.593	0.512	-	0.429	0.322	0.5	3	4
	GH3	Y87067	1.5P								

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX FR

Spiral Fluted Taps for High Speed Tapping

Specification

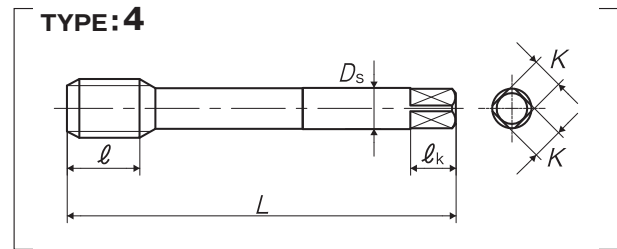
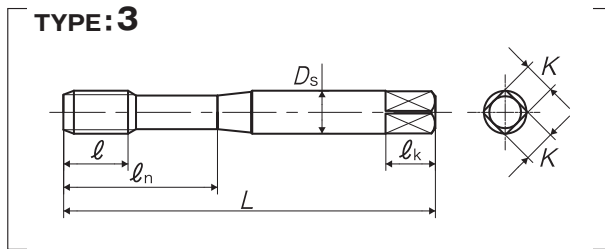
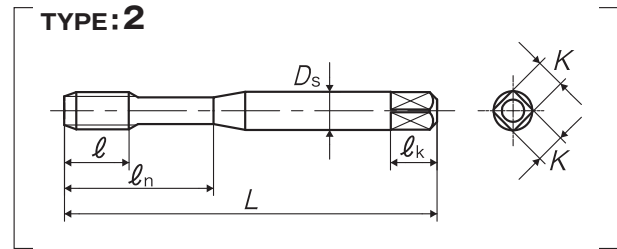
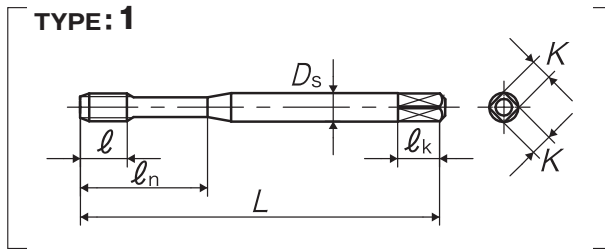


■ Spiral Fluted Tap applicable for such high speed tapping as 15m/min to 25m/min. Under low tapping speed, poor chip shape and poor chip ejection may occur and cause tapping troubles.

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels
15~25 (m/min)	15~25 (m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Unified Threads											
No.4-40UNC	GH2	Y84401	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y84403	2.5P	1.937	0.236	0.625	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y84407	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y84409	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y84410	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y84413	2.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y84414	2.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y84415	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y84416	2.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y84417	2.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y84418	2.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y84419	2.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y84420	2.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y84421	2.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y84422	2.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
5/8-11UNC	GH3	Y84425	2.5P	3.812	0.748	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH3	Y84426	2.5P	3.812	0.512	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH3	Y84427	2.5P	4.25	0.827	-	0.59	0.442	0.687	4	4
3/4-16UNF	GH3	Y84428	2.5P	4.25	0.591	-	0.59	0.442	0.687	4	4

ANSI LINE UP

SPIRAL FLUTED TAP SERIES FOR THROUGH HOLE



<u>ZELX TI LHSP</u>	<u>SL-1</u>
<u>ZELX FR LHSP</u>	<u>SL-3</u>
<u>MHSL</u>	<u>SL-4</u>

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX TI LHSP



Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)

Specification

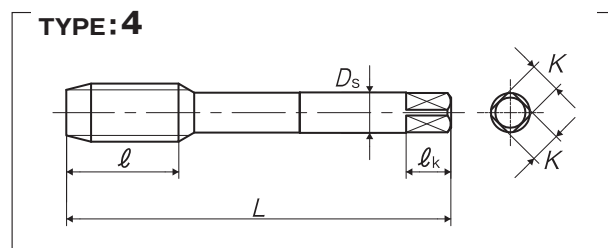
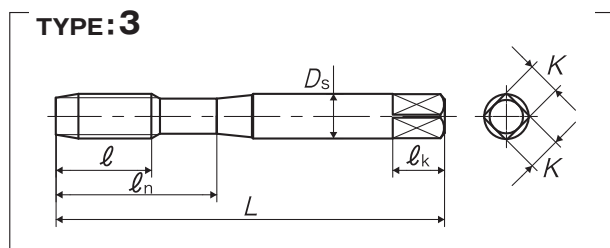
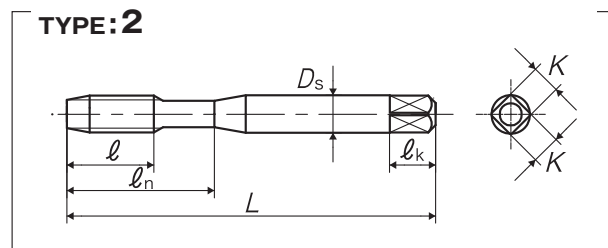
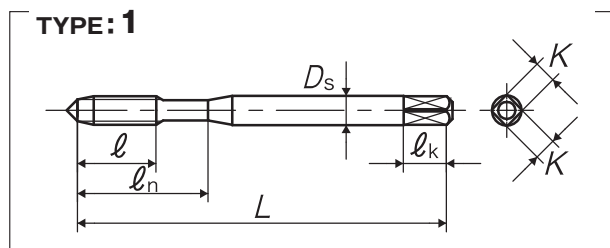


■ Suitable for titanium alloys which, including titanium as the main composition, are tough, light and heat resistant.

Recommended Tapping Speed depending on Materials

Titanium alloys
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1T

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads											
M2.5 × 0.45	D3	Y85700	5P	1.812	0.295	0.5	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y85701	5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y85702	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y85703	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y85704	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y85705	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y85706	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y85708	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y85710	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y85709	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y85712	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y85711	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
For Unified Threads											
No.2-56UNC	GH2	Y85623	5P	1.75	0.256	0.437	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y85601	5P	1.875	0.335	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y85603	5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y85605	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
	GH5	Y85635									
No.8-32UNC	GH3	Y85607	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
	GH4	Y85629									

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX TI LHSP Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
No.8-32UNC	GH5	Y85637	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
	GH6	Y85660									
	GH7	Y85667									
No.10-24UNC	GH3	Y85609	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
	GH5	Y85639									
No.10-32UNF	GH3	Y85610	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
	GH4	Y85630									
	GH5	Y85640									
	GH6	Y85661									
1/4-20UNC	GH3	Y85613	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
	GH5	Y85643									
1/4-28UNF	GH3	Y85614	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
	GH4	Y85631									
	GH5	Y85644									
	GH6	Y85662									
5/16-18UNC	GH3	Y85615	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
	GH5	Y85645									
5/16-24UNF	GH3	Y85616	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
	GH4	Y85632									
	GH5	Y85646									
	GH6	Y85663									
3/8-16UNC	GH3	Y85617	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
	GH5	Y85647									
3/8-24UNF	GH3	Y85618	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
	GH4	Y85633									
	GH5	Y85648									
	GH6	Y85664									
7/16-14UNC	GH3	Y85619	5P	3.156	0.866	-	0.323	0.242	0.406	3	4
	GH5	Y85649									
7/16-20UNF	GH3	Y85620	5P	3.156	0.866	-	0.323	0.242	0.406	3	4
	GH5	Y85650									
1/2-13UNC	GH3	Y85621	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
	GH5	Y85651									
1/2-20UNF	GH3	Y85622	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
	GH5	Y85652									
5/8-11UNC	GH3	Y85625	5P	3.812	1.083	-	0.480	0.36	0.562	3	4
5/8-18UNF	GH3	Y85626	5P	3.812	1.083	-	0.480	0.36	0.562	3	4
3/4-10UNC	GH3	Y85627	5P	4.25	1.201	-	0.590	0.442	0.687	3	4
3/4-16UNF	GH3	Y85628	5P	4.25	1.201	-	0.590	0.442	0.687	3	4

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX FR LHSP



Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)

Specification

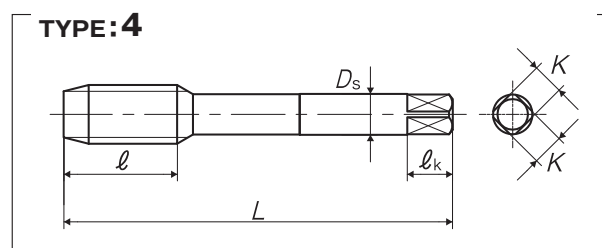
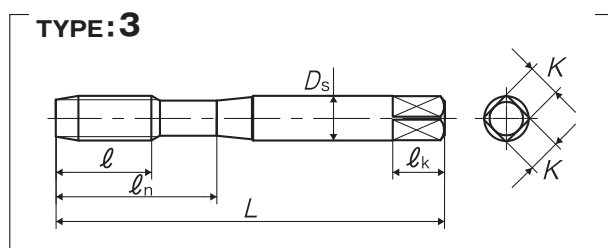
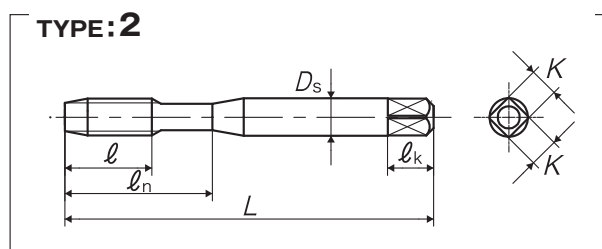
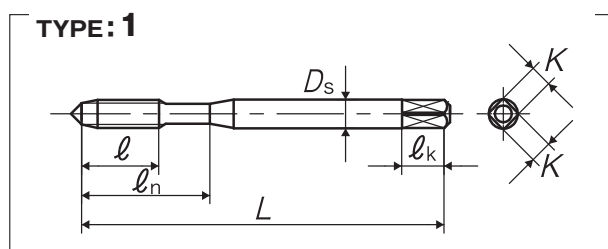


■ ZELX FR LHSP, spiral fluted tap, through hole use (with LH spiral flutes) is applicable for such high speed tapping as 15m/min to 25m/min. Under low tapping speed, chip shape and chip ejection may become poor and cause tapping troubles.

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels
15~25 (m/min)	15~25 (m/min)

For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Unified Threads											
No.4-40UNC	GH2	Y84201	5P	1.875	0.335	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y84203	5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y84205	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y84207	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y84209	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y84210	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y84213	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y84214	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y84215	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y84216	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y84217	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y84218	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y84219	4.5P	3.156	0.984	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y84220	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y84221	4.5P	3.375	1.142	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y84222	4.5P	3.375	0.945	-	0.367	0.275	0.437	3	4
5/8-11UNC	GH3	Y84225	4.5P	3.812	1.26	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH3	Y84226	4.5P	3.812	0.984	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH3	Y84227	4.5P	4.25	1.467	-	0.59	0.422	0.687	4	4
3/4-16UNF	GH3	Y84228	4.5P	4.25	1.142	-	0.59	0.422	0.687	4	4

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

MHSL

Spiral Fluted Taps for Carbon Steels of middle hardness, Through Hole Use (with LH spiral flutes)
Specification

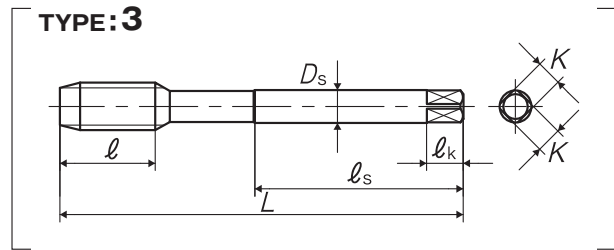
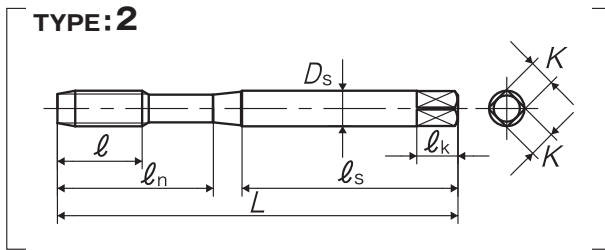
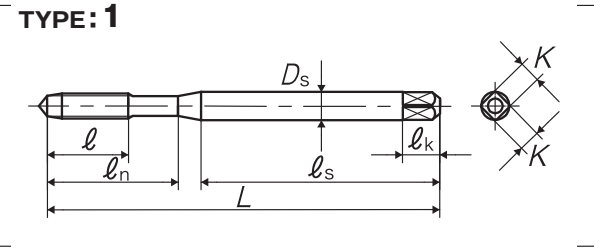


■ Suitable for through hole tapping of middle hardness steels such as forgings of high carbon steels and thermal refined steels (20HRC ~ 30HRC)

Recommended Tapping Speed depending on Materials

High carbon steels	Medium carbon steels	Alloy steels
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50



Segment : 1T

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Metric threads												
M6 × 1	D5	LS6.0M5FCL5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D5	LS8.0N5FCL5	5P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	3	2
M10 × 1.5	D6	LS01006FCL5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
M10 × 1.25	D6	LS010N6FCL5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
M12 × 1.75	D7	LS012P7FCL5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
M12 × 1.5	D6	LS01206FCL5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
M12 × 1.25	D6	LS012N6FCL7	7P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
M14 × 1.5	D7	LS01407FCL7	7P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
M16 × 1.5	D7	LS01607FCL7	7P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

ANSI LINE UP

SPIRAL POINTED TAP SERIES



<u>IPO</u>	<u>P0-1</u>	<u>ZELX AL P0</u>	<u>P0-13</u>
<u>P0</u>	<u>P0-2</u>	<u>P0 STI</u>	<u>P0-15</u>
<u>P0 OX</u>	<u>P0-5</u>	<u>P0 OX STI</u>	<u>P0-17</u>
<u>ZELX SS P0</u>	<u>P0-8</u>	<u>ZELX NI P0</u>	<u>P0-19</u>
<u>ZELX SS P0 6"</u>	<u>P0-12</u>	<u>ZELX NI P0 STI</u>	<u>P0-22</u>

Spiral Pointed Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

IPO

Spiral Pointed Taps for General Purpose Specification

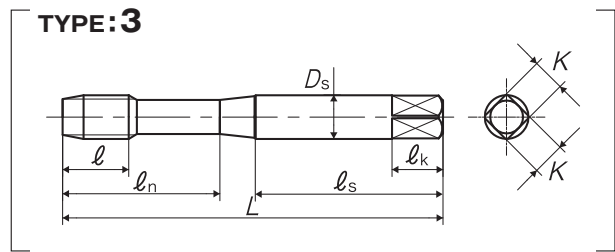
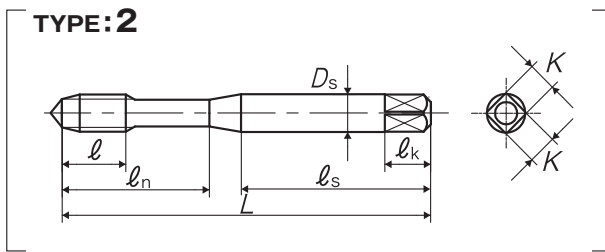
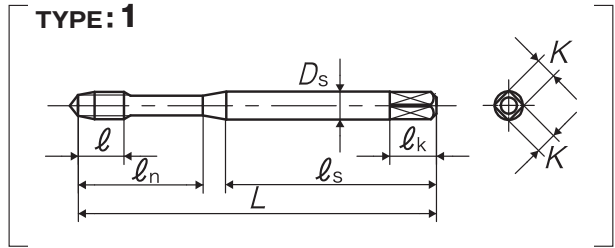


■ Suitable for low speed tapping of steels. For manual use and drilling machine use.

Recommended Tapping Speed depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Unified Threads												
No.6-32UNC	-	VAUN6JXHEX	4.5P	2	0.374	0.669	1.201	0.141	0.11	0.187	2	1
No.8-32UNC	-	VAUN8JXHEX	4.5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	2	1
No.10-24UNC	-	VAUNAMXHEX	4.5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	2	1
1/4-20UNC	-	VAU04NXHEX	4.5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	2	2
5/16-18UNC	-	VAU050XHEX	4.5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	VAU06PXHEX	4.5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3
For Unified Threads (In blister package)												
No.6-32UNC	-	VAUN6JXHEXR	4.5P	2	0.374	0.669	1.201	0.141	0.11	0.187	2	1
No.8-32UNC	-	VAUN8JXHEXR	4.5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	2	1
No.10-24UNC	-	VAUNAMXHEXR	4.5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	2	1
1/4-20UNC	-	VAU04NXHEXR	4.5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	2	2
5/16-18UNC	-	VAU050XHEXR	4.5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	VAU06PXHEXR	4.5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3

Blister Package



PO

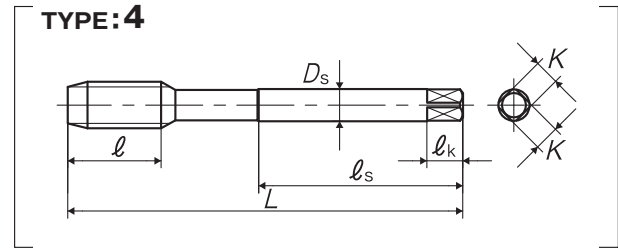
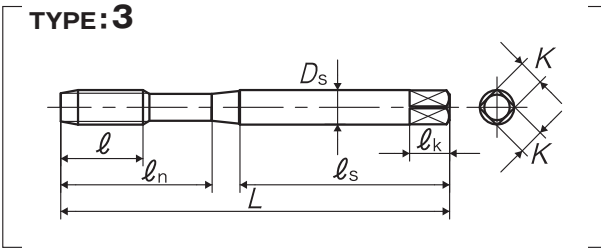
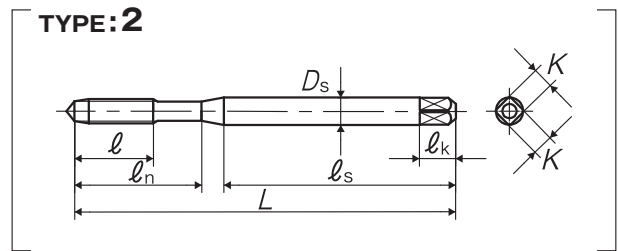
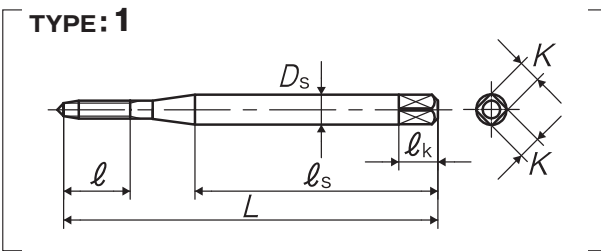
Spiral Pointed Taps Specification



Recommended Tapping Speed depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	l (inch)	l _n (inch)	l _s (inch)	D _s (inch)	K (inch)	l _k (inch)	No. of flutes	Type
For Unified Threads												
NO.0-80UNF	GH1	PSUN0B1NEB	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN0B2NEB										
NO.1-64UNC	GH1	PSUN1D1NEB	5P	1.772	0.275	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN1D2NEB										
NO.1-72UNF	GH1	PSUN1C1NEB	5P	1.772	0.275	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN1C2NEB										
NO.2-56UNC	GH1	PSUN2E1NEB	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN2E2NEB										
NO.2-64UNF	GH1	PSUN2D1NEB	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN2D2NEB										
NO.3-48UNC	GH1	PSUN3F1NEB	5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	2	2
	GH2	PSUN3F2NEB										
NO.3-56UNF	GH1	PSUN3E1NEB	5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	2	2
	GH2	PSUN3E2NEB										
No.4-40UNC	GH2	PSUN4H2NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
	GH3	PSUN4H3NEB										
NO.4-48UNF	GH1	PSUN4F1NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
	GH2	PSUN4F2NEB										
No.5-40UNC	GH2	PSUN5H2NEB	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH3	PSUN5H3NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
NO.5-44UNF	GH1	PSUN5G1NEB	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH2	PSUN5G2NEB										
	GH3	PSUN5G3NEB										
No.6-32UNC	GH2	PSUN6J2NEB	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH3	PSUN6J3NEB										
No.6-40UNF	GH2	PSUN6H2NEB	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH3	PSUN6H3NEB										
No.8-32UNC	GH2	PSUN8J2NEB	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
	GH3	PSUN8J3NEB										
NO.8-36UNF	GH2	PSUN8I2NEB	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
	GH3	PSUN8I3NEB										
No.10-24UNC	GH2	PSUNAM2NEB	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	2	2
	GH3	PSUNAM3NEB										
No.10-32UNF	GH2	PSUNAJ2NEB	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	2	2
	GH3	PSUNAJ3NEB										
NO.12-24UNC	GH2	PSUNCM2NEB	5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	2	2
	GH3	PSUNCM3NEB										
NO.12-28UNF	GH2	PSUNCK2NEB	5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	2	2
	GH3	PSUNCK3NEB										
1/4-20UNC	GH3	PSU04N3NEB	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
	GH4	PSU04N4NEB										
	GH5	PSU04N5NEB										
1/4-28UNF	GH2	PSU04K2NEB	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
	GH3	PSU04K3NEB										
	GH4	PSU04K4NEB										
5/16-18UNC	GH3	PSU05O3NEB	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
	GH4	PSU05O4NEB										
	GH5	PSU05O5NEB										
5/16-24UNF	GH3	PSU05M3NEB	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
	GH4	PSU05M4NEB										
3/8-16UNC	GH3	PSU06P3NEB	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
	GH5	PSU06P5NEB										
3/8-24UNF	GH3	PSU06M3NEB	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
	GH4	PSU06M4NEB										
7/16-14UNC	GH4	PSU07Q4NEB	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
	GH5	PSU07Q5NEB										
7/16-20UNF	GH3	PSU07N3NEB	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
	GH4	PSU07N4NEB										
	GH5	PSU07N5NEB										
1/2-13UNC	GH3	PSU08R3NEB	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH4	PSU08R4NEB										
	GH5	PSU08R5NEB										
1/2-20UNF	GH3	PSU08N3NEB	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH4	PSU08N4NEB										
	GH5	PSU08N5NEB										
9/16-12UNC	GH3	PSU09S3NEB	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
	GH4	PSU09S4NEB										
	GH5	PSU09S5NEB										
9/16-18UNF	GH3	PSU09O3NEB	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
	GH4	PSU09O4NEB										
	GH5	PSU09O5NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Pipe Taps Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

ANSI PO-3

230

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
5/8-11UNC	GH3	PSU10U3NEB	4.5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	4
	GH4	PSU10U4NEB										
	GH5	PSU10U5NEB										
	GH6	PSU10U6NEB										
5/8-18UNF	GH3	PSU1003NEB	4.5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	4
	GH4	PSU1004NEB										
	GH5	PSU1005NEB										
3/4-10UNC	GH5	PSU12V5NEB	4.5P	4.921	1.299	-	2.52	0.590	0.442	0.687	3	4
	GH6	PSU12V6NEB										
3/4-16UNF	GH3	PSU12P3NEB	4.5P	4.921	1.299	-	2.52	0.590	0.442	0.687	3	4
	GH4	PSU12P4NEB										
	GH5	PSU12P5NEB										
7/8-9UNC	GH4	PSU14W4NEB	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	4
	GH5	PSU14W5NEB										
	GH6	PSU14W6NEB										
7/8-14UNF	GH4	PSU14Q4NEB	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	4
	GH6	PSU14Q6NEB										
1-8UNC	GH4	PSU16X4NEB	4.5P	6.299	1.457	-	3.228	0.800	0.6	0.812	3	4
	GH5	PSU16X5NEB										
	GH6	PSU16X6NEB										
	GH7	PSU16X7NEB										
1-12UNF	GH4	PSU16S4NEB	4.5P	6.299	1.457	-	3.228	0.800	0.6	0.812	3	4
	GH5	PSU16S5NEB										
	GH6	PSU16S6NEB										
1 1/8-7UNC	GH6	PSU18Y6NEB	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
	GH7	PSU18Y7NEB										
1 1/8-12UNF	GH5	PSU18S5NEB	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
	GH6	PSU18S6NEB										
1 1/4-7UNC	GH6	PSU20Y6NEB	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
	GH8	PSU20Y8NEB										
1 1/4-12UNF	GH5	PSU20S5NEB	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
	GH6	PSU20S6NEB										
1 3/8-6UNC	GH6	PSU22Z6NEB	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
	GH8	PSU22Z8NEB										
1 3/8-12UNF	GH5	PSU22S5NEB	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
	GH6	PSU22S6NEB										
1 1/2-6UNC	GH6	PSU24Z6NEB	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
	GH8	PSU24Z8NEB										
1 1/2-12UNF	GH5	PSU24S5NEB	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
	GH7	PSU24S7NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

PO OX

Spiral Pointed Taps, Oxidized Specification

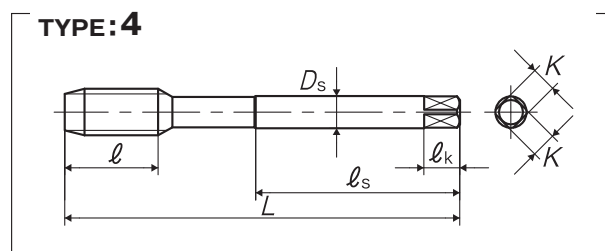
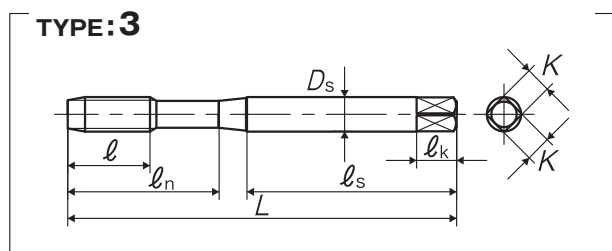
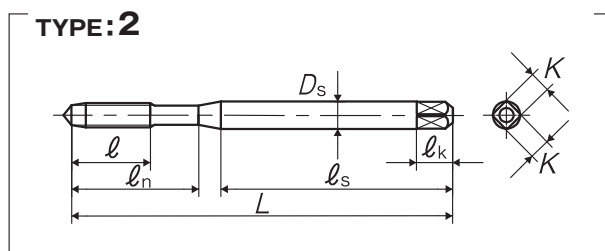
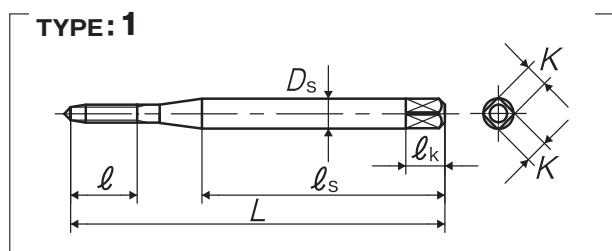


1 1/8U~

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Unified Threads												
No.0-80UNF	GH1	PSUN0B1NEX	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN0B2NEX										
No.1-64UNC	GH1	PSUN1D1NEX	5P	1.772	0.275	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN1D2NEX										
No.1-72UNF	GH1	PSUN1C1NEX	5P	1.772	0.275	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN1C2NEX										
No.2-56UNC	GH1	PSUN2E1NEX	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN2E2NEX										
No.2-64UNF	GH1	PSUN2D1NEX	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
	GH2	PSUN2D2NEX										
No.3-48UNC	GH1	PSUN3F1NEX	5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	2	2
	GH2	PSUN3F2NEX										
NO.3-56UNF	GH1	PSUN3E1NEX	5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	2	2
	GH2	PSUN3E2NEX										
No.4-40UNC	GH2	PSUN4H2NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
	GH3	PSUN4H3NEX										
No.4-48UNF	GH1	PSUN4F1NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
	GH2	PSUN4F2NEX										
No.5-40UNC	GH2	PSUN5H2NEX	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH3	PSUN5H3NEX										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps Simple Inspection Tools
 Thread Mills
 Dies
 Center Drills
 Centering Tools

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
NO.5-44UNF	GH1	PSUN5G1NEX	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH2	PSUN5G2NEX										
	GH3	PSUN5G3NEX										
No.6-32UNC	GH2	PSUN6J2NEX	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH3	PSUN6J3NEX										
No.6-40UNF	GH2	PSUN6H2NEX	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	2	2
	GH3	PSUN6H3NEX										
No.8-32UNC	GH2	PSUN8J2NEX	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
	GH3	PSUN8J3NEX										
NO.8-36UNF	GH2	PSUN8I2NEX	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
	GH3	PSUN8I3NEX										
No.10-24UNC	GH2	PSUNAM2NEX	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	2	2
	GH3	PSUNAM3NEX										
No.10-32UNF	GH2	PSUNAJ2NEX	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	2	2
	GH3	PSUNAJ3NEX										
NO.12-24UNC	GH2	PSUNCM2NEX	5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	2	2
	GH3	PSUNCM3NEX										
NO.12-28UNF	GH2	PSUNCK2NEX	5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	2	2
	GH3	PSUNCK3NEX										
1/4-20UNC	GH3	PSU04N3NEX	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
	GH4	PSU04N4NEX										
	GH5	PSU04N5NEX										
1/4-28UNF	GH2	PSU04K2NEX	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
	GH3	PSU04K3NEX										
	GH4	PSU04K4NEX										
5/16-18UNC	GH3	PSU05O3NEX	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
	GH4	PSU05O4NEX										
	GH5	PSU05O5NEX										
5/16-24UNF	GH3	PSU05M3NEX	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
	GH4	PSU05M4NEX										
3/8-16UNC	GH3	PSU06P3NEX	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
	GH5	PSU06P5NEX										
3/8-24UNF	GH3	PSU06M3NEX	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
	GH4	PSU06M4NEX										
7/16-14UNC	GH4	PSU07Q4NEX	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
	GH5	PSU07Q5NEX										
7/16-20UNF	GH3	PSU07N3NEX	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
	GH4	PSU07N4NEX										
	GH5	PSU07N5NEX										
1/2-13UNC	GH3	PSU08R3NEX	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH4	PSU08R4NEX										
	GH5	PSU08R5NEX										
1/2-20UNF	GH3	PSU08N3NEX	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
	GH4	PSU08N4NEX										
	GH5	PSU08N5NEX										
9/16-12UNC	GH3	PSU09S3NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
	GH4	PSU09S4NEX										
	GH5	PSU09S5NEX										
9/16-18UNF	GH3	PSU09O3NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
	GH4	PSU09O4NEX										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
9/16-18UNF	GH5	PSU0905NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
5/8-11UNC	GH3	PSU10U3NEX	4.5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	4
	GH4	PSU10U4NEX										
	GH5	PSU10U5NEX										
	GH6	PSU10U6NEX										
5/8-18UNF	GH3	PSU1003NEX	4.5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	4
	GH4	PSU1004NEX										
	GH5	PSU1005NEX										
3/4-10UNC	GH5	PSU12V5NEX	4.5P	4.921	1.299	-	2.52	0.590	0.442	0.687	3	4
	GH6	PSU12V6NEX										
3/4-16UNF	GH3	PSU12P3NEX	4.5P	4.921	1.299	-	2.52	0.590	0.442	0.687	3	4
	GH4	PSU12P4NEX										
	GH5	PSU12P5NEX										
7/8-9UNC	GH4	PSU14W4NEX	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	4
	GH5	PSU14W5NEX										
	GH6	PSU14W6NEX										
7/8-14UNF	GH4	PSU14Q4NEX	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	4
	GH6	PSU14Q6NEX										
1-8UNC	GH4	PSU16X4NEX	4.5P	6.299	1.457	-	3.228	0.800	0.6	0.812	3	4
	GH5	PSU16X5NEX										
	GH6	PSU16X6NEX										
	GH7	PSU16X7NEX										
1-12UNF	GH4	PSU16S4NEX	4.5P	6.299	1.457	-	3.228	0.800	0.6	0.812	3	4
	GH5	PSU16S5NEX										
	GH6	PSU16S6NEX										
1 1/8-7UNC	GH6	PSU18Y6NEX	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
	GH7	PSU18Y7NEX										
1 1/8-12UNF	GH5	PSU18S5NEX	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
	GH6	PSU18S6NEX										
1 1/4-7UNC	GH6	PSU20Y6NEX	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
	GH8	PSU20Y8NEX										
1 1/4-12UNF	GH5	PSU20S5NEX	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
	GH6	PSU20S6NEX										
1 3/8-6UNC	GH6	PSU22Z6NEX	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
	GH8	PSU22Z8NEX										
1 3/8-12UNF	GH5	PSU22S5NEX	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
	GH6	PSU22S6NEX										
1 1/2-6UNC	GH6	PSU24Z6NEX	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
	GH8	PSU24Z8NEX										
1 1/2-12UNF	GH5	PSU24S5NEX	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
	GH7	PSU24S7NEX										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

ZELX SS PO



Spiral Pointed Taps for Stainless Steels

Specification



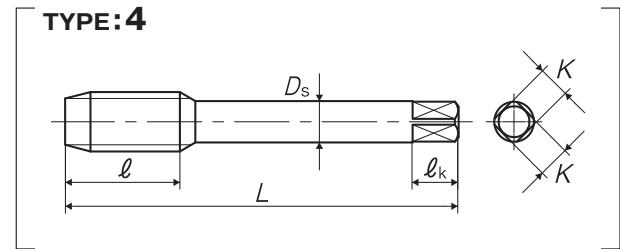
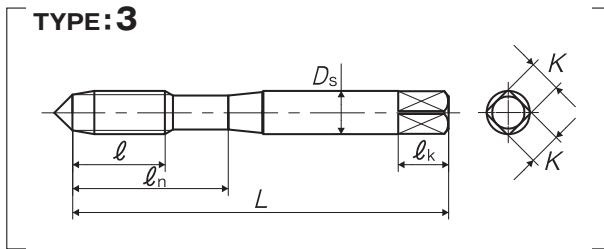
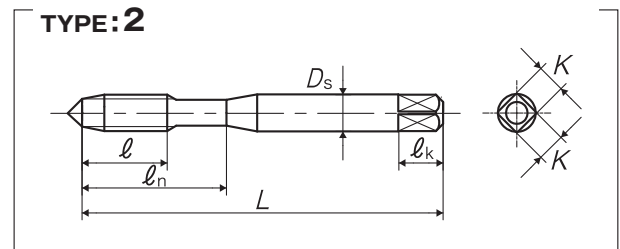
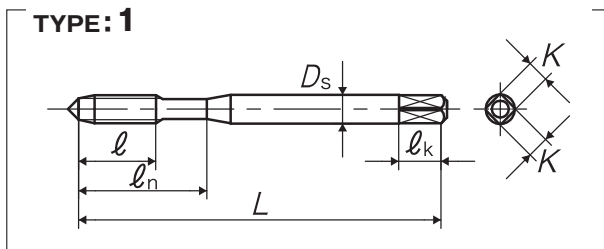
1/8U~

■ Suitable for stainless steels tending to work harden and sticky, as well as chrome steels and molybdenum steels. Through hole use.

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels	Stainless steels
~10 (m/min)	~10 (m/min)	~10 (m/min)

For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	l (inch)	ln (inch)	Ds (inch)	K (inch)	lk (inch)	No. of flutes	Type
For Metric threads											
M3 × 0.5	D3	Y72615	4.5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y72616	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y72617	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y72619	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y72620	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y72621	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y72623	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y72622	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y72625	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y72624	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y72627	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y72626	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
M14 × 2	D7	Y72629	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
M14 × 1.5	D6	Y72628	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
M16 × 2	D7	Y72631	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
M16 × 1.5	D6	Y72630	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
M18 × 2.5	D7	Y72633	4.5P	4.031	1.083	-	0.542	0.406	0.625	3	4
M18 × 1.5	D6	Y72632	4.5P	4.031	1.083	-	0.542	0.406	0.625	3	4

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX SS PO Spiral Pointed Taps for Stainless Steels

	Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
	For Unified Threads											
	No.2-56UNC	GH2	Y82623	4.5P	1.75	0.256	0.437	0.141	0.11	0.187	2	1
	No.3-48UNC	GH2	Y82600	4.5P	1.812	0.295	0.5	0.141	0.11	0.187	2	1
	No.4-40UNC	GH2	Y82601	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
		GH3	Y82602									
		GH4	Y82612									
		GH5	Y82634									
	No.4-48UNF	GH2	Y82683	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
	No.5-40UNC	GH2	Y82603	4.5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
	No.6-32UNC	GH2	Y82604	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
		GH3	Y82605									
		GH4	Y82608									
		GH5	Y82635									
		GH6	Y82659									
		GH7	Y82665									
	No.6-40UNF	GH2	Y82684	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
		GH3	Y82642									
	No.8-32UNC	GH2	Y82606	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
		GH3	Y82607									
		GH4	Y82629									
		GH5	Y82637									
		GH6	Y82660									
		GH7	Y82667									
	No.8-36UNF	GH2	Y82686	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
	No.10-24UNC	GH3	Y82609	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
		GH5	Y82639									
		GH6	Y82690									
		GH7	Y82669									
	No.10-32UNF	GH2	Y82611	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
		GH3	Y82610									
		GH4	Y82630									
		GH5	Y82640									
		GH6	Y82661									
		GH7	Y82670									
	No.12-24UNC	GH3	Y82688	4.5P	2.375	0.571	0.937	0.220	0.165	0.281	3	1
	No.12-28UNF	GH3	Y82689	4.5P	2.375	0.571	0.937	0.220	0.165	0.281	3	1
	1/4-20UNC	GH3	Y82613	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
		GH5	Y82643									
		GH6	Y82590									
		GH7	Y82673									
	1/4-28UNF	GH3	Y82614	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
		GH4	Y82631									
		GH5	Y82644									
		GH6	Y82662									
		GH7	Y82674									
	5/16-18UNC	GH3	Y82615	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
		GH5	Y82645									
		GH7	Y82675									
	5/16-24UNF	GH3	Y82616	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
		GH4	Y82632									

ZELX SS PO Spiral Pointed Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
5/16-24UNF	GH5	Y82646	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
	GH6	Y82663									
	GH7	Y82676									
3/8-16UNC	GH3	Y82617	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
	GH5	Y82647									
	GH7	Y82668									
3/8-24UNF	GH3	Y82618	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
	GH4	Y82633									
	GH5	Y82648									
	GH6	Y82664									
	GH7	Y82678									
7/16-14UNC	GH3	Y82619	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
	GH5	Y82649									
7/16-20UNF	GH3	Y82620	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
	GH5	Y82650									
	GH6	Y82691									
	GH7	Y82680									
1/2-13UNC	GH3	Y82621	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
	GH5	Y82651									
	GH7	Y82681									
1/2-20UNF	GH3	Y82622	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
	GH5	Y82652									
	GH6	Y82692									
	GH7	Y82682									
	GH9	Y82685									
9/16-12UNC	GH3	Y82653	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
9/16-18UNF	GH3	Y82654	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
	GH5	Y82666									
5/8-11UNC	GH3	Y82625	4.5P	3.812	1.083	-	0.480	0.36	0.562	3	4
	GH5	Y82655									
5/8-18UNF	GH3	Y82626	4.5P	3.812	1.083	-	0.480	0.36	0.562	3	4
	GH4	Y82636									
	GH5	Y82656									
	GH6	Y82694									
	GH7	Y82591									
3/4-10UNC	GH3	Y82627	4.5P	4.25	1.201	-	0.590	0.422	0.687	3	4
	GH5	Y82657									
3/4-16UNF	GH3	Y82628	4.5P	4.25	1.201	-	0.590	0.422	0.687	3	4
	GH5	Y82658									
	GH7	Y82592									
7/8-9UNC	GH4	Y82695	4.5P	4.687	1.339	-	0.697	0.523	0.75	3	4
7/8-14UNF	GH4	Y82696	4.5P	4.687	1.339	-	0.697	0.523	0.75	3	4
	GH6	Y82699									
1-8UNC	GH4	Y82697	4.5P	5.125	1.496	-	0.800	0.6	0.812	3	4
1-12UNF	GH4	Y82679	4.5P	5.125	1.496	-	0.800	0.6	0.812	3	4
1 1/8-7UNC	GH6	Y82700	4.5P	5.437	1.535	-	0.896	0.672	0.875	4	4
1 1/8-12UNF	GH5	Y82701	4.5P	5.437	1.535	-	0.896	0.672	0.875	4	4
1 1/4-7UNC	GH6	Y82702	4.5P	5.75	1.535	-	1.021	0.766	1	4	4
1 1/4-12UNF	GH5	Y82703	4.5P	5.75	1.535	-	1.021	0.766	1	4	4
1 3/8-6UNC	GH6	Y82705	4.5P	6.062	1.811	-	1.108	0.831	1.062	4	4
1 3/8-12UNF	GH5	Y82706	4.5P	6.062	1.811	-	1.108	0.831	1.062	4	4

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX SS PO Spiral Pointed Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
1 1/2-6UNC	GH6	Y82707	4.5P	6.375	1.811	-	1.233	0.925	1.125	4	4
1 1/2-12UNF	GH5	Y82708	4.5P	6.375	1.811	-	1.233	0.925	1.125	4	4
1 3/4-5UNC	GH7	Y82709	4.5P	7	1.929	-	1.430	1.072	1.25	4	4
2-4.5UNC	GH7	Y82710	4.5P	7.625	1.929	-	1.644	1.233	1.375	4	4

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Pipe Taps
Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	D _s	K	ℓ _k

ZELX SS PO 6"



Long Shank Spiral Pointed Taps for Stainless Steels

Specification

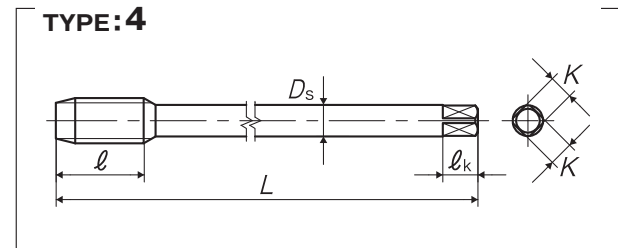
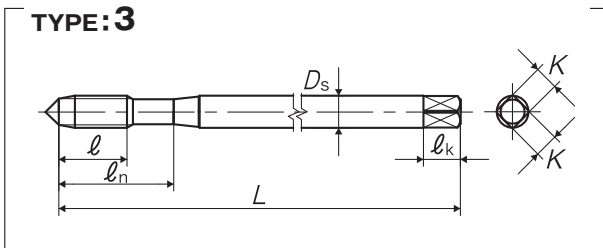
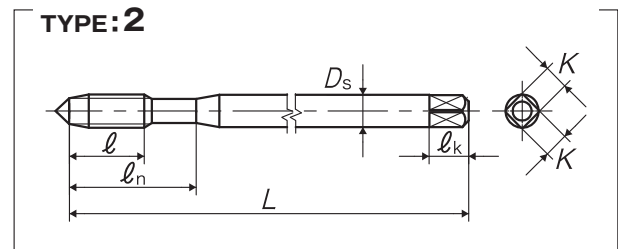
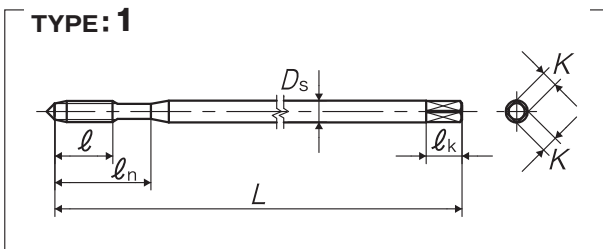


■ Suitable for stainless steels tending to work harden and sticky, as well as chrome steels and molybdenum steels. Through hole use.

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels	Stainless steels
5~10 (m/min)	5~10 (m/min)	~5 (m/min)

For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Unified Threads											
No.2-56UNC	GH2	Y82523	4.5P	6	0.256	0.437	0.141	0.11	0.187	2	1
No.3-48UNC	GH2	Y82500	4.5P	6	0.295	0.5	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y82501	4.5P	6	0.335	0.562	0.141	0.11	0.187	2	1
No.6-32UNC	GH3	Y82505	4.5P	6	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y82507	4.5P	6	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y82509	4.5P	6	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y82510	4.5P	6	0.531	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y82513	4.5P	6	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y82514	4.5P	6	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y82515	4.5P	6	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y82516	4.5P	6	0.669	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y82517	4.5P	6	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y82518	4.5P	6	0.748	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y82519	4.5P	6	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y82520	4.5P	6	0.866	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y82521	4.5P	6	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y82522	4.5P	6	0.984	-	0.367	0.275	0.437	3	4

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX AL PO

Spiral Pointed Taps for Aluminum

Specification

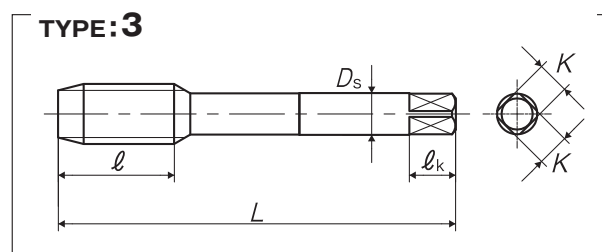
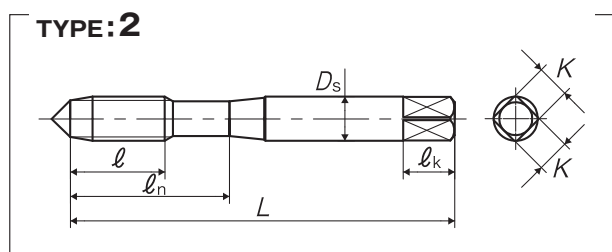
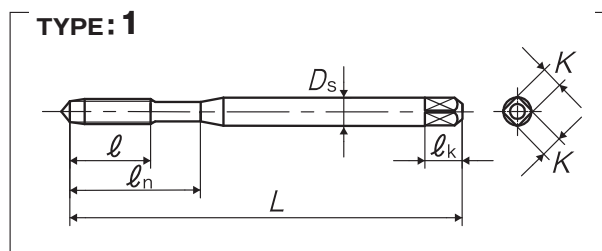


■ In tapping of aluminum die casting and aluminum casting, ZELX AL PO solves chip jamming and chip clogging trouble, and eliminates torn threads.

Recommended Tapping Speed depending on Materials

Wrought aluminum	Aluminum alloy castings	Zinc alloy castings
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads											
M3 × 0.5	D3	Y86228	5P	2.205	0.433	0.709	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y86229	5P	2.205	0.512	0.787	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y86230	5P	2.48	0.512	0.827	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y86231	5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
M6 × 1	D5	Y86232	5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1
M7 × 1	D5	Y86233	5P	3.15	0.748	1.181	0.318	0.238	0.375	3	2
M8 × 1.25	D5	Y86235	5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
M8 × 1	D5	Y86234	5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
M10 × 1.5	D6	Y86237	5P	3.937	0.945	1.535	0.381	0.286	0.437	3	2
M10 × 1.25	D5	Y86236	5P	3.937	0.945	1.535	0.381	0.286	0.437	3	2
M12 × 1.75	D6	Y86240	5P	4.331	1.142	-	0.367	0.275	0.437	3	3
M12 × 1.5	D5	Y86239	5P	3.937	0.866	-	0.367	0.275	0.437	3	3
M12 × 1.25	D5	Y86238	5P	3.937	0.866	-	0.367	0.275	0.437	3	3
For Unified Threads											
No.2-56UNC	GH2	Y86200	5P	1.772	0.276	0.472	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y86201	5P	2.205	0.433	0.709	0.141	0.11	0.187	2	1
No.5-40UNC	GH2	Y86202	5P	2.205	0.433	0.709	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y86203	5P	2.205	0.512	0.787	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y86204	5P	2.48	0.512	0.827	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y86205	5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y86206	5P	2.756	0.63	0.984	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y86207	5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1
	GH5	Y86208									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX AL PO Spiral Pointed Taps for Aluminum

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
1/4-28UNF	GH3	Y86209	5P	3.15	0.748	1.181	0.255	0.191	0.312	3	1
	GH4	Y86211									
5/16-18UNC	GH3	Y86212	5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
	GH5	Y86213									
5/16-24UNF	GH3	Y86214	5P	3.543	0.866	1.378	0.318	0.238	0.375	3	2
	GH4	Y86215									
3/8-16UNC	GH3	Y86216	5P	3.937	0.945	1.535	0.381	0.286	0.437	3	2
	GH5	Y86217									
3/8-24UNF	GH3	Y86218	5P	3.543	0.787	1.535	0.381	0.286	0.437	3	2
	GH4	Y86219									
7/16-14UNC	GH3	Y86220	5P	3.937	0.945	-	0.323	0.242	0.406	3	3
	GH5	Y86221									
7/16-20UNF	GH3	Y86222	5P	3.937	0.945	-	0.323	0.242	0.406	3	3
	GH5	Y86223									
1/2-13UNC	GH3	Y86224	5P	4.331	1.142	-	0.367	0.275	0.437	3	3
	GH5	Y86225									
1/2-20UNF	GH3	Y86226	5P	3.937	0.866	-	0.367	0.275	0.437	3	3
	GH5	Y86227									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

PO STI

Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts

Specification



■ Spiral pointed tap to cut internal threads for helical coil to enter.

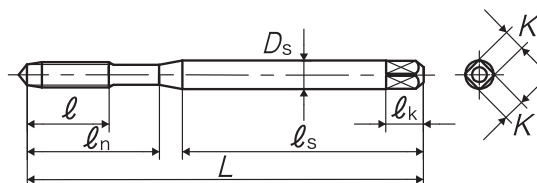
Recommended Tapping Speed depending on Materials

Brass 5~15 (m/min)	Brass castings 5~15 (m/min)	Bronze 5~15 (m/min)	Wrought aluminum 5~15 (m/min)	Aluminum alloy castings 5~15 (m/min)
Magnesium alloy die castings 5~15 (m/min)	Zinc alloy castings 5~15 (m/min)			

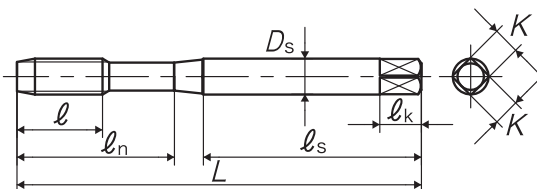
For icon explanation, refer to P.50



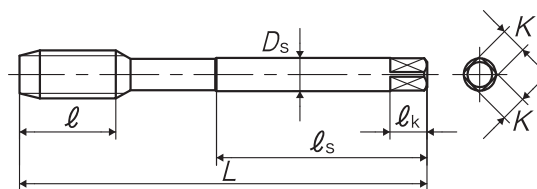
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Helical Coil Wire Screw Thread Inserts, for Unified Threads												
STI No.2-56UNC	GH1	PUUN2E1NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
	GH2	PUUN2E2NEB										
STI No.4-40UNC	GH1	PUUN4H1NEB	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
	GH2	PUUN4H2NEB										
STI No.6-32UNC	GH1	PUUN6J1NEB	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	2	1
	GH2	PUUN6J2NEB										
STI No.8-32UNC	GH1	PUUN8J1NEB	5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	2	1
	GH2	PUUN8J2NEB										
STI No.10-24UNC	GH2	PUUNAM2NEB	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
	GH3	PUUNAM3NEB										
STI No.10-32UNF	GH2	PUUNA2NEB	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
	GH3	PUUNA3NEB										
STI 1/4-20UNC	GH2	PUU04N2NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
	GH3	PUU04N3NEB										
STI 1/4-28UNF	GH2	PUU04K2NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
	GH3	PUU04K3NEB										
STI 5/16-18UNC	GH2	PUU0502NEB	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	2	2
	GH3	PUU0503NEB										
STI 5/16-24UNF	GH2	PUU05M2NEB	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	2	2
	GH3	PUU05M3NEB										
STI 3/8-16UNC	GH3	PUU06P3NEB	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
	GH4	PUU06P4NEB										
STI 3/8-24UNF	GH2	PUU06M2NEB	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
	GH3	PUU06M3NEB										

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO STI Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
STI 7/16-14UNC	GH3	PUU07Q3NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
	GH4	PUU07Q4NEB										
STI 7/16-20UNF	GH3	PUU07N3NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
	GH4	PUU07N4NEB										
STI 1/2-13UNC	GH3	PUU08R3NEB	5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	3
	GH4	PUU08R4NEB										
STI 1/2-20UNF	GH3	PUU08N3NEB	5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	3
	GH4	PUU08N4NEB										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

PO OX STI



Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Specification



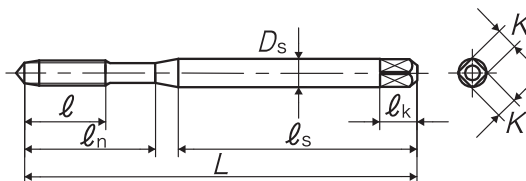
■ Spiral pointed tap to cut internal threads for helical coil to enter.

Recommended Tapping Speed depending on Materials

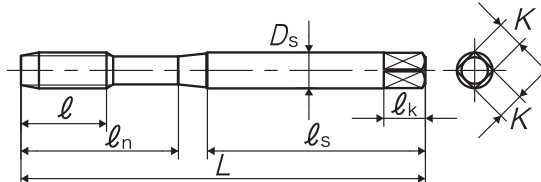
Low carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

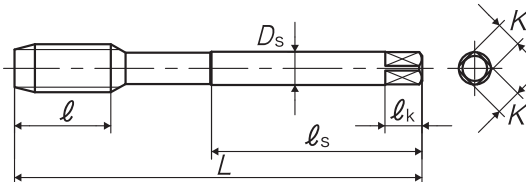
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Helical Coil Wire Screw Thread Inserts, for Unified Threads												
STI No.2-56UNC	GH1	PUUN2E1NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
	GH2	PUUN2E2NEX										
STI No.4-40UNC	GH1	PUUN4H1NEX	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
	GH2	PUUN4H2NEX										
STI No.6-32UNC	GH1	PUUN6J1NEX	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	2	1
	GH2	PUUN6J2NEX										
STI No.8-32UNC	GH1	PUUN8J1NEX	5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	2	1
	GH2	PUUN8J2NEX										
STI No.10-24UNC	GH2	PUUNAM2NEX	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
	GH3	PUUNAM3NEX										
STI No.10-32UNF	GH2	PUUNAJ2NEX	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
	GH3	PUUNAJ3NEX										
STI 1/4-20UNC	GH2	PUU04N2NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
	GH3	PUU04N3NEX										
STI 1/4-28UNF	GH2	PUU04K2NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
	GH3	PUU04K3NEX										
STI 5/16-18UNC	GH2	PUU05O2NEX	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	2	2
	GH3	PUU05O3NEX										
STI 5/16-24UNF	GH2	PUU05M2NEX	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	2	2
	GH3	PUU05M3NEX										
STI 3/8-16UNC	GH3	PUU06P3NEX	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
	GH4	PUU06P4NEX										
STI 3/8-24UNF	GH2	PUU06M2NEX	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
	GH3	PUU06M3NEX										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX STI Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
STI 7/16-14UNC	GH3	PUU07Q3NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
	GH4	PUU07Q4NEX										
STI 7/16-20UNF	GH3	PUU07N3NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
	GH4	PUU07N4NEX										
STI 1/2-13UNC	GH3	PUU08R3NEX	5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	3
	GH4	PUU08R4NEX										
STI 1/2-20UNF	GH3	PUU08N3NEX	5P	4.331	1.024	-	2.205	0.480	0.36	0.562	3	3
	GH4	PUU08N4NEX										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	Ds	K	ℓ_k

ZELX NI PO



Spiral Pointed Taps for Nickel Base Alloys

Specification

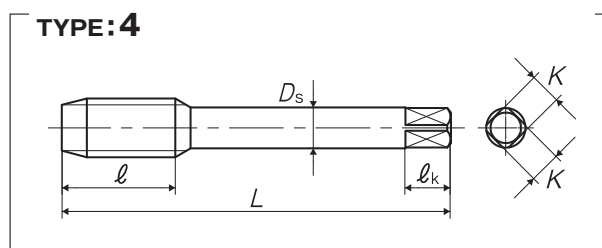
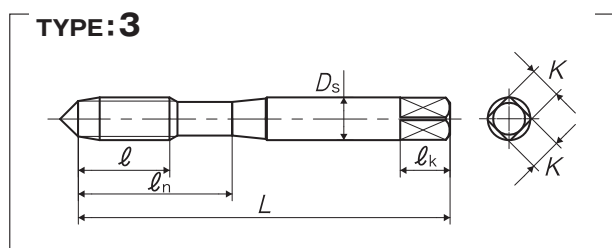
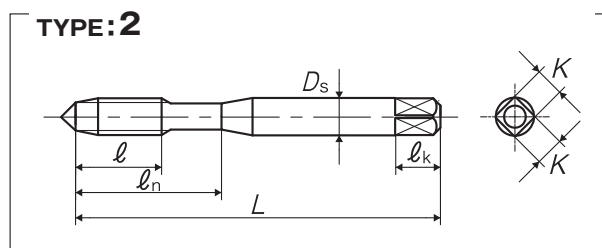
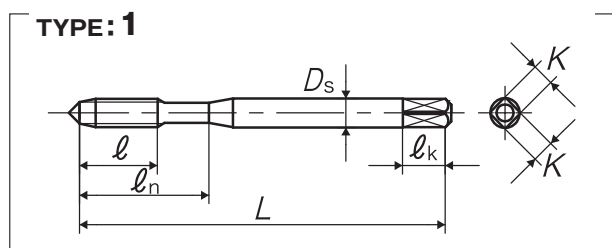


■ ZELX NI PO is the spiral point tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels.

Recommended Tapping Speed depending on Materials

Nickel base alloys
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads											
M2.5 × 0.45	D3	Y87320	4.5P	1.812	0.295	0.5	0.141	0.11	0.187	2	1
M3 × 0.5	D3	Y87321	4.5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y87322	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y87323	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y87324	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y87325	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y87326	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y87328	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y87327	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y87330	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y87329	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y87332	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y87331	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
For Unified Threads											
No.2-56UNC	GH2	Y85523	4.5P	1.75	0.256	0.437	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y85501	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
	GH3	Y85502									
	GH4	Y85504									
No.5-40UNC	GH2	Y85503	4.5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

ZELX NI PO Spiral Pointed Taps for Nickel Base Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
No.6-32UNC	GH3	Y85505	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
	GH4	Y85524									
	GH5	Y85535									
	GH7	Y85511									
No.6-40UNF	GH2	Y85512	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y85507	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
		Y85507NI									
	GH4	Y85529									
	GH5	Y85537									
		Y85537NI									
	GH6	Y85560									
Y85560NI											
GH7	Y85567										
	Y85567NI										
No.10-24UNC	GH3	Y85509	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
	GH5	Y85539									
No.10-32UNF	GH3	Y85510	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
		Y85510NI									
	GH4	Y85530									
		Y85530NI									
	GH5	Y85540									
		Y85540NI									
GH6	Y85561										
	Y85561NI										
GH7	Y85570										
	Y85570NI										
1/4-20UNC	GH3	Y85513	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
		Y85513NI									
	GH5	Y85543									
		Y85543NI									
1/4-28UNF	GH3	Y85514	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
		Y85531									
	GH4	Y85531NI									
		Y85544									
	GH5	Y85544NI									
		Y85562									
GH6	Y85562NI										
	GH7	Y85574									
Y85574NI											
5/16-18UNC	GH3	Y85515	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
	GH5	Y85545									
	GH7	Y85553									
5/16-24UNF	GH3	Y85516	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
	GH4	Y85532									
	GH5	Y85546									
	GH6	Y85563									
	GH7	Y85576									
3/8-16UNC	GH3	Y85517	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
	GH5	Y85547									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ZELX NI PO Spiral Pointed Taps for Nickel Base Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
3/8-24UNF	GH3	Y85518	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
	GH4	Y85533									
	GH5	Y85548									
	GH6	Y85564									
	GH7	Y85578									
7/16-14UNC	GH3	Y85519	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
	GH5	Y85549									
7/16-20UNF	GH3	Y85520	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
	GH5	Y85550									
1/2-13UNC	GH3	Y85521	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
	GH5	Y85551									
1/2-20UNF	GH3	Y85522	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
	GH5	Y85552									
	GH7	Y85582 Y85582NI									
5/8-11UNC	GH3	Y85525	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
	GH5	Y85555									
	GH7	Y85585									
5/8-18UNF	GH3	Y85526	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
	GH5	Y85556									
	GH7	Y85586									
3/4-10UNC	GH3	Y85527	4.5P	4.25	1.201	-	0.59	0.442	0.687	3	4
	GH5	Y85557									
3/4-16UNF	GH3	Y85528	4.5P	4.25	1.201	-	0.59	0.442	0.687	3	4
	GH5	Y85558									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

ZELX NI PO STI



Spiral Pointed Taps for Nickel Base Alloys for Helical Coil Wire Screw Thread Inserts

Specification

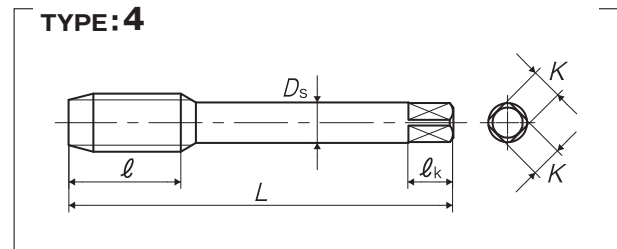
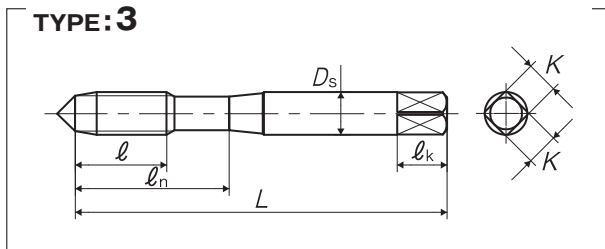
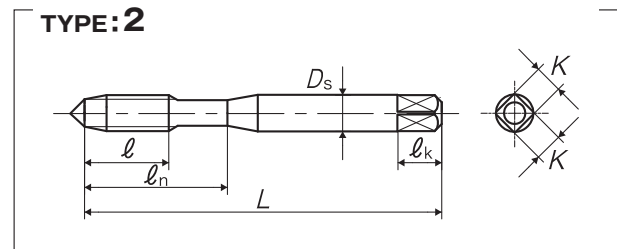
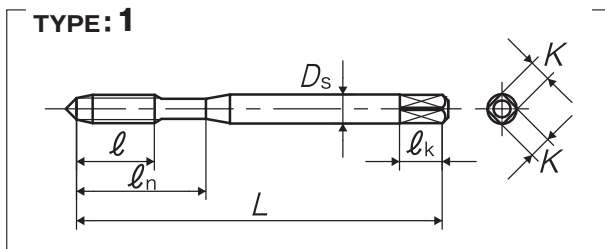


■ ZELX NI PO STI is the spiral point tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels, and produces threads oversize enough to accommodate helical coil wire thread inserts.

Recommended Tapping Speed depending on Materials

Nickel base alloys
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	l (inch)	ln (inch)	Ds (inch)	K (inch)	lk (inch)	No. of flutes	Type
For Helical Coil Wire Screw Thread Inserts, for Unified Threads											
STI No.2-56UNC	GH2	Y87200	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
STI No.4-40UNC	GH1	Y87203	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
	GH2	Y87204									
STI No.6-32UNC	GH2	Y87208	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
	GH3	Y87224									
STI No.6-40UNF	GH2	Y87209	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
STI No.8-32UNC	GH2	Y87210	4.5P	2.375	0.571	0.937	0.22	0.165	0.281	3	1
	GH3	Y87226									
STI No.10-24UNC	GH2	Y87212	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
	GH3	Y87228									
STI No.10-32UNF	GH2	Y87213	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
	GH3	Y87229									
STI 1/4-20UNC	GH2	Y87248	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
	GH3	Y87258									
STI 1/4-28UNF	GH2	Y87249	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
	GH3	Y87259									
STI 5/16-18UNC	GH3	Y87260	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
STI 5/16-24UNF	GH2	Y87251	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
	GH3	Y87261									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Tap

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI PO STI Spiral Pointed Taps for Nickel Base Alloys for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
STI 3/8-16UNC	GH3	Y87262	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
	GH4	Y87270									
STI 3/8-24UNF	GH2	Y87253	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
	GH3	Y87263									
STI 7/16-14UNC	GH3	Y87264	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
STI 7/16-20UNF	GH3	Y87265	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
	GH4	Y87275									
STI 1/2-13UNC	GH3	Y87266	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
STI 1/2-20UNF	GH3	Y87267	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4

- Spiral Fluted Taps (for blind hole)
- Spiral Fluted Taps (for through hole)
- Spiral Pointed Taps (for through hole)
- Hand Taps
- Cemented Carbide Taps
- Roll Taps
- Pipe Taps Simple Inspection Tools
- Thread Mills
- Dies
- Center Drills
- Centering Tools

ANSI LINE UP

HAND TAP SERIES



IHT

HT-1

HT STI

HT-16

HT

HT-3

HT OX STI

HT-18

HT OX

HT-8

ZELX MOLD

HT-20

HT-CI

HT-13

EH-HT

HT-21

AXE-HT

HT-15

IHT

Hand Taps for General Purpose Specification

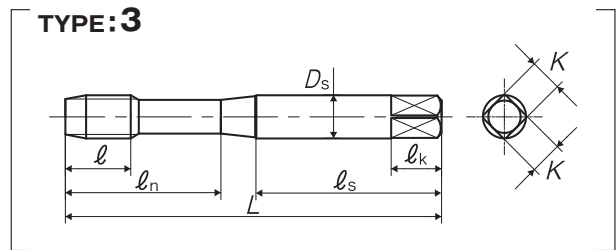
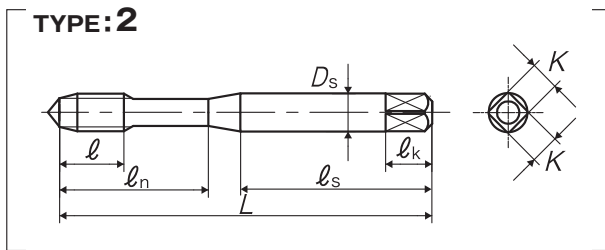
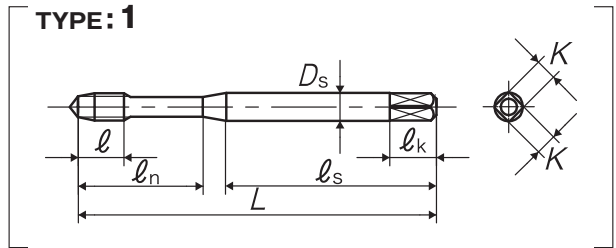


■ Suitable for low speed tapping of steels. For manual use and drilling machine use.

Recommended Tapping Speed depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Unified Threads												
No.6-32UNC	-	IAUN6JXHEX5	5P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
		IAUN6JXHEX2	2P									
No.8-32UNC	-	IAUN8JXHEX5	5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
		IAUN8JXHEX2	2P									
No.10-24UNC	-	IAUNAMXHEX5	5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
		IAUNAMXHEX2	2P									
1/4-20UNC	-	IAU04NXHEX5	5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
		IAU04NXHEX2	2P									
5/16-18UNC	-	IAU05OXHEX5	5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
		IAU05OXHEX2	2P									
3/8-16UNC	-	IAU06PXHEX5	5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3
		IAU06PXHEX2	2P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

IHT Hand Taps for General Purpose

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
For Unified Threads (In blister package)												
No.6-32UNC	-	IAUN6JXHEX5R	5P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
		IAUN6JXHEX2R	2P									
No.8-32UNC	-	IAUN8JXHEX5R	5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
		IAUN8JXHEX2R	2P									
No.10-24UNC	-	IAUNAMXHEX5R	5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
		IAUNAMXHEX2R	2P									
1/4-20UNC	-	IAU04NXHEX5R	5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
		IAU04NXHEX2R	2P									
5/16-18UNC	-	IAU05OXHEX5R	5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
		IAU05OXHEX2R	2P									
3/8-16UNC	-	IAU06PXHEX5R	5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3
		IAU06PXHEX2R	2P									

Blister Package



- Spiral Fluted Taps (for blind hole)
- Spiral Fluted Taps (for through hole)
- Spiral Pointed Taps (for through hole)
- Hand Taps
- Cemented Carbide Taps
- Roll Taps
- Simple Inspection Tools
- Pipe Taps
- Thread Mills
- Dies
- Center Drills
- Centering Tools

HT

Hand Taps Specification



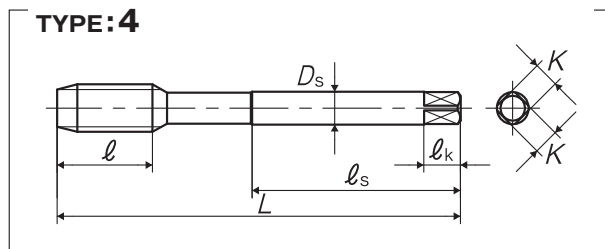
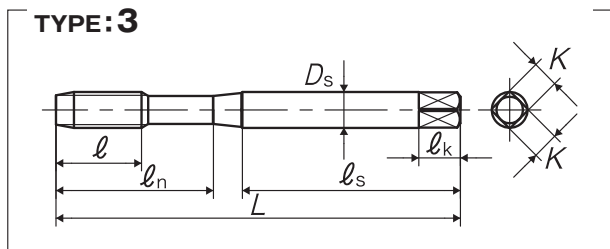
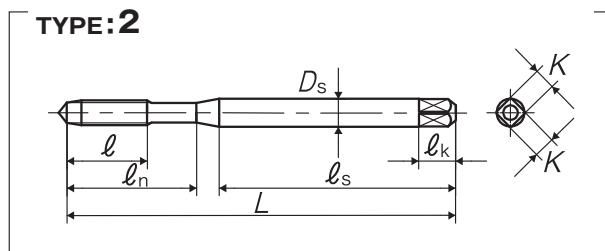
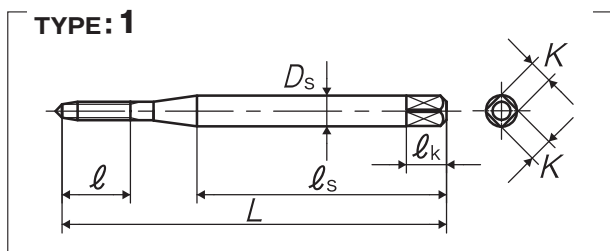
1 1/8U~

Recommended Tapping Speed depending on Materials

Medium carbon steels

5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	l (inch)	ln (inch)	ls (inch)	Ds (inch)	K (mm)	lk (mm)	No. of flutes	Type
For Unified Threads												
No.0-80UNF	GH1	TSUN0B1NEB5	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
		TSUN0B1NEBA	1.5P									
	GH2	TSUN0B2NEB5	5P									
		TSUN0B2NEBA	1.5P									
No.1-64UNC	GH1	TSUN1D1NEB5	5P	1.772	0.275	-	1.161	0.141	0.11	0.187	2	1
		TSUN1D1NEBA	1.5P									
	GH2	TSUN1D2NEB5	5P									
		TSUN1D2NEBA	1.5P									
No.1-72UNF	GH1	TSUN1C1NEB5	5P	1.772	0.275	-	1.161	0.141	0.11	0.187	2	1
		TSUN1C1NEBA	1.5P									
	GH2	TSUN1C2NEB5	5P									
		TSUN1C2NEBA	1.5P									
No.2-56UNC	GH1	TSUN2E1NEB5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
		TSUN2E1NEBA	1.5P									
	GH2	TSUN2E2NEB5	5P									
		TSUN2E2NEBA	1.5P									
NO.2-64UNF	GH1	TSUN2D1NEB5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
		TSUN2D1NEBA	1.5P									
	GH2	TSUN2D2NEB5	5P									
		TSUN2D2NEBA	1.5P									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps
 Simple Inspection Tools
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (mm)	ℓk (mm)	No. of flutes	Type
No.3-48UNC	GH1	TSUN3F1NEB5	5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	3	2
		TSUN3F1NEBA	1.5P									
	GH2	TSUN3F2NEB5	5P									
		TSUN3F2NEBA	1.5P									
No.3-56UNF	GH1	TSUN3E1NEB5	5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	3	2
		TSUN3E1NEBA	1.5P									
	GH2	TSUN3E2NEB5	5P									
		TSUN3E2NEBA	1.5P									
No.4-40UNC	GH2	TSUN4H2NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
		TSUN4H2NEBA	1.5P									
	GH3	TSUN4H3NEB5	5P									
		TSUN4H3NEBA	1.5P									
No.4-48UNF	GH1	TSUN4F1NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
		TSUN4F1NEBA	1.5P									
	GH2	TSUN4F2NEB5	5P									
		TSUN4F2NEBA	1.5P									
No.5-40UNC	GH2	TSUN5H2NEB5	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
		TSUN5H2NEBA	1.5P									
	GH3	TSUN5H3NEB5	5P									
		TSUN5H3NEBA	1.5P									
No.5-44UNF	GH1	TSUN5G1NEB5	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
		TSUN5G1NEBA	1.5P									
	GH2	TSUN5G2NEB5	5P									
		TSUN5G2NEBA	1.5P									
	GH3	TSUN5G3NEB5	5P									
		TSUN5G3NEBA	1.5P									
No.6-32UNC	GH2	TSUN6J2NEB5	5P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	3	2
		TSUN6J2NEBA	1.5P									
	GH3	TSUN6J3NEB5	5P									
		TSUN6J3NEBA	1.5P									
No.6-40UNF	GH2	TSUN6H2NEB5	5P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	3	2
		TSUN6H2NEBA	1.5P									
	GH3	TSUN6H3NEB5	5P									
		TSUN6H3NEBA	1.5P									
No.8-32UNC	GH2	TSUN8J2NEB5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		TSUN8J2NEBA	1.5P									
	GH3	TSUN8J3NEB5	5P									
		TSUN8J3NEBA	1.5P									
No.8-36UNF	GH2	TSUN8I2NEB5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		TSUN8I2NEBA	1.5P									
	GH3	TSUN8I3NEB5	5P									
		TSUN8I3NEBA	1.5P									
No.10-24UNC	GH2	TSUNAM2NEB5	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
		TSUNAM2NEBA	1.5P									
	GH3	TSUNAM3NEB5	5P									
		TSUNAM3NEBA	1.5P									
No.10-32UNF	GH2	TSUNAJ2NEB5	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
		TSUNAJ2NEBA	1.5P									
	GH3	TSUNAJ3NEB5	5P									
		TSUNAJ3NEBA	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (mm)	ℓ _k (mm)	No. of flutes	Type
No.12-24UNC	GH2	TSUNCM2NEB5	5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	4	2
		TSUNCM2NEBA	1.5P									
	GH3	TSUNCM3NEB5	5P									
		TSUNCM3NEBA	1.5P									
No.12-28UNF	GH2	TSUNCK2NEB5	5P	3.15	0.591	0.984	1.929	0.220	0.165	0.281	4	2
		TSUNCK2NEBA	1.5P									
	GH3	TSUNCK3NEB5	5P									
		TSUNCK3NEBA	1.5P									
1/4-20UNC	GH3	TSU04N3NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		TSU04N3NEBA	1.5P									
	GH4	TSU04N4NEB5	5P									
		TSU04N4NEBA	1.5P									
	GH5	TSU04N5NEB5	5P									
		TSU04N5NEBA	1.5P									
1/4-28UNF	GH2	TSU04K2NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		TSU04K2NEBA	1.5P									
	GH3	TSU04K3NEB5	5P									
		TSU04K3NEBA	1.5P									
	GH4	TSU04K4NEB5	5P									
		TSU04K4NEBA	1.5P									
5/16-18UNC	GH3	TSU05O3NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
		TSU05O3NEBA	1.5P									
	GH4	TSU05O4NEB5	5P									
		TSU05O4NEBA	1.5P									
	GH5	TSU05O5NEB5	5P									
		TSU05O5NEBA	1.5P									
5/16-24UNF	GH3	TSU05M3NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
		TSU05M3NEBA	1.5P									
	GH4	TSU05M4NEB5	5P									
		TSU05M4NEBA	1.5P									
3/8-16UNC	GH3	TSU06P3NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
		TSU06P3NEBA	1.5P									
	GH5	TSU06P5NEB5	5P									
		TSU06P5NEBA	1.5P									
3/8-24UNF	GH3	TSU06M3NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
		TSU06M3NEBA	1.5P									
	GH4	TSU06M4NEB5	5P									
		TSU06M4NEBA	1.5P									
7/16-14UNC	GH4	TSU07Q4NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	4
		TSU07Q4NEBA	1.5P									
	GH5	TSU07Q5NEB5	5P									
		TSU07Q5NEBA	1.5P									
7/16-20UNF	GH3	TSU07N3NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	4
		TSU07N3NEBA	1.5P									
	GH4	TSU07N4NEB5	5P									
		TSU07N4NEBA	1.5P									
1/2-13UNC	GH3	TSU08R3NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
		TSU08R3NEBA	1.5P									
	GH4	TSU08R4NEB5	5P									
		TSU08R4NEBA	1.5P									

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Pipe Taps
Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (mm)	ℓk (mm)	No. of flutes	Type
1/2-13UNC	GH5	TSU08R5NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
		TSU08R5NEBA	1.5P									
1/2-20UNF	GH3	TSU08N3NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
		TSU08N3NEBA	1.5P									
	GH4	TSU08N4NEB5	5P									
		TSU08N4NEBA	1.5P									
	GH5	TSU08N5NEB5	5P									
		TSU08N5NEBA	1.5P									
9/16-12UNC	GH3	TSU09S3NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	4
		TSU09S3NEBA	1.5P									
	GH4	TSU09S4NEB5	5P									
		TSU09S4NEBA	1.5P									
	GH5	TSU09S5NEB5	5P									
		TSU09S5NEBA	1.5P									
9/16-18UNF	GH3	TSU09O3NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	4
		TSU09O3NEBA	1.5P									
	GH4	TSU09O4NEB5	5P									
		TSU09O4NEBA	1.5P									
	GH5	TSU09O5NEB5	5P									
		TSU09O5NEBA	1.5P									
5/8-11UNC	GH3	TSU10U3NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	4
		TSU10U3NEBA	1.5P									
	GH4	TSU10U4NEB5	5P									
		TSU10U4NEBA	1.5P									
	GH5	TSU10U5NEB5	5P									
		TSU10U5NEBA	1.5P									
GH6	TSU10U6NEB5	5P										
	TSU10U6NEBA	1.5P										
5/8-18UNF	GH3	TSU10O3NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	4
		TSU10O3NEBA	1.5P									
	GH4	TSU10O4NEB5	5P									
		TSU10O4NEBA	1.5P									
	GH5	TSU10O5NEB5	5P									
		TSU10O5NEBA	1.5P									
3/4-10UNC	GH3	TSU12V3NEB5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	4
		TSU12V3NEBA	1.5P									
	GH5	TSU12V5NEB5	5P									
		TSU12V5NEBA	1.5P									
	GH6	TSU12V6NEB5	5P									
		TSU12V6NEBA	1.5P									
3/4-16UNF	GH3	TSU12P3NEB5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	4
		TSU12P3NEBA	1.5P									
	GH4	TSU12P4NEB5	5P									
		TSU12P4NEBA	1.5P									
	GH5	TSU12P5NEB5	5P									
		TSU12P5NEBA	1.5P									
7/8-9UNC	GH5	TSU14W5NEB5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	4
		TSU14W5NEBA	1.5P									
	GH6	TSU14W6NEB5	5P									
		TSU14W6NEBA	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (mm)	ℓk (mm)	No. of flutes	Type
7/8-14UNF	GH4	TSU14Q4NEB5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	4
		TSU14Q4NEBA	1.5P									
	GH6	TSU14Q6NEB5	5P									
		TSU14Q6NEBA	1.5P									
1-8UNC	GH4	TSU16X4NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	4
		TSU16X4NEBA	1.5P									
	GH5	TSU16X5NEB5	5P									
		TSU16X5NEBA	1.5P									
	GH6	TSU16X6NEB5	5P									
		TSU16X6NEBA	1.5P									
GH7	TSU16X7NEB5	5P										
	TSU16X7NEBA	1.5P										
1-12UNF	GH4	TSU16S4NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	4
		TSU16S4NEBA	1.5P									
	GH5	TSU16S5NEB5	5P									
		TSU16S5NEBA	1.5P									
GH6	TSU16S6NEB5	5P										
	TSU16S6NEBA	1.5P										
1 1/8-7UNC	GH6	TSU18Y6NEB5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
		TSU18Y6NEBA	1.5P									
	GH7	TSU18Y7NEB5	5P									
		TSU18Y7NEBA	1.5P									
1 1/8-12UNF	GH5	TSU18S5NEB5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
		TSU18S5NEBA	1.5P									
	GH6	TSU18S6NEB5	5P									
		TSU18S6NEBA	1.5P									
1 1/4-7UNC	GH6	TSU20Y6NEB5	5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
		TSU20Y6NEBA	1.5P									
	GH8	TSU20Y8NEB5	5P									
		TSU20Y8NEBA	1.5P									
1 1/4-12UNF	GH5	TSU20S5NEB5	5P	7.087	1.929	-	3.622	1.021	0.766	1	6	4
		TSU20S5NEBA	1.5P									
	GH6	TSU20S6NEB5	5P									
		TSU20S6NEBA	1.5P									
1 3/8-6UNC	GH6	TSU22Z6NEB5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
		TSU22Z6NEBA	1.5P									
	GH8	TSU22Z8NEB5	5P									
		TSU22Z8NEBA	1.5P									
1 3/8-12UNF	GH5	TSU22S5NEB5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	4
		TSU22S5NEBA	1.5P									
	GH6	TSU22S6NEB5	5P									
		TSU22S6NEBA	1.5P									
1 1/2-6UNC	GH6	TSU24Z6NEB5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
		TSU24Z6NEBA	1.5P									
	GH8	TSU24Z8NEB5	5P									
		TSU24Z8NEBA	1.5P									
1 1/2-12UNF	GH5	TSU24S5NEB5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	4
		TSU24S5NEBA	1.5P									
	GH7	TSU24S7NEB5	5P									
		TSU24S7NEBA	1.5P									

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Pipe Taps Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

HT OX

Hand Taps, Oxidized
Specification

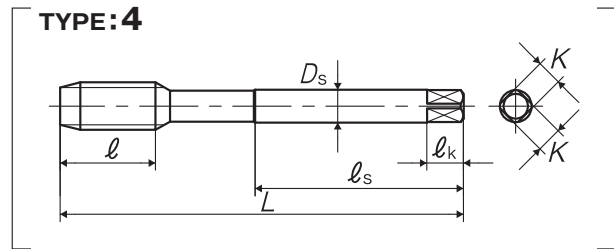
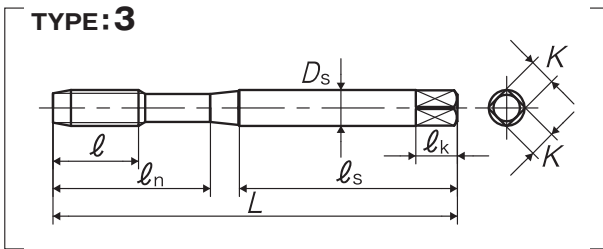
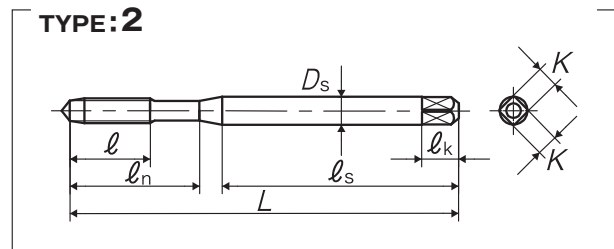
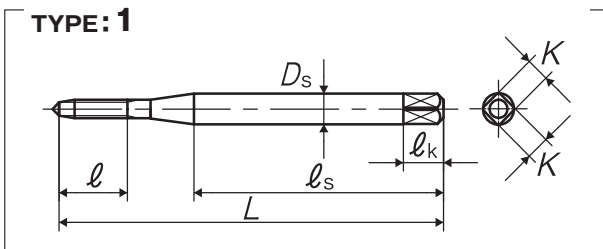


Recommended Tapping Speed depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (mm)	ℓ _k (mm)	No. of flutes	Type
For Unified Threads												
No.0-80UNF	GH1	TSUN0B1NEX5	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
		TSUN0B1NEXA	1.5P									
	GH2	TSUN0B2NEX5	5P									
		TSUN0B2NEXA	1.5P									
No.1-64UNC	GH1	TSUN1D1NEX5	5P	1.772	0.275	-	1.161	0.141	0.11	0.187	2	1
		TSUN1D1NEXA	1.5P									
	GH2	TSUN1D2NEX5	5P									
		TSUN1D2NEXA	1.5P									
NO.1-72UNF	GH1	TSUN1C1NEX5	5P	1.772	0.275	-	1.161	0.141	0.11	0.187	2	1
		TSUN1C1NEXA	1.5P									
	GH2	TSUN1C2NEX5	5P									
		TSUN1C2NEXA	1.5P									
No.2-56UNC	GH1	TSUN2E1NEX5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
		TSUN2E1NEXA	1.5P									
	GH2	TSUN2E2NEX5	5P									
		TSUN2E2NEXA	1.5P									
NO.2-64UNF	GH1	TSUN2D1NEX5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
		TSUN2D1NEXA	1.5P									
	GH2	TSUN2D2NEX5	5P									
		TSUN2D2NEXA	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap

HT OX Hand Taps, Oxidized

	Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (mm)	ℓk (mm)	No. of flutes	Type
Spiral Fluted Taps (for blind hole)	No.3-48UNC	GH1	TSUN3F1NEX5	5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	3	2
			TSUN3F1NEXA	1.5P									
GH2		TSUN3F2NEX5	5P										
		TSUN3F2NEXA	1.5P										
Spiral Fluted Taps (for through hole)	NO.3-56UNF	GH1	TSUN3E1NEX5	5P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	3	2
			TSUN3E1NEXA	1.5P									
GH2		TSUN3E2NEX5	5P										
		TSUN3E2NEXA	1.5P										
Spiral Pointed Taps (for through hole)	No.4-40UNC	GH2	TSUN4H2NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
			TSUN4H2NEXA	1.5P									
GH3		TSUN4H3NEX5	5P										
		TSUN4H3NEXA	1.5P										
Hand Taps	No.4-48UNF	GH1	TSUN4F1NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
			TSUN4F1NEXA	1.5P									
GH2		TSUN4F2NEX5	5P										
		TSUN4F2NEXA	1.5P										
Cemented Carbide Taps	No.5-40UNC	GH2	TSUN5H2NEX5	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
			TSUN5H2NEXA	1.5P									
GH3		TSUN5H3NEX5	5P										
		TSUN5H3NEXA	1.5P										
Roll Taps	NO.5-44UNF	GH1	TSUN5G1NEX5	5P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	3	2
			TSUN5G1NEXA	1.5P									
GH2		TSUN5G2NEX5	5P										
		TSUN5G2NEXA	1.5P										
GH3		TSUN5G3NEX5	5P										
		TSUN5G3NEXA	1.5P										
Pipe Taps Simple Inspection Tools	No.6-32UNC	GH2	TSUN6J2NEX5	5P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	3	2
			TSUN6J2NEXA	1.5P									
GH3		TSUN6J3NEX5	5P										
		TSUN6J3NEXA	1.5P										
Thread Mills	No.6-40UNF	GH2	TSUN6H2NEX5	5P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	3	2
			TSUN6H2NEXA	1.5P									
GH3		TSUN6H3NEX5	5P										
		TSUN6H3NEXA	1.5P										
Dies	No.8-32UNC	GH2	TSUN8J2NEX5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
			TSUN8J2NEXA	1.5P									
GH3		TSUN8J3NEX5	5P										
		TSUN8J3NEXA	1.5P										
Center Drills	No.8-36UNF	GH2	TSUN8I2NEX5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
			TSUN8I2NEXA	1.5P									
GH3		TSUN8I3NEX5	5P										
		TSUN8I3NEXA	1.5P										
Centering Tools	No.10-24UNC	GH2	TSUNAM2NEX5	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
			TSUNAM2NEXA	1.5P									
GH3		TSUNAM3NEX5	5P										
		TSUNAM3NEXA	1.5P										
No.10-32UNF	GH2	TSUNAJ2NEX5	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2	
		TSUNAJ2NEXA	1.5P										
	GH3	TSUNAJ3NEX5	5P										
		TSUNAJ3NEXA	1.5P										

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (mm)	ℓk (mm)	No. of flutes	Type
No.12-24UNC	GH2	TSUNCM2NEX5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
		TSUNCM2NEXA	1.5P									
	GH3	TSUNCM3NEX5	5P									
		TSUNCM3NEXA	1.5P									
No.12-28UNF	GH2	TSUNCK2NEX5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
		TSUNCK2NEXA	1.5P									
	GH3	TSUNCK3NEX5	5P									
		TSUNCK3NEXA	1.5P									
1/4-20UNC	GH3	TSU04N3NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		TSU04N3NEXA	1.5P									
	GH4	TSU04N4NEX5	5P									
		TSU04N4NEXA	1.5P									
	GH5	TSU04N5NEX5	5P									
		TSU04N5NEXA	1.5P									
1/4-28UNF	GH2	TSU04K2NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		TSU04K2NEXA	1.5P									
	GH3	TSU04K3NEX5	5P									
		TSU04K3NEXA	1.5P									
	GH4	TSU04K4NEX5	5P									
		TSU04K4NEXA	1.5P									
5/16-18UNC	GH3	TSU05O3NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
		TSU05O3NEXA	1.5P									
	GH4	TSU05O4NEX5	5P									
		TSU05O4NEXA	1.5P									
	GH5	TSU05O5NEX5	5P									
		TSU05O5NEXA	1.5P									
5/16-24UNF	GH3	TSU05M3NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
		TSU05M3NEXA	1.5P									
	GH4	TSU05M4NEX5	5P									
		TSU05M4NEXA	1.5P									
3/8-16UNC	GH3	TSU06P3NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
		TSU06P3NEXA	1.5P									
	GH5	TSU06P5NEX5	5P									
		TSU06P5NEXA	1.5P									
3/8-24UNF	GH3	TSU06M3NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
		TSU06M3NEXA	1.5P									
	GH4	TSU06M4NEX5	5P									
		TSU06M4NEXA	1.5P									
7/16-14UNC	GH4	TSU07Q4NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	4
		TSU07Q4NEXA	1.5P									
	GH5	TSU07Q5NEX5	5P									
		TSU07Q5NEXA	1.5P									
7/16-20UNF	GH3	TSU07N3NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	4
		TSU07N3NEXA	1.5P									
	GH4	TSU07N4NEX5	5P									
		TSU07N4NEXA	1.5P									
1/2-13UNC	GH3	TSU08R3NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
		TSU08R3NEXA	1.5P									
	GH4	TSU08R4NEX5	5P									
		TSU08R4NEXA	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (mm)	ℓ _k (mm)	No. of flutes	Type
1/2-13UNC	GH5	TSU08R5NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
		TSU08R5NEXA	1.5P									
1/2-20UNF	GH3	TSU08N3NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
		TSU08N3NEXA	1.5P									
	GH4	TSU08N4NEX5	5P									
		TSU08N4NEXA	1.5P									
	GH5	TSU08N5NEX5	5P									
		TSU08N5NEXA	1.5P									
9/16-12UNC	GH3	TSU09S3NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	4
		TSU09S3NEXA	1.5P									
	GH4	TSU09S4NEX5	5P									
		TSU09S4NEXA	1.5P									
	GH5	TSU09S5NEX5	5P									
		TSU09S5NEXA	1.5P									
9/16-18UNF	GH3	TSU09O3NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	4
		TSU09O3NEXA	1.5P									
	GH4	TSU09O4NEX5	5P									
		TSU09O4NEXA	1.5P									
	GH5	TSU09O5NEX5	5P									
		TSU09O5NEXA	1.5P									
5/8-11UNC	GH3	TSU10U3NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	4
		TSU10U3NEXA	1.5P									
	GH4	TSU10U4NEX5	5P									
		TSU10U4NEXA	1.5P									
	GH5	TSU10U5NEX5	5P									
		TSU10U5NEXA	1.5P									
GH6	TSU10U6NEX5	5P										
	TSU10U6NEXA	1.5P										
5/8-18UNF	GH3	TSU10O3NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	4
		TSU10O3NEXA	1.5P									
	GH4	TSU10O4NEX5	5P									
		TSU10O4NEXA	1.5P									
	GH5	TSU10O5NEX5	5P									
		TSU10O5NEXA	1.5P									
3/4-10UNC	GH3	TSU12V3NEX5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	4
		TSU12V3NEXA	1.5P									
	GH5	TSU12V5NEX5	5P									
		TSU12V5NEXA	1.5P									
	GH6	TSU12V6NEX5	5P									
		TSU12V6NEXA	1.5P									
3/4-16UNF	GH3	TSU12P3NEX5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	4
		TSU12P3NEXA	1.5P									
	GH4	TSU12P4NEX5	5P									
		TSU12P4NEXA	1.5P									
	GH5	TSU12P5NEX5	5P									
		TSU12P5NEXA	1.5P									
7/8-9UNC	GH5	TSU14W5NEX5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	4
		TSU14W5NEXA	1.5P									
	GH6	TSU14W6NEX5	5P									
		TSU14W6NEXA	1.5P									

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (mm)	ℓk (mm)	No. of flutes	Type
7/8-14UNF	GH4	TSU14Q4NEX5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	4
		TSU14Q4NEXA	1.5P									
	GH6	TSU14Q6NEX5	5P									
		TSU14Q6NEXA	1.5P									
1-8UNC	GH4	TSU16X4NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	4
		TSU16X4NEXA	1.5P									
	GH5	TSU16X5NEX5	5P									
		TSU16X5NEXA	1.5P									
	GH6	TSU16X6NEX5	5P									
		TSU16X6NEXA	1.5P									
	GH7	TSU16X7NEX5	5P									
		TSU16X7NEXA	1.5P									
1-12UNF	GH4	TSU16S4NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	4
		TSU16S4NEXA	1.5P									
	GH5	TSU16S5NEX5	5P									
		TSU16S5NEXA	1.5P									
	GH6	TSU16S6NEX5	5P									
		TSU16S6NEXA	1.5P									
1 1/8-7UNC	GH6	TSU18Y6NEX5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
		TSU18Y6NEXA	1.5P									
	GH7	TSU18Y7NEX5	5P									
		TSU18Y7NEXA	1.5P									
1 1/8-12UNF	GH5	TSU18S5NEX5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	4
		TSU18S5NEXA	1.5P									
	GH6	TSU18S6NEX5	5P									
		TSU18S6NEXA	1.5P									
1 1/4-7UNC	GH6	TSU20Y6NEX5	5P	7.087	1.929	-	3.622	1.021	0.766	1	4	4
		TSU20Y6NEXA	1.5P									
	GH8	TSU20Y8NEX5	5P									
		TSU20Y8NEXA	1.5P									
1 1/4-12UNF	GH5	TSU20S5NEX5	5P	7.087	1.929	-	3.622	1.021	0.766	1	6	4
		TSU20S5NEXA	1.5P									
	GH6	TSU20S6NEX5	5P									
		TSU20S6NEXA	1.5P									
1 3/8-6UNC	GH6	TSU22Z6NEX5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	4
		TSU22Z6NEXA	1.5P									
	GH8	TSU22Z8NEX5	5P									
		TSU22Z8NEXA	1.5P									
1 3/8-12UNF	GH5	TSU22S5NEX5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	4
		TSU22S5NEXA	1.5P									
	GH6	TSU22S6NEX5	5P									
		TSU22S6NEXA	1.5P									
1 1/2-6UNC	GH6	TSU24Z6NEX5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	4
		TSU24Z6NEXA	1.5P									
	GH8	TSU24Z8NEX5	5P									
		TSU24Z8NEXA	1.5P									
1 1/2-12UNF	GH5	TSU24S5NEX5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	4
		TSU24S5NEXA	1.5P									
	GH7	TSU24S7NEX5	5P									
		TSU24S7NEXA	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HT-CI

Hand Taps for Cast Irons

Specification

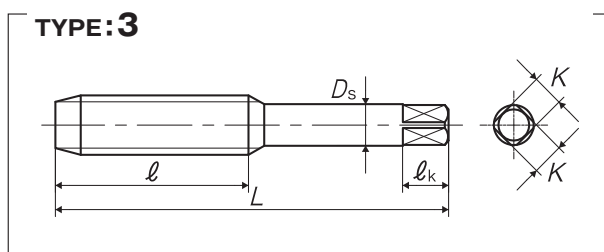
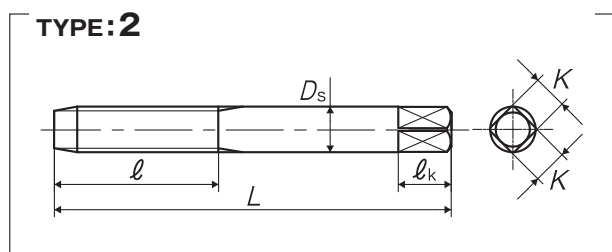
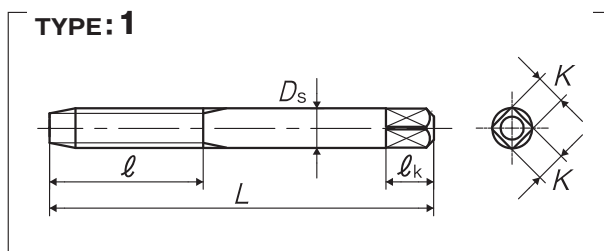


■ Suitable for hard and abrasive materials such as cast irons.

Recommended Tapping Speed depending on Materials

Cast irons
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	l (inch)	D _s (inch)	K (inch)	l _k (inch)	No. of flutes	Type
For Unified Threads										
1/4-20UNC	GH3	Y86001	4P	2.5	1	0.255	0.191	0.312	4	1
		Y86002	1.5P							
	GH5	Y86003	4P							
		Y86004	1.5P							
1/4-28UNF	GH3	Y86005	4P	2.5	1	0.255	0.191	0.312	4	1
		Y86006	1.5P							
5/16-18UNC	GH3	Y86007	4P	2.718	1.125	0.318	0.238	0.375	4	2
		Y86008	1.5P							
	GH5	Y86009	4P							
		Y86010	1.5P							
5/16-24UNF	GH3	Y86011	4P	2.718	1.125	0.318	0.238	0.375	4	2
		Y86012	1.5P							
3/8-16UNC	GH3	Y86013	4P	2.937	1.25	0.381	0.286	0.437	4	2
		Y86014	1.5P							
	GH5	Y86015	4P							
		Y86016	1.5P							
3/8-24UNF	GH3	Y86017	4P	2.937	1.25	0.381	0.286	0.437	4	2
		Y86018	1.5P							
7/16-14UNC	GH3	Y86019	4P	3.156	1.437	0.323	0.242	0.406	4	3
		Y86020	1.5P							
	GH5	Y86021	4P							
		Y86022	1.5P							
7/16-20UNF	GH3	Y86023	4P	3.156	1.437	0.323	0.242	0.406	4	3
		Y86024	1.5P							

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

HT-CI Hand Taps for Cast Irons

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
7/16-20UNF	GH5	Y86025	4P	3.156	1.437	0.323	0.242	0.406	4	3
		Y86026	1.5P							
1/2-13UNC	GH3	Y86027	4P	3.375	1.656	0.367	0.275	0.437	4	3
		Y86028	1.5P							
	GH5	Y86029	4P							
		Y86030	1.5P							
1/2-20UNF	GH3	Y86031	4P	3.375	1.656	0.367	0.275	0.437	4	3
		Y86032	1.5P							
	GH5	Y86033	4P							
		Y86034	1.5P							
9/16-12UNC	GH3	Y86035	4P	3.593	1.656	0.429	0.322	0.5	4	3
		Y86036	1.5P							
9/16-18UNF	GH3	Y86037	4P	3.593	1.656	0.429	0.322	0.5	4	3
		Y86038	1.5P							
5/8-11UNC	GH3	Y86039	4P	3.812	1.812	0.48	0.36	0.562	4	3
		Y86040	1.5P							
5/8-18UNF	GH3	Y86041	4P	3.812	1.812	0.48	0.36	0.562	4	3
		Y86042	1.5P							
3/4-10UNC	GH3	Y86043	4P	4.25	2.000	0.59	0.422	0.687	4	3
		Y86044	1.5P							
3/4-16UNF	GH3	Y86045	4P	4.25	2.000	0.59	0.422	0.687	4	3
		Y86046	1.5P							

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	ℓ_s	Ds	K	ℓ_k

AXE-HT

AXE Hand Taps

Specification



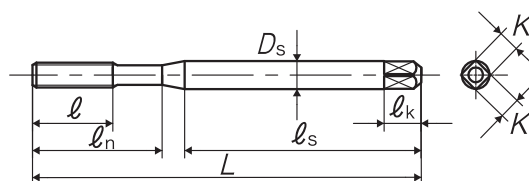
■ AXE-HT has special cutting edges which minimize chipping trouble in aluminum alloy diecasting tapping, and ensures a long tool life.

Recommended Tapping Speed depending on Materials

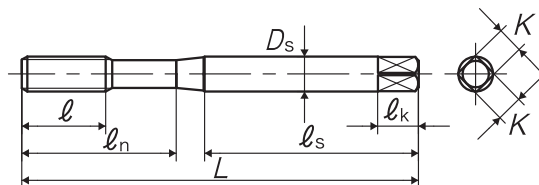
Aluminum alloy castings	Zinc alloy castings
10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50

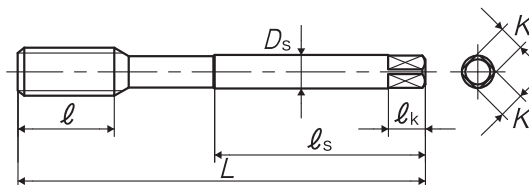
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1B

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	ℓ_s (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads												
M6 × 1	D5	TS6.0M5LPVA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D5	TS8.0N5LPVA	1.5P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	4	2
M10 × 1.5	D6	TS01006LPVA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
M10 × 1.25	D6	TS010N6LPVA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
M10 × 1	D6	TS010M6LPVA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
M12 × 1.75	D6	TS012P6LPVA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.438	4	3
M12 × 1.5	D6	TS01206LPVA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.438	4	3
M12 × 1.25	D6	TS012N6LPVA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.438	4	3

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

HT STI

Hand Taps for Helical Coil Wire Screw Thread Inserts

Specification

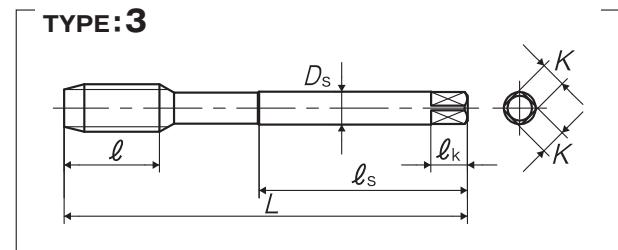
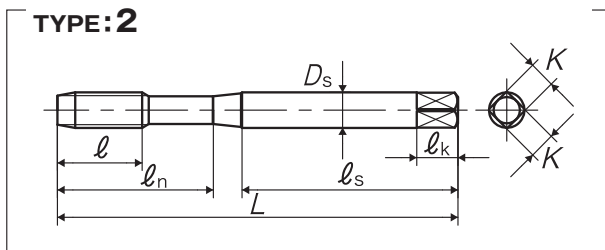
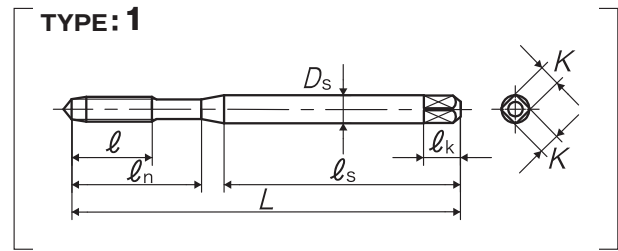


■ Hand tap cutting internal threads for helical coil to enter.

Recommended Tapping Speed depending on Materials

Wrought aluminum	Aluminum alloy castings	Zinc alloy castings
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (mm)	ℓ _k (mm)	No. of flutes	Type
For Helical Coil Wire Screw Thread Inserts, for Unified Threads												
STI No.2-56UNC	GH1	TUUN2E1NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
		TUUN2E1NEBA	1.5P									
	GH2	TUUN2E2NEB5	5P									
		TUUN2E2NEBA	1.5P									
STI No.4-40UNC	GH1	TUUN4H1NEB5	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
		TUUN4H1NEBA	1.5P									
	GH2	TUUN4H2NEB5	5P									
		TUUN4H2NEBA	1.5P									
STI No.6-32UNC	GH1	TUUN6J1NEB5	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
		TUUN6J1NEBA	1.5P									
	GH2	TUUN6J2NEB5	5P									
		TUUN6J2NEBA	1.5P									
STI No.8-32UNC	GH1	TUUN8J1NEB5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
		TUUN8J1NEBA	1.5P									
	GH2	TUUN8J2NEB5	5P									
		TUUN8J2NEBA	1.5P									
STI No.10-24UNC	GH2	TUUNAM2NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
		TUUNAM2NEBA	1.5P									
	GH3	TUUNAM3NEB5	5P									
		TUUNAM3NEBA	1.5P									
STI No.10-32UNF	GH2	TUUNAJ2NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
		TUUNAJ2NEBA	1.5P									
	GH3	TUUNAJ3NEB5	5P									
		TUUNAJ3NEBA	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT STI Hand Taps for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (mm)	ℓk (mm)	No. of flutes	Type
STI 1/4-20UNC	GH2	TUU04N2NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
		TUU04N2NEBA	1.5P									
	GH3	TUU04N3NEB5	5P									
		TUU04N3NEBA	1.5P									
STI 1/4-28UNF	GH2	TUU04K2NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
		TUU04K2NEBA	1.5P									
	GH3	TUU04K3NEB5	5P									
		TUU04K3NEBA	1.5P									
STI 5/16-18UNC	GH2	TUU05O2NEB5	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
		TUU05O2NEBA	1.5P									
	GH3	TUU05O3NEB5	5P									
		TUU05O3NEBA	1.5P									
STI 5/16-24UNF	GH2	TUU05M2NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
		TUU05M2NEBA	1.5P									
	GH3	TUU05M3NEB5	5P									
		TUU05M3NEBA	1.5P									
STI 3/8-16UNC	GH3	TUU06P3NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
		TUU06P3NEBA	1.5P									
	GH4	TUU06P4NEB5	5P									
		TUU06P4NEBA	1.5P									
STI 3/8-24UNF	GH2	TUU06M2NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
		TUU06M2NEBA	1.5P									
	GH3	TUU06M3NEB5	5P									
		TUU06M3NEBA	1.5P									
STI 7/16-14UNC	GH3	TUU07Q3NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
		TUU07Q3NEBA	1.5P									
	GH4	TUU07Q4NEB5	5P									
		TUU07Q4NEBA	1.5P									
STI 7/16-20UNF	GH3	TUU07N3NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
		TUU07N3NEBA	1.5P									
	GH4	TUU07N4NEB5	5P									
		TUU07N4NEBA	1.5P									
STI 1/2-13UNC	GH3	TUU08R3NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
		TUU08R3NEBA	1.5P									
	GH4	TUU08R4NEB5	5P									
		TUU08R4NEBA	1.5P									
STI 1/2-20UNF	GH3	TUU08N3NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
		TUU08N3NEBA	1.5P									
	GH4	TUU08N4NEB5	5P									
		TUU08N4NEBA	1.5P									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

HT OX STI



Hand Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Specification

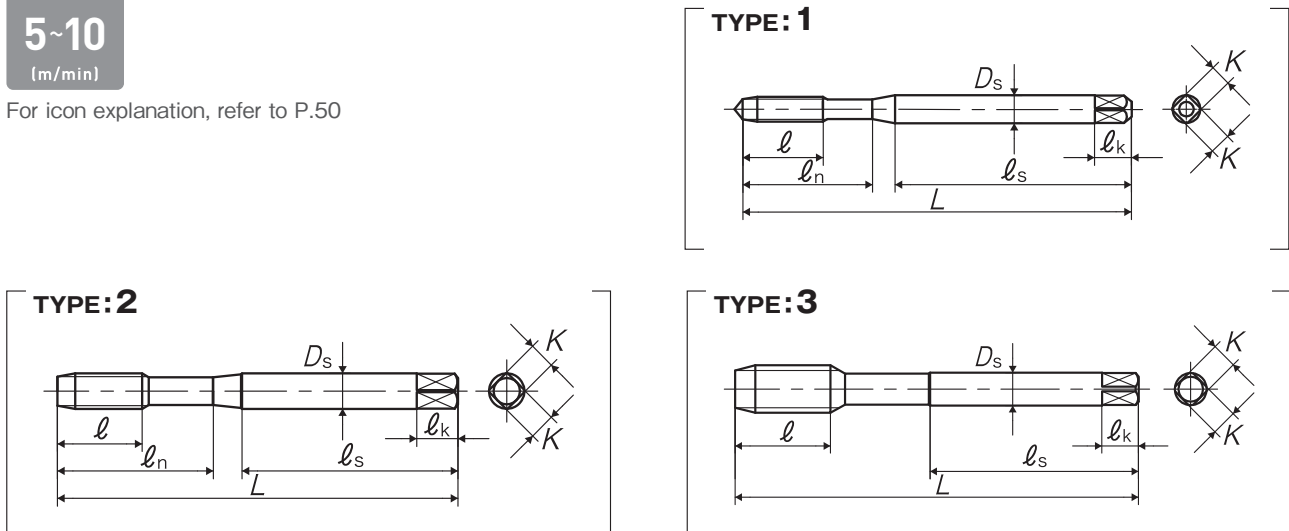


■ Hand tap cutting internal threads for helical coil to enter.

Recommended Tapping Speed depending on Materials

Low carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (mm)	ℓ _k (mm)	No. of flutes	Type
For Helical Coil Wire Screw Thread Inserts, for Unified Threads												
STI No.2-56UNC	GH1	TUUN2E1NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
		TUUN2E1NEXA	1.5P									
	GH2	TUUN2E2NEX5	5P									
		TUUN2E2NEXA	1.5P									
STI No.4-40UNC	GH1	TUUN4H1NEX5	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
		TUUN4H1NEXA	1.5P									
	GH2	TUUN4H2NEX5	5P									
		TUUN4H2NEXA	1.5P									
STI No.6-32UNC	GH1	TUUN6J1NEX5	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
		TUUN6J1NEXA	1.5P									
	GH2	TUUN6J2NEX5	5P									
		TUUN6J2NEXA	1.5P									
STI No.8-32UNC	GH1	TUUN8J1NEX5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
		TUUN8J1NEXA	1.5P									
	GH2	TUUN8J2NEX5	5P									
		TUUN8J2NEXA	1.5P									
STI No.10-24UNC	GH2	TUUNAM2NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
		TUUNAM2NEXA	1.5P									
	GH3	TUUNAM3NEX5	5P									
		TUUNAM3NEXA	1.5P									
STI No.10-32UNF	GH2	TUUNAJ2NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
		TUUNAJ2NEXA	1.5P									
	GH3	TUUNAJ3NEX5	5P									
		TUUNAJ3NEXA	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX STI Hand Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (mm)	ℓk (mm)	No. of flutes	Type
STI 1/4-20UNC	GH2	TUU04N2NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
		TUU04N2NEXA	1.5P									
	GH3	TUU04N3NEX5	5P									
		TUU04N3NEXA	1.5P									
STI 1/4-28UNF	GH2	TUU04K2NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
		TUU04K2NEXA	1.5P									
	GH3	TUU04K3NEX5	5P									
		TUU04K3NEXA	1.5P									
STI 5/16-18UNC	GH2	TUU05O2NEX5	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
		TUU05O2NEXA	1.5P									
	GH3	TUU05O3NEX5	5P									
		TUU05O3NEXA	1.5P									
STI 5/16-24UNF	GH2	TUU05M2NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
		TUU05M2NEXA	1.5P									
	GH3	TUU05M3NEX5	5P									
		TUU05M3NEXA	1.5P									
STI 3/8-16UNC	GH3	TUU06P3NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
		TUU06P3NEXA	1.5P									
	GH4	TUU06P4NEX5	5P									
		TUU06P4NEXA	1.5P									
STI 3/8-24UNF	GH2	TUU06M2NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
		TUU06M2NEXA	1.5P									
	GH3	TUU06M3NEX5	5P									
		TUU06M3NEXA	1.5P									
STI 7/16-14UNC	GH3	TUU07Q3NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
		TUU07Q3NEXA	1.5P									
	GH4	TUU07Q4NEX5	5P									
		TUU07Q4NEXA	1.5P									
STI 7/16-20UNF	GH3	TUU07N3NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
		TUU07N3NEXA	1.5P									
	GH4	TUU07N4NEX5	5P									
		TUU07N4NEXA	1.5P									
STI 1/2-13UNC	GH3	TUU08R3NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
		TUU08R3NEXA	1.5P									
	GH4	TUU08R4NEX5	5P									
		TUU08R4NEXA	1.5P									
STI 1/2-20UNF	GH3	TUU08N3NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
		TUU08N3NEXA	1.5P									
	GH4	TUU08N4NEX5	5P									
		TUU08N4NEXA	1.5P									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

ZELX MOLD



Hand Taps for Hard-to-Machine Materials

Specification

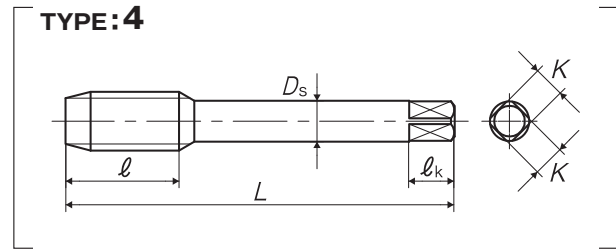
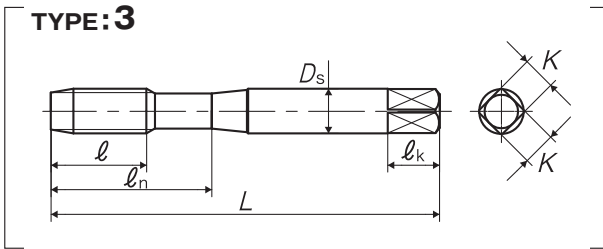
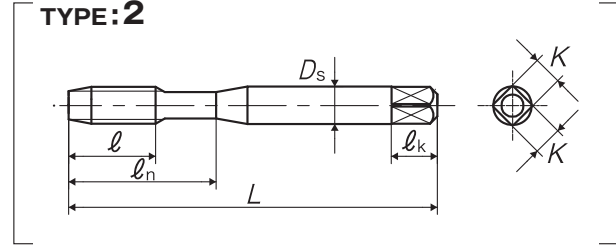
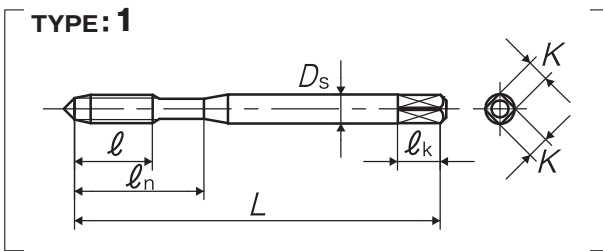


■ Suitable for hard steels of 35 ~ 45HRC, such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels.

Recommended Tapping Speed depending on Materials

Thermal refined steels	Tool steels
~5 (m/min) 35~45HRC	~5 (m/min)

For icon explanation, refer to P.50



Segment : 1B

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Unified Threads											
No.4-40UNC	GH2	Y89599	5P	1.875	0.335	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y89601	5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y89602	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y89604	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y89606	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y89607	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y89613	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y89614	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y89615	5P	2.718	0.669	1.125	0.318	0.238	0.375	4	3
5/16-24UNF	GH3	Y89616	5P	2.718	0.669	1.125	0.318	0.238	0.375	4	3
3/8-16UNC	GH3	Y89617	5P	2.937	0.748	1.25	0.381	0.286	0.437	4	3
3/8-24UNF	GH3	Y89618	5P	2.937	0.748	1.25	0.381	0.286	0.437	4	3
7/16-14UNC	GH3	Y89619	5P	3.156	0.866	-	0.323	0.242	0.406	4	4
7/16-20UNF	GH3	Y89620	5P	3.156	0.866	-	0.323	0.242	0.406	4	4
1/2-13UNC	GH3	Y89621	5P	3.375	0.984	-	0.367	0.275	0.437	4	4
1/2-20UNF	GH3	Y89622	5P	3.375	0.984	-	0.367	0.275	0.437	4	4
5/8-11UNC	GH3	Y89625	5P	3.812	1.083	-	0.48	0.36	0.562	4	4
5/8-18UNF	GH3	Y89626	5P	3.812	1.083	-	0.48	0.36	0.562	4	4
3/4-10UNC	GH3	Y89627	5P	4.25	1.201	-	0.59	0.422	0.687	4	4
3/4-16UNF	GH3	Y89628	5P	4.25	1.201	-	0.59	0.422	0.687	4	4

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	ℓ_s	Ds	K	ℓ_k

EH-HT

Hand Taps for Hard-to-Machine Materials Specification



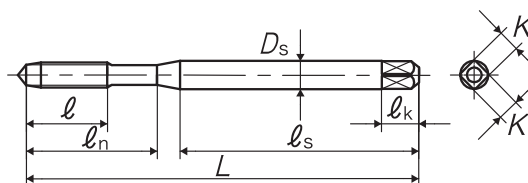
■ Suitable for hard steels of 35 ~ 45HRC, such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels.

Recommended Tapping Speed depending on Materials

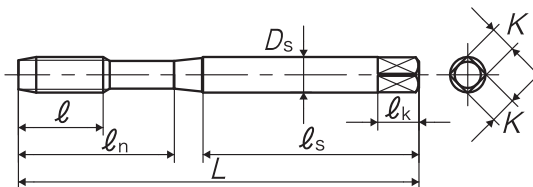
Thermal refined steels	Tool steels
~5 (m/min) 35~45HRC	~5 (m/min)

For icon explanation, refer to P.50

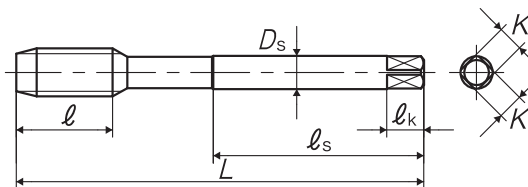
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1B

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	ℓ_s (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads												
M5 × 0.8	D5	TS5.0K5DCB5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
M6 × 1	D6	TS6.0M6DCB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D6	TS8.0N6DCB5	5P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	4	2
M8 × 1	D6	TS8.0M6DCB5	5P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	4	2
M10 × 1.5	D7	TS01007DCB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
M10 × 1.25	D6	TS010N6DCB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
M12 × 1.75	D7	TS012P7DCB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3

ANSI LINE UP

CEMENTED CARBIDE TAP SERIES



ZELX CARB AL CT-1

ZELX CARB CI CT-4

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

ZELX CARB AL



Carbide Taps for Light Alloys

Specification



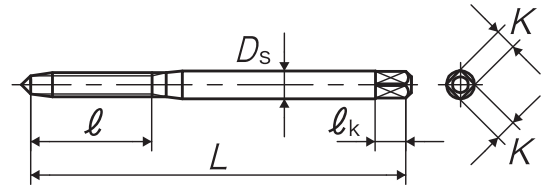
■ ZELX CARB AL is the carbide tap suitable for tapping aluminum castings (AC), aluminum die castings (ADC), and zinc die castings (ZDC).

Recommended Tapping Speed depending on Materials

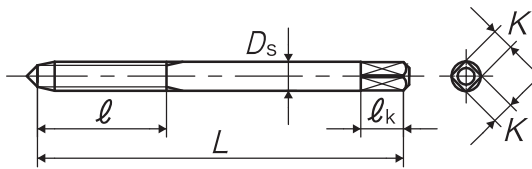
Aluminum alloy castings	Zinc alloy castings
10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50

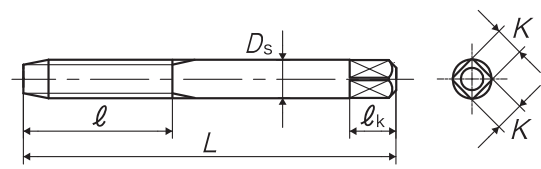
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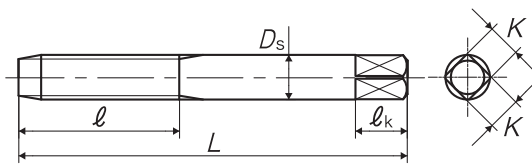
TYPE: 2



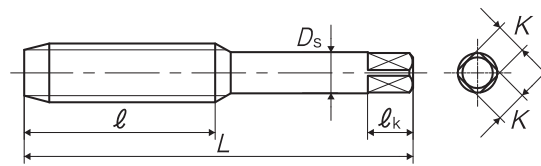
TYPE: 3



TYPE: 4



TYPE: 5



Segment : 1L

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Metric threads										
M3 × 0.5	D3	Y71000	4P	1.937	0.625	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y71002	4P	2.125	0.75	0.168	0.131	0.25	3	2
		Y71003	1.5P							
M5 × 0.8	D4	Y71004	4P	2.375	0.875	0.194	0.152	0.25	3	2
		Y71005	1.5P							
M6 × 1	D5	Y71006	4P	2.5	1	0.255	0.191	0.312	3	3
		Y71007	1.5P							
M8 × 1.25	D5	Y71010	4P	2.718	1.125	0.318	0.238	0.375	3	4
		Y71011	1.5P							
M8 × 1	D5	Y71008	4P	2.718	1.125	0.318	0.238	0.375	3	4
		Y71009	1.5P							
M10 × 1.5	D6	Y71014	4P	2.937	1.25	0.381	0.286	0.437	3	4
		Y71015	1.5P							
M10 × 1.25	D5	Y71012	4P	2.937	1.25	0.381	0.286	0.437	3	4
		Y71013	1.5P							
M12 × 1.75	D6	Y71020	4P	3.375	1.656	0.367	0.275	0.437	3	5

ZELX CARB AL Carbide Taps for Light Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
M12 × 1.75	D6	Y71021	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
		Y71018	4P							
M12 × 1.5	D6	Y71019	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
		Y71016	4P							
M12 × 1.25	D5	Y71017	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
		Y71017	1.5P							
For Unified Threads										
No.5-40UNC	GH3	Y84800	4P	1.937	0.625	0.141	0.11	0.187	3	1
		Y84801	1.5P							
No.6-32UNC	GH3	Y84802	4P	2	0.687	0.141	0.11	0.187	3	2
		Y84803	1.5P							
No.8-32UNC	GH3	Y84804	4P	2.125	0.75	0.168	0.131	0.25	3	2
		Y84805	1.5P							
No.10-24UNC	GH3	Y84806	4P	2.375	0.875	0.194	0.152	0.25	3	2
		Y84807	1.5P							
No.10-32UNF	GH3	Y84808	4P	2.375	0.875	0.194	0.152	0.25	3	2
		Y84809	1.5P							
1/4-20UNC	GH3	Y84810	4P	2.5	1	0.255	0.191	0.312	3	3
		Y84811	1.5P							
	GH5	Y84860	4P							
		Y84861	1.5P							
1/4-28UNF	GH3	Y84812	4P	2.5	1	0.255	0.191	0.312	3	3
		Y84813	1.5P							
	GH5	Y84862	4P							
		Y84863	1.5P							
5/16-18UNC	GH3	Y84814	4P	2.718	1.125	0.318	0.238	0.375	3	4
		Y84815	1.5P							
	GH5	Y84864	4P							
		Y84865	1.5P							
5/16-24UNF	GH3	Y84816	4P	2.718	1.125	0.318	0.238	0.375	3	4
		Y84817	1.5P							
	GH5	Y84866	4P							
		Y84867	1.5P							
3/8-16UNC	GH3	Y84818	4P	2.937	1.25	0.381	0.286	0.437	3	4
		Y84819	1.5P							
	GH5	Y84868	4P							
		Y84869	1.5P							
3/8-24UNF	GH3	Y84820	4P	2.937	1.25	0.381	0.286	0.437	3	4
		Y84821	1.5P							
	GH5	Y84870	4P							
		Y84871	1.5P							
7/16-14UNC	GH3	Y84822	4P	3.156	1.437	0.323	0.242	0.406	3	5
		Y84823	1.5P							
	GH5	Y84872	4P							
		Y84873	1.5P							
7/16-20UNF	GH3	Y84824	4P	3.156	1.437	0.323	0.242	0.406	3	5
		Y84825	1.5P							
	GH5	Y84874	4P							
		Y84875	1.5P							
1/2-13UNC	GH3	Y84826	4P	3.375	1.656	0.367	0.275	0.437	3	5
		Y84827	1.5P							

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Cemented Carbide Tap

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ZELX CARB AL Carbide Taps for Light Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
1/2-13UNC	GH5	Y84876	4P	3.375	1.656	0.367	0.275	0.437	3	5
		Y84877	1.5P							
1/2-20UNF	GH3	Y84828	4P	3.375	1.656	0.367	0.275	0.437	3	5
		Y84829	1.5P							
	GH5	Y84878	4P							
		Y84879	1.5P							

- Spiral Fluted Taps (for blind hole)
- Spiral Fluted Taps (for through hole)
- Spiral Pointed Taps (for through hole)
- Hand Taps
- Cemented Carbide Taps
- Roll Taps
- Pipe Taps Simple Inspection Tools
- Thread Mills
- Dies
- Center Drills
- Centering Tools

ZELX CARB CI

Carbide Taps for Cast Irons

Specification

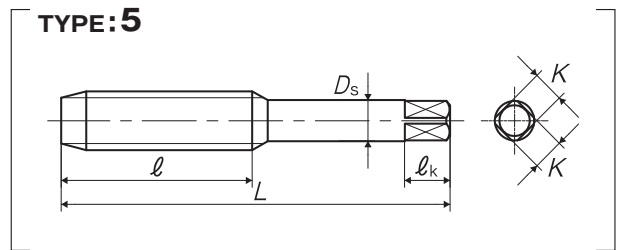
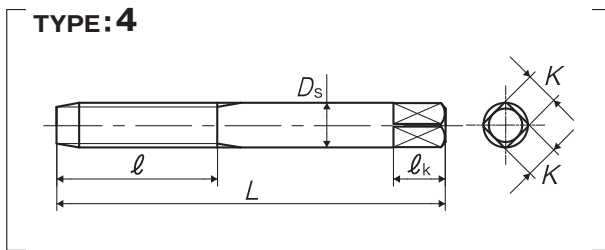
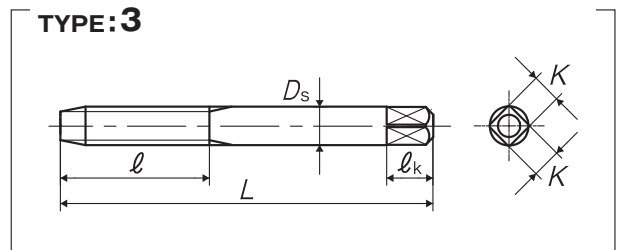
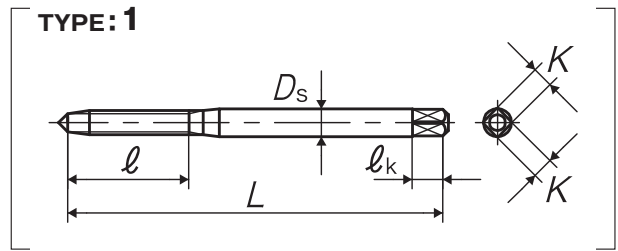
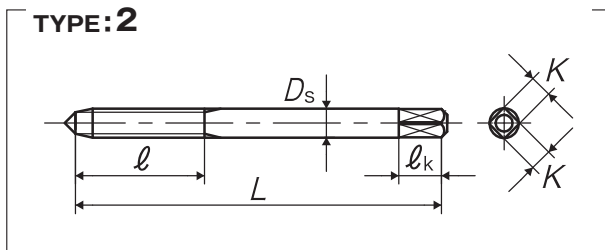


■ZELX CARB CI is the carbide tap suitable for hard and abrasive materials such as cast irons. For volume production.

Recommended Tapping Speed depending on Materials

Cast irons 5~15 (m/min)	Ductile cast irons 5~15 (m/min)	Brass castings 5~15 (m/min)
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For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (inch)	l (inch)	Ds (inch)	K (inch)	lk (inch)	No. of flutes	Type
For Metric threads										
M3 × 0.5	D3	Y70000	4P	1.937	0.625	0.141	0.11	0.187	3	1
		Y70001	1.5P							
M4 × 0.7	D4	Y70002	4P	2.125	0.75	0.168	0.131	0.25	4	2
		Y70003	1.5P							
M5 × 0.8	D4	Y70004	4P	2.375	0.875	0.194	0.152	0.25	4	2
		Y70005	1.5P							
M6 × 1	D5	Y70006	4P	2.5	1	0.255	0.191	0.312	4	3
		Y70007	1.5P							
M8 × 1.25	D5	Y70010	4P	2.718	1.125	0.318	0.238	0.375	4	4
		Y70011	1.5P							
M8 × 1	D5	Y70008	4P	2.718	1.125	0.318	0.238	0.375	4	4
		Y70009	1.5P							
M10 × 1.5	D6	Y70014	4P	2.937	1.25	0.381	0.286	0.437	4	4
		Y70015	1.5P							
M10 × 1.25	D5	Y70012	4P	2.937	1.25	0.381	0.286	0.437	4	4
		Y70013	1.5P							

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Cemented Carbide Tap

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ZELX CARB CI Carbide Taps for Cast Irons

	Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
Spiral Fluted Taps (for blind hole)	M12 × 1.75	D6	Y70020	4P	3.375	1.656	0.367	0.275	0.437	4	5
			Y70021	1.5P							
Spiral Fluted Taps (for through hole)	M12 × 1.5	D6	Y70018	4P	3.375	1.656	0.367	0.275	0.437	4	5
			Y70016	4P							
Spiral Fluted Taps (for through hole)	M12 × 1.25	D5	Y70017	1.5P	3.375	1.656	0.367	0.275	0.437	4	5
			Y70016	4P							
Spiral Pointed Taps (for through hole)	M14 × 2	D7	Y70024	4P	3.593	1.656	0.429	0.322	0.5	4	5
			Y70025	1.5P							
Spiral Pointed Taps (for through hole)	M14 × 1.5	D6	Y70022	4P	3.593	1.656	0.429	0.322	0.5	4	5
			Y70029	1.5P							
Hand Taps	M16 × 2	D7	Y70029	1.5P	3.812	1.812	0.48	0.36	0.562	4	5
			Y70026	4P							
Cemented Carbide Taps	M16 × 1.5	D6	Y70026	4P	3.812	1.812	0.48	0.36	0.562	4	5
			Y70027	1.5P							
For Unified Threads											
Hand Taps	No.10-24UNC	GH3	Y83806	4P	2.375	0.875	0.194	0.152	0.25	4	2
			Y83807	1.5P							
Hand Taps	No.10-32UNF	GH3	Y83808	4P	2.375	0.875	0.194	0.152	0.25	4	2
			Y83809	1.5P							
Cemented Carbide Taps	1/4-20UNC	GH3	Y83810	4P	2.5	1	0.255	0.191	0.312	4	3
			Y83811	1.5P							
		GH5	Y83860	4P							
			Y83861	1.5P							
Roll Taps	1/4-28UNF	GH3	Y83812	4P	2.5	1	0.255	0.191	0.312	4	3
			Y83813	1.5P							
		GH5	Y83862	4P							
			Y83863	1.5P							
Simple Inspection Tools	5/16-18UNC	GH3	Y83814	4P	2.718	1.125	0.318	0.238	0.375	4	4
			Y83815	1.5P							
		GH5	Y83864	5P							
			Y83865	1.5P							
Pipe Taps	5/16-24UNF	GH3	Y83816	5P	2.718	1.125	0.318	0.238	0.375	4	4
			Y83817	1.5P							
		GH5	Y83866	4P							
			Y83867	1.5P							
Thread Mills	3/8-16UNC	GH3	Y83818	4P	2.937	1.25	0.381	0.286	0.437	4	4
			Y83819	1.5P							
		GH5	Y83868	4P							
			Y83869	1.5P							
Dies	3/8-24UNF	GH3	Y83820	4P	2.937	1.25	0.381	0.286	0.437	4	4
			Y83821	1.5P							
		GH5	Y83870	4P							
			Y83871	1.5P							
Center Drills	7/16-14UNC	GH3	Y83822	4P	3.156	1.437	0.323	0.242	0.406	4	5
			Y83823	1.5P							
		GH5	Y83872	4P							
			Y83873	1.5P							
Centering Tools	7/16-20UNF	GH3	Y83824	4P	3.156	1.437	0.323	0.242	0.406	4	5
			Y83825	1.5P							
		GH5	Y83874	4P							
			Y83875	1.5P							
Centering Tools	1/2-13UNC	GH3	Y83826	4P	3.375	1.656	0.367	0.275	0.437	4	5
			Y83827	1.5P							

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ZELX CARB CI Carbide Taps for Cast Irons

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
1/2-13UNC	GH5	Y83876	4P	3.375	1.656	0.367	0.275	0.437	4	5
		Y83877	1.5P							
1/2-20UNF	GH3	Y83828	4P	3.375	1.656	0.367	0.275	0.437	4	5
		Y83829	1.5P							
	GH5	Y83878	4P							
		Y83879	1.5P							
5/8-11UNC	GH3	Y83834	4P	3.812	1.812	0.48	0.36	0.562	4	5
		Y83835	1.5P							
	GH5	Y83884	4P							
		Y83885	1.5P							
5/8-18UNF	GH3	Y83836	4P	3.812	1.812	0.48	0.36	0.562	4	5
		Y83837	1.5P							
	GH5	Y83886	4P							
		Y83887	1.5P							

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

ANSI LINE UP

ROLL TAP SERIES



N-RZ

R0-1

HP-RZ

R0-10

N-RS

R0-5

MHRZ

R0-13

OL-RZ

R0-9

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

N-RZ

Thread Forming Taps for Steels Specification

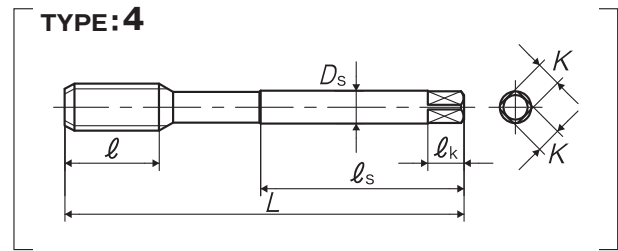
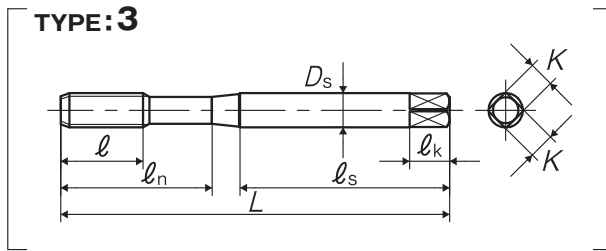
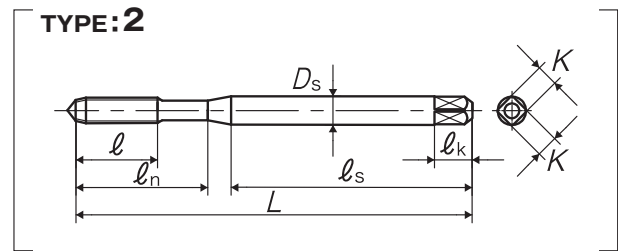
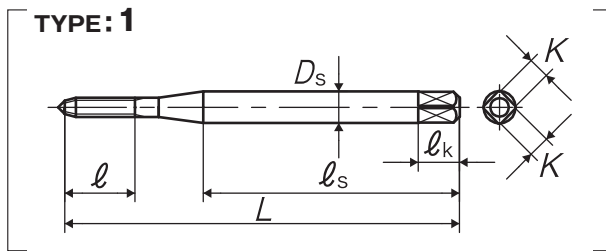


■ N-RZ is the forming tap suitable for ferrous materials such as carbon steels, alloy steels, and normal steels.

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels
5~15 (m/min)	5~15 (m/min)

For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	Lobe	Type
For Metric threads												
M3 × 0.5	D5	RS3.0G5HEXP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
		RS3.0G5HEXB	2P									
M3.5 × 0.6	D6	RS3.5H6HEXP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
		RS3.5H6HEXB	2P									
M4 × 0.7	D6	RS4.0I6HEXP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		RS4.0I6HEXB	2P									
M5 × 0.8	D7	RS5.0K7HEXP	4P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
		RS5.0K7HEXB	2P									
M6 × 1	D8	RS6.0M8HEXP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		RS6.0M8HEXB	2P									
M7 × 1	D9	RS7.0M9HEXP	4P	3.543	0.748	1.315	1.831	0.318	0.238	0.375	4	3
		RS7.0M9HEXB	2P									
M8 × 1.25	D9	RS8.0N9HEXP	4P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	6	3
		RS8.0N9HEXB	2P									
M8 × 1	D9	RS8.0M9HEXP	4P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	6	3
		RS8.0M9HEXB	2P									
M10 × 1.5	D10	RS01000HEXP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
		RS01000HEXB	2P									
M10 × 1.25	D9	RS010N9HEXP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
		RS010N9HEXB	2P									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps Simple Inspection Tools
 Thread Mills
 Dies
 Center Drills
 Centering Tools

N-RZ Thread Forming Taps for Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ_n (inch)	ℓ_s (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	Lobe	Type
M12 × 1.75	D11	RS012P-HEXP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RS012P-HEXB	2P									
M12 × 1.25	D9	RS012N9HEXP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RS012N9HEXB	2P									
For Unified Threads												
No.0-80UNF	H2	RSUN0B2HEXB	2P	1.772	0.236	-	1.161	0.141	0.11	0.187	3	1
No.1-64UNC	H2	RSUN1D2HEXB	2P	1.772	0.275	-	1.161	0.141	0.11	0.187	3	1
No.1-72UNF	H2	RSUN1C2HEXB	2P	1.772	0.275	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	H2	RSUN2E2HEXB	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
	H3	RSUN2E3HEXB										
No.2-64UNF	H2	RSUN2D2HEXB	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
	H3	RSUN2D3HEXB										
No.3-48UNC	H2	RSUN3F2HEXB	2P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	4	2
	H3	RSUN3F3HEXB										
No.3-56UNF	H2	RSUN3E2HEXB	2P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	4	2
	H3	RSUN3E3HEXB										
No.4-40UNC	H3	RSUN4H3HEXP	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
		RSUN4H3HEXB	2P									
	H5	RSUN4H5HEXP	4P									
		RSUN4H5HEXB	2P									
No.4-48UNF	H3	RSUN4F3HEXP	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
		RSUN4F3HEXB	2P									
	H5	RSUN4F5HEXP	4P									
		RSUN4F5HEXB	2P									
No.5-40UNC	H3	RSUN5H3HEXP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
		RSUN5H3HEXB	2P									
	H5	RSUN5H5HEXP	4P									
		RSUN5H5HEXB	2P									
No.5-44UNF	H3	RSUN5G3HEXP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
		RSUN5G3HEXB	2P									
	H5	RSUN5G5HEXP	4P									
		RSUN5G5HEXB	2P									
No.6-32UNC	H3	RSUN6J3HEXP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
		RSUN6J3HEXB	2P									
	H5	RSUN6J5HEXP	4P									
		RSUN6J5HEXB	2P									
No.6-40UNF	H3	RSUN6H3HEXP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
		RSUN6H3HEXB	2P									
	H5	RSUN6H5HEXP	4P									
		RSUN6H5HEXB	2P									
No.8-32UNC	H3	RSUN8J3HEXP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		RSUN8J3HEXB	2P									
	H5	RSUN8J5HEXP	4P									
		RSUN8J5HEXB	2P									
No.8-36UNF	H3	RSUN8I3HEXP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		RSUN8I3HEXB	2P									
	H5	RSUN8I5HEXP	4P									
		RSUN8I5HEXB	2P									
No.10-24UNC	H4	RSUNAM4HEXP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
		RSUNAM4HEXB	2P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RZ Thread Forming Taps for Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	Type
No.10-24UNC	H6	RSUNAM6HEXP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
		RSUNAM6HEXB	2P									
No.10-32UNF	H4	RSUNAJ4HEXP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
		RSUNAJ4HEXB	2P									
	H6	RSUNAJ6HEXP	4P									
		RSUNAJ6HEXB	2P									
No.12-24UNC	H4	RSUNCM4HEXP	4P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
		RSUNCM4HEXB	2P									
	H6	RSUNCM6HEXP	4P									
		RSUNCM6HEXB	2P									
No.12-28UNF	H4	RSUNCK4HEXP	4P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
		RSUNCK4HEXB	2P									
	H6	RSUNCK6HEXP	4P									
		RSUNCK6HEXB	2P									
1/4-20UNC	H4	RSU04N4HEXP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		RSU04N4HEXB	2P									
	H6	RSU04N6HEXP	4P									
		RSU04N6HEXB	2P									
1/4-28UNF	H4	RSU04K4HEXP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		RSU04K4HEXB	2P									
	H6	RSU04K6HEXP	4P									
		RSU04K6HEXB	2P									
5/16-18UNC	H5	RSU05O5HEXP	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
		RSU05O5HEXB	2P									
	H7	RSU05O7HEXP	4P									
		RSU05O7HEXB	2P									
5/16-24UNF	H5	RSU05M5HEXP	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
		RSU05M5HEXB	2P									
	H7	RSU05M7HEXP	4P									
		RSU05M7HEXB	2P									
3/8-16UNC	H5	RSU06P5HEXP	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
		RSU06P5HEXB	2P									
	H7	RSU06P7HEXP	4P									
		RSU06P7HEXB	2P									
3/8-24UNF	H5	RSU06M5HEXP	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
		RSU06M5HEXB	2P									
	H7	RSU06M7HEXP	4P									
		RSU06M7HEXB	2P									
7/16-14UNC	H5	RSU07Q5HEXP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
		RSU07Q5HEXB	2P									
	H7	RSU07Q7HEXP	4P									
		RSU07Q7HEXB	2P									
7/16-20UNF	H5	RSU07N5HEXP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
		RSU07N5HEXB	2P									
	H7	RSU07N7HEXP	4P									
		RSU07N7HEXB	2P									
1/2-13UNC	H5	RSU08R5HEXP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RSU08R5HEXB	2P									
	H7	RSU08R7HEXP	4P									
		RSU08R7HEXB	2P									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps
 Simple Inspection Tools
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RZ Thread Forming Taps for Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	Type
1/2-20UNF	H5	RSU08N5HEXP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RSU08N5HEXB	2P									
	H7	RSU08N7HEXP	4P									
		RSU08N7HEXB	2P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

N-RS

Thread Forming Taps for Non-Ferrous Materials

Specification



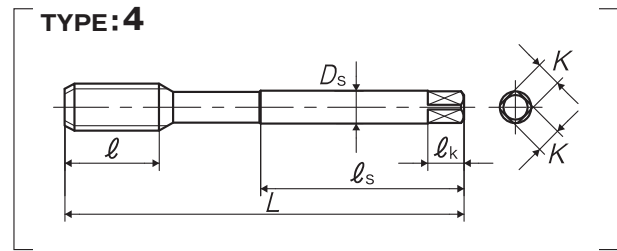
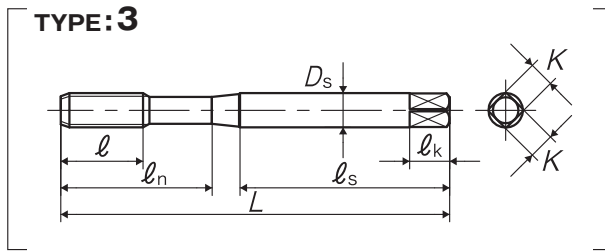
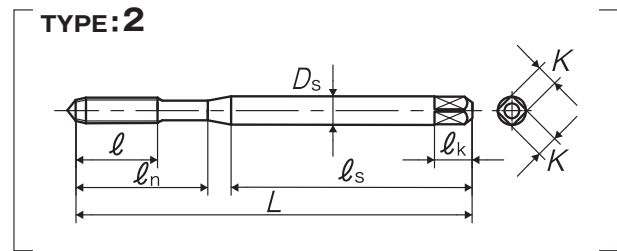
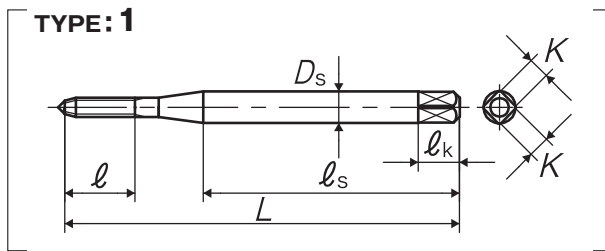
■ N-RS is the forming tap suitable for non-ferrous materials such as aluminum castings, aluminum die castings and brass.



Recommended Tapping Speed depending on Materials

Wrought aluminum	Aluminum alloy castings	Zinc alloy castings
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

For icon explanation, refer to P.50



Segment: 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	Lobe	Type
For Metric threads												
M3 × 0.5	D5	RS3.0G5KENP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
		RS3.0G5KENB	2P									
M3.5 × 0.6	D6	RS3.5H6KENP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
		RS3.5H6KENB	2P									
M4 × 0.7	D6	RS4.0I6KENP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		RS4.0I6KENB	2P									
M5 × 0.8	D7	RS5.0K7KENP	4P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
		RS5.0K7KENB	2P									
M6 × 1	D8	RS6.0M8KENP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		RS6.0M8KENB	2P									
M7 × 1	D9	RS7.0M9KENP	4P	3.543	0.748	1.315	1.831	0.318	0.238	0.375	4	3
		RS7.0M9KENB	2P									
M8 × 1.25	D9	RS8.0N9KENP	4P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	6	3
		RS8.0N9KENB	2P									
M8 × 1	D9	RS8.0M9KENP	4P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	6	3
		RS8.0M9KENB	2P									
M10 × 1.5	D10	RS01000KENP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
		RS01000KENB	2P									
M10 × 1.25	D9	RS010N9KENP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
		RS010N9KENB	2P									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps Simple Inspection Tools
 Thread Mills
 Dies
 Center Drills
 Centering Tools

N-RS Thread Forming Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	Lobe	Type
M12 × 1.75	D11	RS012P-KENP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
		RS012P-KENB	2P									
M12 × 1.25	D9	RS012N9KENP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
		RS012N9KENB	2P									
For Unified Threads												
No.0-80UNF	H2	RSUN0B2KENB	2P	1.772	0.236	-	1.161	0.141	0.11	0.187	3	1
No.1-64UNC	H2	RSUN1D2KENB	2P	1.772	0.275	-	1.161	0.141	0.11	0.187	3	1
No.1-72UNF	H2	RSUN1C2KENB	2P	1.772	0.275	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	H2	RSUN2E2KENB	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
	H3	RSUN2E3KENB										
No.2-64UNF	H2	RSUN2D2KENB	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
	H3	RSUN2D3KENB										
No.3-48UNC	H2	RSUN3F2KENB	2P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	4	2
	H3	RSUN3F3KENB										
No.3-56UNF	H2	RSUN3E2KENB	2P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	4	2
	H3	RSUN3E3KENB										
No.4-40UNC	H3	RSUN4H3KENP	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
		RSUN4H3KENB	2P									
	H5	RSUN4H5KENP	4P									
		RSUN4H5KENB	2P									
No.4-48UNF	H3	RSUN4F3KENP	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
		RSUN4F3KENB	2P									
	H5	RSUN4F5KENP	4P									
		RSUN4F5KENB	2P									
No.5-40UNC	H3	RSUN5H3KENP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
		RSUN5H3KENB	2P									
	H5	RSUN5H5KENP	4P									
		RSUN5H5KENB	2P									
No.5-44UNF	H3	RSUN5G3KENP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
		RSUN5G3KENB	2P									
	H5	RSUN5G5KENP	4P									
		RSUN5G5KENB	2P									
No.6-32UNC	H3	RSUN6J3KENP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
		RSUN6J3KENB	2P									
	H5	RSUN6J5KENP	4P									
		RSUN6J5KENB	2P									
No.6-40UNF	H3	RSUN6H3KENP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
		RSUN6H3KENB	2P									
	H5	RSUN6H5KENP	4P									
		RSUN6H5KENB	2P									
No.8-32UNC	H3	RSUN8J3KENP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		RSUN8J3KENB	2P									
	H5	RSUN8J5KENP	4P									
		RSUN8J5KENB	2P									
No.8-36UNF	H3	RSUN8I3KENP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		RSUN8I3KENB	2P									
	H5	RSUN8I5KENP	4P									
		RSUN8I5KENB	2P									
No.10-24UNC	H4	RSUNAM4KENP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
		RSUNAM4KENB	2P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RS Thread Forming Taps for Non-Ferrous Materials

	Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	Type
Spiral Fluted Taps (for blind hole)	No.10-24UNC	H6	RSUNAM6KENP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
			RSUNAM6KENB	2P									
Spiral Fluted Taps (for through hole)	No.10-32UNF	H4	RSUNAJ4KENP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
			RSUNAJ4KENB	2P									
		H6	RSUNAJ6KENP	4P									
			RSUNAJ6KENB	2P									
Spiral Pointed Taps (for through hole)	No.12-24UNC	H4	RSUNCM4KENP	4P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
			RSUNCM4KENB	2P									
		H6	RSUNCM6KENP	4P									
			RSUNCM6KENB	2P									
Hand Taps	No.12-28UNF	H4	RSUNCK4KENP	4P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
			RSUNCK4KENB	2P									
		H6	RSUNCK6KENP	4P									
			RSUNCK6KENB	2P									
Cemented Carbide Taps	1/4-20UNC	H4	RSU04N4KENP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
			RSU04N4KENB	2P									
		H6	RSU04N6KENP	4P									
			RSU04N6KENB	2P									
Roll Taps	1/4-28UNF	H4	RSU04K4KENP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
			RSU04K4KENB	2P									
		H6	RSU04K6KENP	4P									
			RSU04K6KENB	2P									
Pipe Taps	5/16-18UNC	H5	RSU05O5KENP	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
			RSU05O5KENB	2P									
		H7	RSU05O7KENP	4P									
			RSU05O7KENB	2P									
Simple Inspection Tools	5/16-24UNF	H5	RSU05M5KENP	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
			RSU05M5KENB	2P									
		H7	RSU05M7KENP	4P									
			RSU05M7KENB	2P									
Thread Mills	3/8-16UNC	H5	RSU06P5KENP	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
			RSU06P5KENB	2P									
		H7	RSU06P7KENP	4P									
			RSU06P7KENB	2P									
Dies	3/8-24UNF	H5	RSU06M5KENP	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
			RSU06M5KENB	2P									
		H7	RSU06M7KENP	4P									
			RSU06M7KENB	2P									
Center Drills	7/16-14UNC	H5	RSU07Q5KENP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
			RSU07Q5KENB	2P									
		H7	RSU07Q7KENP	4P									
			RSU07Q7KENB	2P									
Centering Tools	7/16-20UNF	H5	RSU07N5KENP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
			RSU07N5KENB	2P									
		H7	RSU07N7KENP	4P									
			RSU07N7KENB	2P									
Centering Tools	1/2-13UNC	H5	RSU08R5KENP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
			RSU08R5KENB	2P									
		H7	RSU08R7KENP	4P									
			RSU08R7KENB	2P									

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RS Thread Forming Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	Type
1/2-20UNF	H5	RSU08N5KENP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
		RSU08N5KENB	2P									
	H7	RSU08N7KENP	4P									
		RSU08N7KENB	2P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

OL-RZ



Thread Forming Taps for Dry Tapping, Coated

Specification

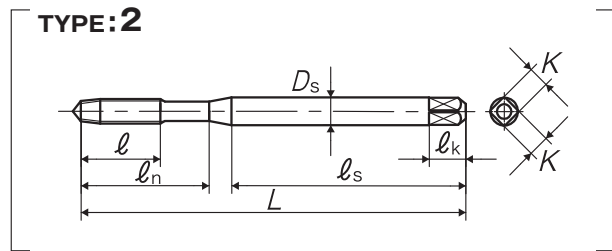
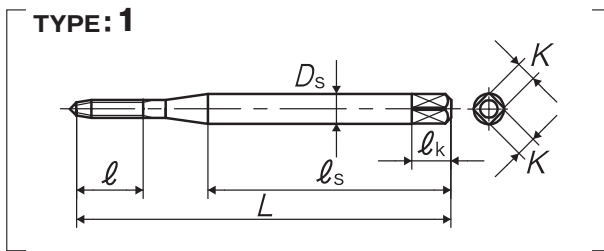


■OL-RZ is the forming tap enabling dry tapping under following condition : tapping sizes of smaller than M6, thin steel sheets having burring operation, and steel parts with rather short length. Optimum coating suitable to the tapping condition.

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels	Stainless steels
15~30 (m/min)	15~30 (m/min)	15~25 (m/min)	15~25 (m/min)	10~25 (m/min)

For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	Type
For Metric threads												
M3 × 0.5	D5	RS3.0G5HPTP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
M3.5 × 0.6	D6	RS3.5H6HPTP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
M4 × 0.7	D6	RS4.0I6HPTP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
M5 × 0.8	D7	RS5.0K7HPTP	4P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
M6 × 1	D8	RS6.0M8HPTP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
For Unified Threads												
No.2-56UNC	H3	RSUN2E3HPTP	4P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.4-40UNC	H5	RSUN4H5HPTP	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H5	RSUN4F5HPTP	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.5-40UNC	H5	RSUN5H5HPTP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
No.6-32UNC	H5	RSUN6J5HPTP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
No.8-32UNC	H5	RSUN8J5HPTP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.10-24UNC	H6	RSUNAM6HPTP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H6	RSUNAJ6HPTP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
1/4-20UNC	H6	RSU04N6HPTP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H6	RSU04K6HPTP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HP-RZ



High Performance Thread Forming Taps, Coated

Specification

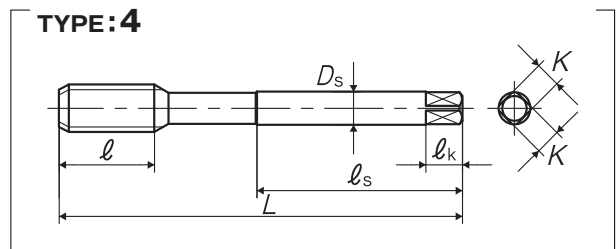
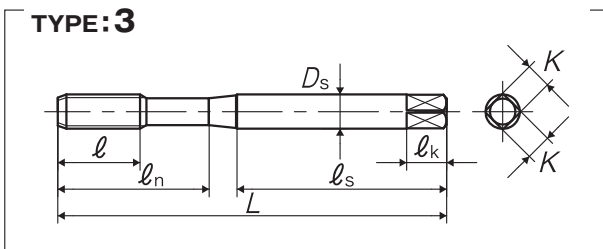
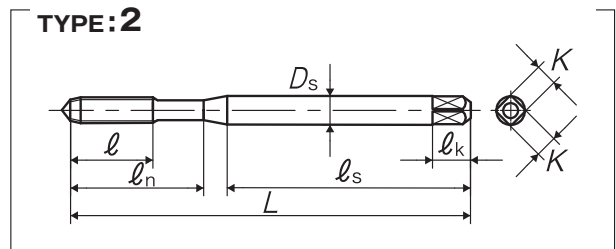
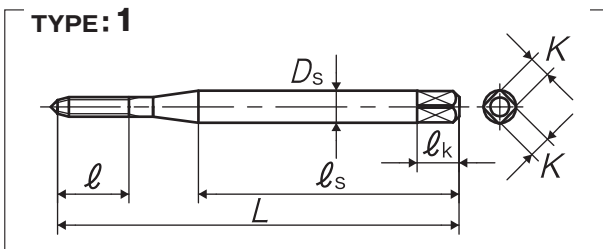


■ HP-RZ is the forming tap suitable for steels (lower than 35HRC) and light alloys, and applicable to the high speed tapping. Optimum coating suitable to the tapping condition.

Recommended Tapping Speed depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels	Stainless steels
15~30 (m/min)	15~30 (m/min)	15~25 (m/min)	15~25 (m/min)	10~25 (m/min)

For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	l (inch)	ln (inch)	ls (inch)	Ds (inch)	K (inch)	lk (inch)	Lobe	Type
For Metric threads												
M3 × 0.5	D5	RS3.0G5FPTP	4P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
		RS3.0G5FPTB	2P									
M3.5 × 0.6	D6	RS3.5H6FPTP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
		RS3.5H6FPTB	2P									
M4 × 0.7	D6	RS4.0I6FPTP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		RS4.0I6FPTB	2P									
M5 × 0.8	D7	RS5.0K7FPTP	4P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	4	2
		RS5.0K7FPTB	2P									
M6 × 1	D8	RS6.0M8FPTP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		RS6.0M8FPTB	2P									
M7 × 1	D9	RS7.0M9FPTP	4P	3.543	0.748	1.315	1.831	0.318	0.238	0.375	4	3
		RS7.0M9FPTB	2P									
M8 × 1.25	D9	RS8.0N9FPTP	4P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	6	3
		RS8.0N9FPTB	2P									
M8 × 1	D9	RS8.0M9FPTP	4P	3.543	0.748	1.382	1.831	0.318	0.238	0.375	6	3
		RS8.0M9FPTB	2P									
M10 × 1.5	D10	RS01000FPTP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
		RS01000FPTB	2P									
M10 × 1.25	D9	RS010N9FPTP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
		RS010N9FPTB	2P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Roll Tap

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HP-RZ High Performance Thread Forming Taps, Coated

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	Type
M12 × 1.75	D11	RS012P-FPTP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RS012P-FPTB	2P									
M12 × 1.5	D9	RS01209FPTP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RS01209FPTB	2P									
M12 × 1.25	D9	RS012N9FPTP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RS012N9FPTB	2P									
For Unified Threads												
No.0-80UNF	H2	RSUN0B2FPTB	2P	1.772	0.236	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	H3	RSUN2E3FPTB	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.3-48UNC	H3	RSUN3F3FPTB	2P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	4	2
No.3-56UNF	H3	RSUN3E3FPTB	2P	2.205	0.354	0.669	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H3	RSUN4H3FPTB	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
	H5	RSUN4H5FPTB										
No.4-48UNF	H3	RSUN4F3FPTB	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
	H5	RSUN4F5FPTB										
No.5-40UNC	H5	RSUN5H5FPTB	2P	2.205	0.433	0.768	1.358	0.141	0.11	0.187	4	2
No.6-32UNC	H3	RSUN6J3FPTP	4P	2.205	0.433	0.787	1.358	0.141	0.11	0.187	4	2
		RSUN6J3FPTB	2P									
	H5	RSUN6J5FPTP	4P									
		RSUN6J5FPTB	2P									
No.8-32UNC	H3	RSUN8J3FPTP	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
		RSUN8J3FPTB	2P									
	H5	RSUN8J5FPTP	4P									
		RSUN8J5FPTB	2P									
No.10-24UNC	H4	RSUNAM4FPTP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
		RSUNAM4FPTB	2P									
	H6	RSUNAM6FPTP	4P									
		RSUNAM6FPTB	2P									
No.10-32UNF	H4	RSUNAJ4FPTP	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
		RSUNAJ4FPTB	2P									
	H6	RSUNAJ6FPTP	4P									
		RSUNAJ6FPTB	2P									
1/4-20UNC	H4	RSU04N4FPTP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		RSU04N4FPTB	2P									
	H6	RSU04N6FPTP	4P									
		RSU04N6FPTB	2P									
1/4-28UNF	H4	RSU04K4FPTP	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
		RSU04K4FPTB	2P									
	H6	RSU04K6FPTP	4P									
		RSU04K6FPTB	2P									
5/16-18UNC	H5	RSU0505FPTP	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
		RSU0505FPTB	2P									
	H7	RSU0507FPTP	4P									
		RSU0507FPTB	2P									
5/16-24UNF	H5	RSU05M5FPTP	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
		RSU05M5FPTB	2P									
	H7	RSU05M7FPTP	4P									
		RSU05M7FPTB	2P									
3/8-16UNC	H5	RSU06P5FPTP	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
		RSU06P5FPTB	2P									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps Simple Inspection Tools
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HP-RZ High Performance Thread Forming Taps, Coated

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	Type
3/8-16UNC	H7	RSU06P7FPTP	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
		RSU06P7FPTB	2P									
3/8-24UNF	H5	RSU06M5FPTP	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
		RSU06M5FPTB	2P									
	H7	RSU06M7FPTP	4P									
		RSU06M7FPTB	2P									
7/16-14UNC	H5	RSU07Q5FPTP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
		RSU07Q5FPTB	2P									
	H7	RSU07Q7FPTP	4P									
		RSU07Q7FPTB	2P									
7/16-20UNF	H5	RSU07N5FPTP	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
		RSU07N5FPTB	2P									
	H7	RSU07N7FPTP	4P									
		RSU07N7FPTB	2P									
1/2-13UNC	H5	RSU08R5FPTP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RSU08R5FPTB	2P									
	H7	RSU08R7FPTP	4P									
		RSU08R7FPTB	2P									
1/2-20UNF	H5	RSU08N5FPTP	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
		RSU08N5FPTB	2P									
	H7	RSU08N7FPTP	4P									
		RSU08N7FPTB	2P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

MHRZ



Roll Taps for Carbon Steels of Middle Hardness

Specification

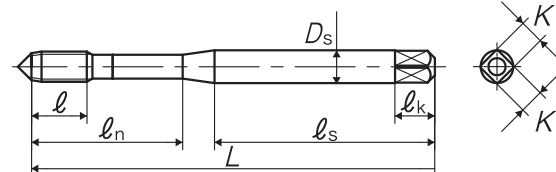


Recommended Tapping Speed depending on Materials

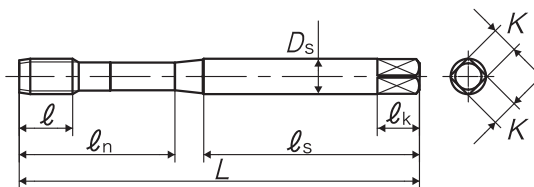
High carbon steels	Alloy steels	Thermal refined steels
10~30 (m/min)	10~30 (m/min)	10~20 (m/min)
		~35HRC

For icon explanation, refer to P.50

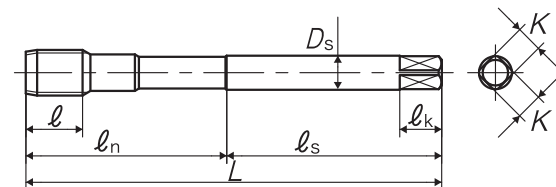
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓ _n (inch)	ℓ _s (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	Lobe	Type	Stock
M6 × 1	D8	RS6.0MIOCTP	4P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	5	1	○
		RS6.0MIOCTB	2P										
M8 × 1.25	D9	RS8.0N9OCTP	4P	3.543	0.472	1.382	1.831	0.318	0.238	0.375	6	2	○
		RS8.0N9OCTB	2P										
M10 × 1.5	D10	RS01000OCTP	4P	3.937	0.512	-	2.008	0.323	0.242	0.406	8	3	○
		RS01000OCTB	2P										
M10 × 1.25	D9	RS010N9OCTP	4P	3.937	0.512	-	2.008	0.323	0.242	0.406	8	3	○
		RS010N9OCTB	2P										
M12 × 1.5	D10	RS01200OCTP	4P	4.331	0.591	-	2.205	0.367	0.275	0.437	8	3	○
		RS01200OCTB	2P										
M12 × 1.25	D10	RS012N0OCTP	4P	4.331	0.591	-	2.205	0.367	0.275	0.437	8	3	○
		RS012N0OCTB	2P										
M14 × 1.5	D10	RS01400OCTP	4P	4.331	0.551	-	2.205	0.429	0.322	0.5	8	3	○
		RS01400OCTB	2P										

Spiral Fluted Taps
(for blind hole)

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(for through hole)

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(for through hole)

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Cemented
Carbide Taps

Roll Taps

Pipe Taps
Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

ANSI LINE UP

CHECK PIN



CPC-S

ST-1

CPC-T

ST-4

CPC-S



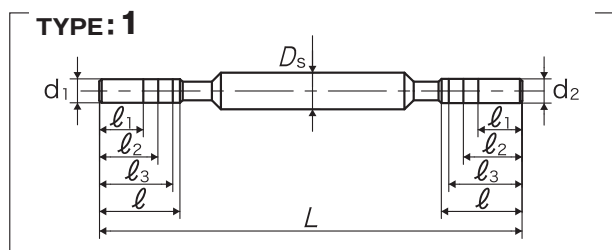
Check Pins for Bored Hole in thread cut tapping (Straight Type)

Specification

HSS

For icon explanation, refer to P.50

■ CPC-S is to check both diameter and depth of bored hole (for cutting taps, straight type). CPC-S is made from wear resistant HSS material and is applicable for both through hole and blind hole.



Segment : 7C

Size	Code	L (inch)	ℓ (inch)	d ₁ (inch) (Thread engagement ratio)	d ₂ (inch) (Thread engagement ratio)	ℓ ₁ (inch)	ℓ ₂ (inch)	ℓ ₃ (inch)	D _s (inch)	Type	Stock
For Unified Threads											
No.2-56UNC	CPCSAUN2EA	1.63	0.22	0.0667(83.1%)	0.0705(66.8%)	0.129	0.172	0.215	0.118	1	○
	CPCSAUN2EB			0.0686(75.0%)	0.0724(58.6%)						
	CPCSAUN2EC			0.0699(69.4%)	0.0737(53.0%)						
No.2-64UNF	CPCSAUN2DA	1.63	0.22	0.0691(83.1%)	0.0724(67.0%)	0.129	0.172	0.215	0.118	1	○
	CPCSAUN2DB			0.0707(75.4%)	0.0740(59.1%)						
	CPCSAUN2DC			0.0720(69.0%)	0.0753(52.7%)						
No.3-48UNC	CPCSAUN3FA	1.77	0.30	0.0764(83.4%)	0.0804(68.7%)	0.149	0.198	0.248	0.118	1	○
	CPCSAUN3FB			0.0785(75.7%)	0.0825(61.0%)						
	CPCSAUN3FC			0.0805(68.4%)	0.0845(53.6%)						
No.3-56UNF	CPCSAUN3EA	1.77	0.30	0.0797(83.1%)	0.0831(68.5%)	0.149	0.198	0.248	0.118	1	○
	CPCSAUN3EB			0.0814(75.9%)	0.0848(61.2%)						
	CPCSAUN3EC			0.0831(68.5%)	0.0865(53.9%)						
No.4-40UNC	CPCSAUN4HA	1.77	0.30	0.0849(83.4%)	0.0894(69.6%)	0.168	0.224	0.280	0.118	1	○
	CPCSAUN4HB			0.0871(76.7%)	0.0916(62.8%)						
	CPCSAUN4HC			0.0894(69.6%)	0.0939(55.7%)						
	CPCSAUN4HD			0.0902(67.1%)	0.0947(53.3%)						
No.4-48UNF	CPCSAUN4FA	1.77	0.30	0.0894(83.5%)	0.0931(69.8%)	0.168	0.224	0.280	0.118	1	○
	CPCSAUN4FB			0.0912(76.9%)	0.0949(63.2%)						
	CPCSAUN4FC			0.0931(69.8%)	0.0968(56.2%)						
	CPCSAUN4FD			0.0939(66.9%)	0.0976(53.2%)						
No.5-40UNC	CPCSAUN5HA	1.93	0.35	0.0979(83.4%)	0.1020(70.8%)	0.188	0.250	0.313	0.157	1	○
	CPCSAUN5HB			0.1000(77.0%)	0.1041(64.4%)						
	CPCSAUN5HC			0.1021(70.5%)	0.1062(57.9%)						
	CPCSAUN5HD			0.1036(65.9%)	0.1077(53.3%)						
No.5-44UNF	CPCSAUN5GA	1.93	0.35	0.1004(83.2%)	0.1042(70.5%)	0.188	0.250	0.313	0.157	1	○
	CPCSAUN5GB			0.1023(76.9%)	0.1060(64.4%)						
	CPCSAUN5GC			0.1042(70.5%)	0.1079(57.9%)						
	CPCSAUN5GD			0.1060(64.4%)	0.1097(51.8%)						
No.6-32UNC	CPCSAUN6JA	1.93	0.35	0.1040(83.7%)	0.1091(71.2%)	0.207	0.276	0.345	0.157	1	○
	CPCSAUN6JB			0.1066(77.3%)	0.1115(65.3%)						
	CPCSAUN6JC			0.1091(71.2%)	0.1140(59.1%)						
	CPCSAUN6JD			0.1115(65.3%)	0.1164(53.2%)						

Overall length	Pin length	Bored hole dia. (GO)	Bored hole dia. (NOT-GO)	Bored hole depth (1.5D)	Bored hole depth (2D)	Bored hole depth (2.5D)	Shank dia.
L	ℓ	d ₁	d ₂	ℓ ₁	ℓ ₂	ℓ ₃	Ds

CPC-S Check Pins for Bored Hole in thread cut tapping (Straight Type)

Size	Code	L (inch)	ℓ (inch)	d ₁ (inch) (Thread engagement ratio)	d ₂ (inch) (Thread engagement ratio)	ℓ ₁ (inch)	ℓ ₂ (inch)	ℓ ₃ (inch)	Ds (inch)	Type	Stock
No.6-40UNF	CPCSAUN6HA	1.93	0.35	0.1110(83.1%)	0.1148(71.4%)	0.207	0.276	0.345	0.157	1	○
	CPCSAUN6HB			0.1128(77.6%)	0.1167(65.6%)						
	CPCSAUN6HC			0.1147(71.7%)	0.1186(59.7%)						
	CPCSAUN6HD			0.1166(65.9%)	0.1205(53.9%)						
No.8-32UNC	CPCSAUN8JA	2.24	0.43	0.1300(83.8%)	0.1345(72.7%)	0.246	0.328	0.410	0.197	1	○
	CPCSAUN8JB			0.1324(77.8%)	0.1367(67.2%)						
	CPCSAUN8JC			0.1346(72.4%)	0.1389(61.8%)						
	CPCSAUN8JD			0.1367(67.2%)	0.1410(56.7%)						
No.8-36UNF	CPCSAUN8IA	2.24	0.43	0.1340(83.1%)	0.1377(72.9%)	0.246	0.328	0.410	0.197	1	○
	CPCSAUN8IB			0.1359(77.9%)	0.1397(67.3%)						
	CPCSAUN8IC			0.1378(72.6%)	0.1416(62.1%)						
	CPCSAUN8ID			0.1397(67.3%)	0.1435(56.8%)						
No.10-24UNC	CPCSAUNAMA	2.56	0.55	0.1450(83.1%)	0.1502(73.5%)	0.285	0.380	0.475	0.217	1	○
	CPCSAUNAMB			0.1475(78.5%)	0.1528(68.7%)						
	CPCSAUNAMC			0.1502(73.5%)	0.1555(63.7%)						
	CPCSAUNAMD			0.1528(68.7%)	0.1581(58.9%)						
No.10-32UNF	CPCSAUNAJA	2.56	0.55	0.1560(83.7%)	0.1601(73.7%)	0.285	0.380	0.475	0.217	1	○
	CPCSAUNAJB			0.1581(78.6%)	0.1621(68.7%)						
	CPCSAUNAJC			0.1601(73.7%)	0.1641(63.8%)						
	CPCSAUNAJD			0.1621(68.7%)	0.1661(58.9%)						
No.12-24UNC	CPCSAUNCMA	2.56	0.55	0.1710(83.1%)	0.1758(74.3%)	0.324	0.432	0.540	0.217	1	○
	CPCSAUNCMB			0.1733(78.9%)	0.1782(69.8%)						
	CPCSAUNCMC			0.1758(74.3%)	0.1807(65.2%)						
	CPCSAUNCMD			0.1782(69.8%)	0.1831(60.8%)						
No.12-28UNF	CPCSAUNCKA	2.56	0.55	0.1770(84.0%)	0.1815(74.4%)	0.324	0.432	0.540	0.217	1	○
	CPCSAUNCKB			0.1794(78.9%)	0.1836(69.8%)						
	CPCSAUNCKC			0.1815(74.4%)	0.1857(65.3%)						
	CPCSAUNCKD			0.1836(69.8%)	0.1878(60.8%)						
1/4-20UNC	CPCSAU04NA	2.87	0.65	0.1960(83.1%)	0.2013(75.0%)	0.375	0.500	0.625	0.236	1	○
	CPCSAU04NB			0.1986(79.2%)	0.2040(70.8%)						
	CPCSAU04NC			0.2013(75.0%)	0.2067(66.7%)						
	CPCSAU04ND			0.2040(70.8%)	0.2094(62.5%)						
1/4-28UNF	CPCSAU04KA	2.87	0.65	0.2110(84.0%)	0.2152(75.0%)	0.375	0.500	0.625	0.236	1	○
	CPCSAU04KB			0.2131(79.5%)	0.2171(70.8%)						
	CPCSAU04KC			0.2150(75.4%)	0.2190(66.8%)						
	CPCSAU04KD			0.2169(71.3%)	0.2209(62.7%)						
5/16-18UNC	CPCSAU050A	3.90	0.87	0.2520(83.8%)	0.2577(75.9%)	0.469	0.625	0.781	0.315	1	○
	CPCSAU050B			0.2551(79.5%)	0.2604(72.2%)						
	CPCSAU050C			0.2577(75.9%)	0.2630(68.6%)						
	CPCSAU050D			0.2604(72.2%)	0.2657(64.8%)						
5/16-24UNF	CPCSAU05MA	3.90	0.87	0.2670(84.0%)	0.2714(75.9%)	0.469	0.625	0.781	0.315	1	○
	CPCSAU05MB			0.2694(79.6%)	0.2734(72.2%)						
	CPCSAU05MC			0.2714(75.9%)	0.2754(68.5%)						
	CPCSAU05MD			0.2734(72.2%)	0.2774(64.8%)						
3/8-16UNC	CPCSAU06PA	4.33	1.08	0.3070(83.7%)	0.3127(76.7%)	0.563	0.750	0.938	0.394	1	○
	CPCSAU06PB			0.3101(79.9%)	0.3155(73.3%)						
	CPCSAU06PC			0.3128(76.6%)	0.3182(70.0%)						
	CPCSAU06PD			0.3155(73.3%)	0.3209(66.6%)						
3/8-24UNF	CPCSAU06MA	4.33	1.08	0.3300(83.1%)	0.3336(76.5%)	0.563	0.750	0.938	0.394	1	○
	CPCSAU06MB			0.3314(80.6%)	0.3354(73.2%)						

Spiral Fluted Taps (for blind hole)
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Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Pin length	Bored hole dia. (GO)	Bored hole dia. (NOT-GO)	Bored hole depth (1.5D)	Bored hole depth (2D)	Bored hole depth (2.5D)	Shank dia.
L	ℓ	d ₁	d ₂	ℓ ₁	ℓ ₂	ℓ ₃	Ds

CPC-S Check Pins for Bored Hole in thread cut tapping (Straight Type)

Size	Code	L (inch)	ℓ (inch)	d ₁ (inch) (Thread engagement ratio)	d ₂ (inch) (Thread engagement ratio)	ℓ ₁ (inch)	ℓ ₂ (inch)	ℓ ₃ (inch)	Ds (inch)	Type	Stock
3/8-24UNF	CPCSAU06MC	4.33	1.08	0.3332(77.2%)	0.3372(69.8%)	0.563	0.750	0.938	0.394	1	○
	CPCSAU06MD			0.3351(73.7%)	0.3391(66.3%)						
7/16-14UNC	CPCSAU07QA	4.76	1.30	0.3600(83.5%)	0.3660(77.1%)	0.656	0.875	1.094	0.472	1	○
	CPCSAU07QB			0.3630(80.3%)	0.3688(74.0%)						
	CPCSAU07QC			0.3659(77.2%)	0.3717(70.9%)						
	CPCSAU07QD			0.3688(74.0%)	0.3746(67.8%)						
7/16-20UNF	CPCSAU07NA	4.76	1.30	0.3830(83.9%)	0.3875(77.0%)	0.656	0.875	1.094	0.472	1	○
	CPCSAU07NB			0.3855(80.1%)	0.3896(73.7%)						
	CPCSAU07NC			0.3875(77.0%)	0.3916(70.7%)						
	CPCSAU07ND			0.3896(73.7%)	0.3937(67.4%)						
1/2-13UNC	CPCSAU08RA	4.76	1.30	0.4170(83.1%)	0.4225(77.6%)	0.750	1.000	1.250	0.472	1	○
	CPCSAU08RB			0.4196(80.5%)	0.4254(74.7%)						
	CPCSAU08RC			0.4226(77.5%)	0.4284(71.7%)						
	CPCSAU08RD			0.4255(74.6%)	0.4313(68.8%)						
1/2-20UNF	CPCSAU08NA	4.76	1.30	0.4460(83.1%)	0.4498(77.3%)	0.750	1.000	1.250	0.472	1	○
	CPCSAU08NB			0.4477(80.5%)	0.4517(74.4%)						
	CPCSAU08NC			0.4497(77.4%)	0.4537(71.3%)						
	CPCSAU08ND			0.4516(74.5%)	0.4556(68.4%)						

- Spiral Fluted Taps (for blind hole)
- Spiral Fluted Taps (for through hole)
- Spiral Pointed Taps (for through hole)
- Hand Taps
- Cemented Carbide Taps
- Roll Taps
- Pipe Taps
- Simple Inspection Tools
- Thread Mills
- Dies
- Center Drills
- Centering Tools

Overall length	Pin length	Bored hole dia. (GO)	Bored hole dia. (NOT-GO)	Bored hole depth (1.5D)	Bored hole depth (2D)	Shank dia.	Size of square	Length of square
L	ℓ	d ₁	d ₂	ℓ ₁	ℓ ₂	D _s	K	ℓ _k

CPC-T



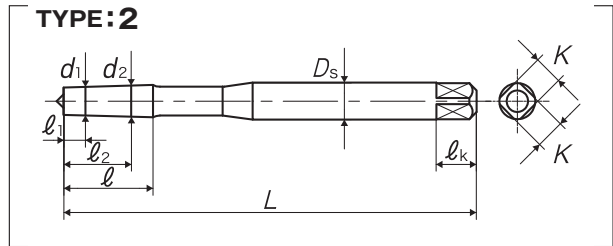
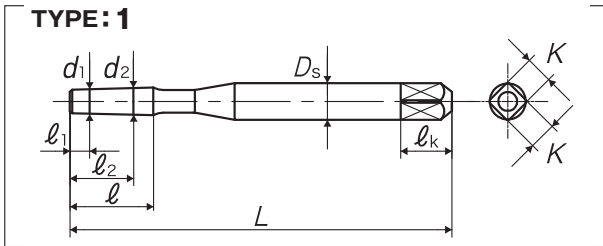
Check Pins for Bored Holes in thread cut tapping (Taper Type)

Specification



For icon explanation, refer to P.50

■ One CPC-T enables simple checking of bored hole dia. (for cutting taps, taper type). CPC-T is made from wear resistant HSS material and is applicable for through hole and for blind hole having enough space in the bottom.



Segment : 7C

Size	Code	L (inch)	ℓ (inch)	d ₁ (inch) (Thread engagement ratio)	d ₂ (inch) (Thread engagement ratio)	ℓ ₁ (inch)	ℓ ₂ (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	Type	Stock
For Unified Threads												
No.2-56UNC	CPCTAUN2E	1.65	0.28	0.0667(83.1%)	0.0737(53.2%)	0.039	0.236	0.118	0.10	0.20	1	○
No.2-64UNF	CPCTAUN2D	1.65	0.28	0.0691(83.1%)	0.0753(52.8%)	0.039	0.236	0.118	0.10	0.20	1	○
No.3-48UNC	CPCTAUN3F	1.81	0.31	0.0764(83.4%)	0.0845(53.6%)	0.059	0.256	0.118	0.10	0.20	1	○
No.3-56UNF	CPCTAUN3E	1.81	0.31	0.0797(83.1%)	0.0865(53.9%)	0.059	0.256	0.118	0.10	0.20	1	○
No.4-40UNC	CPCTAUN4H	1.81	0.31	0.0849(83.4%)	0.0939(55.7%)	0.059	0.256	0.118	0.10	0.20	1	○
No.4-48UNF	CPCTAUN4F	1.81	0.31	0.0894(83.5%)	0.0968(56.3%)	0.059	0.256	0.118	0.10	0.20	1	○
No.5-40UNC	CPCTAUN5H	1.81	0.33	0.0979(83.4%)	0.1062(57.9%)	0.059	0.276	0.157	0.13	0.24	1	○
No.5-44UNF	CPCTAUN5G	1.81	0.33	0.1004(83.2%)	0.1079(58.0%)	0.059	0.276	0.157	0.13	0.24	1	○
No.6-32UNC	CPCTAUN6J	1.81	0.33	0.1040(83.7%)	0.1140(59.2%)	0.059	0.276	0.157	0.13	0.24	1	○
No.6-40UNF	CPCTAUN6H	1.81	0.33	0.1110(83.1%)	0.1186(59.7%)	0.059	0.276	0.157	0.13	0.24	1	○
No.8-32UNC	CPCTAUN8J	2.05	0.41	0.1300(83.8%)	0.1389(61.8%)	0.091	0.327	0.197	0.16	0.28	1	○
No.8-36UNF	CPCTAUN8I	2.05	0.41	0.1340(83.1%)	0.1416(62.1%)	0.091	0.327	0.197	0.16	0.28	1	○
No.10-24UNC	CPCTAUNAM	2.34	0.49	0.1450(83.1%)	0.1555(63.7%)	0.098	0.394	0.217	0.18	0.28	1	○
No.10-32UNF	CPCTAUNAJ	2.34	0.49	0.1560(83.7%)	0.1641(63.8%)	0.098	0.394	0.217	0.18	0.28	1	○
No.12-24UNC	CPCTAUNCM	2.34	0.49	0.1710(83.1%)	0.1807(65.2%)	0.098	0.394	0.217	0.18	0.28	1	○
No.12-28UNF	CPCTAUNCK	2.34	0.49	0.1770(84.0%)	0.1857(65.3%)	0.098	0.394	0.217	0.18	0.28	1	○
1/4-20UNC	CPCTAU04N	2.42	0.65	0.1960(83.1%)	0.2067(66.7%)	0.150	0.504	0.236	0.18	0.28	1	○
1/4-28UNF	CPCTAU04K	2.42	0.65	0.2110(84.0%)	0.2190(66.8%)	0.150	0.504	0.236	0.18	0.28	1	○
5/16-18UNC	CPCTAU05O	3.54	0.76	0.2520(83.8%)	0.2630(68.6%)	0.185	0.579	0.315	0.24	0.35	2	○
5/16-24UNF	CPCTAU05M	3.54	0.76	0.2670(84.0%)	0.2754(68.5%)	0.185	0.579	0.315	0.24	0.35	2	○
3/8-16UNC	CPCTAU06P	3.94	0.92	0.3070(83.7%)	0.3182(70.0%)	0.264	0.657	0.394	0.31	0.43	2	○
3/8-24UNF	CPCTAU06M	3.94	0.92	0.3300(83.1%)	0.3372(69.8%)	0.264	0.657	0.394	0.31	0.43	2	○
7/16-14UNC	CPCTAU07Q	4.33	1.08	0.3600(83.5%)	0.3717(70.9%)	0.303	0.776	0.472	0.35	0.47	2	○
7/16-20UNF	CPCTAU07N	4.33	1.08	0.3830(83.9%)	0.3916(70.7%)	0.303	0.776	0.472	0.35	0.47	2	○
1/2-13UNC	CPCTAU08R	4.33	1.08	0.4170(83.1%)	0.4284(71.7%)	0.303	0.776	0.472	0.35	0.47	2	○
1/2-20UNF	CPCTAU08N	4.33	1.08	0.4460(83.1%)	0.4537(71.3%)	0.303	0.776	0.472	0.35	0.47	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

M E M O

A series of horizontal dashed lines for writing, bounded by solid lines at the top and bottom.

ANSI LINE UP

PIPE TAP SERIES



<u>ZELX SS NPT</u>	<u>Pipe-1</u>
<u>ZELX SS NPTF</u>	<u>Pipe-2</u>
<u>ZELX MOLD NPT</u>	<u>Pipe-3</u>
<u>NPT</u>	<u>Pipe-4</u>
<u>INT-NPT</u>	<u>Pipe-5</u>

<u>NPT-CI</u>	<u>Pipe-6</u>
<u>NPTF</u>	<u>Pipe-7</u>
<u>NPTF-CI</u>	<u>Pipe-8</u>
<u>NPS</u>	<u>Pipe-9</u>
<u>NPSF</u>	<u>Pipe-10</u>

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

ZELX SS NPT

Taps for American Taper Pipe Threads
Specification



NPT 3/4~

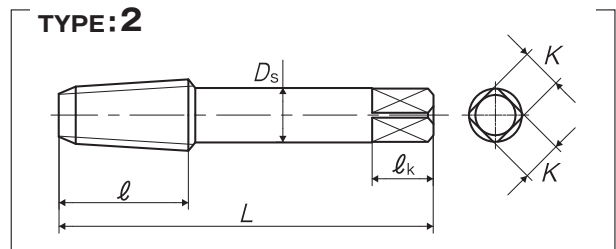
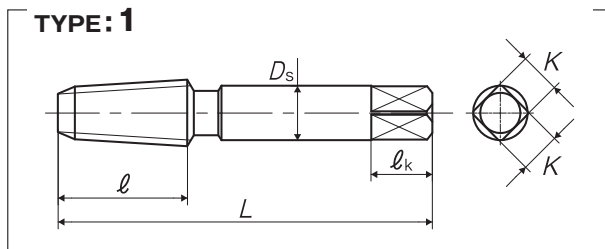


■ Suitable for tapping stainless steels, chrome steels and chrome molybdenum steels.

Recommended Tapping Speed depending on Materials

Low carbon steels	Alloy steels	Stainless steels
5 (m/min)	5 (m/min)	5 (m/min)

For icon explanation, refer to P.50



Segment : 1H

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For American Pipe Threads											
NPT 1/16-27	ANSI G	Y83640	2.5P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
NPT 1/8-27	ANSI G	Y83641	2.5P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
		Y83642					0.312	0.234			
NPT 1/4-18	ANSI G	Y83643	2.5P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
NPT 3/8-18	ANSI G	Y83644	2.5P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
NPT 1/2-14	ANSI G	Y83645	2.5P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
NPT 3/4-14	ANSI G	Y83646	2.5P	3.25	1.375	0.565	0.906	0.679	0.687	4	2
NPT 1-11.5	ANSI G	Y83647	2.5P	3.75	1.75	0.678	1.125	0.843	0.812	4	2

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Pipe Taps

Simple Inspection Tools

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

ZELX SS NPTF

Taps for American Dryseal Taper Pipe Threads

Specification



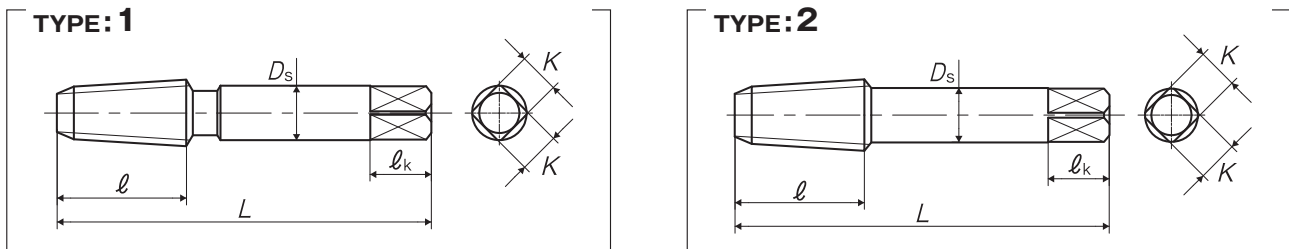
NPTF 3/4~

■ Suitable for tapping stainless steels, chrome steels and chrome molybdenum steels.

Recommended Tapping Speed depending on Materials

Low carbon steels	Alloy steels	Stainless steels
5 (m/min)	5 (m/min)	5 (m/min)

For icon explanation, refer to P.50



Segment : 1H

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Dryseal American Pipe Threads											
NPTF 1/16-27	ANSI G	Y83660	2.5P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
NPTF 1/8-27	ANSI G	Y83661	2.5P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
		0.312					0.234	2			
NPTF 1/4-18	ANSI G	Y83663	2.5P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
NPTF 3/8-18	ANSI G	Y83664	2.5P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
NPTF 1/2-14	ANSI G	Y83665	2.5P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
NPTF 3/4-14	ANSI G	Y83666	2.5P	3.25	1.375	0.565	0.906	0.679	0.687	4	2
NPTF 1-11.5	ANSI G	Y83667	2.5P	3.75	1.75	0.678	1.125	0.843	0.812	4	2



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

ZELX MOLD NPT



Hand Taps for Hard-to-Machine Materials For American Taper Pipe Threads

Specification



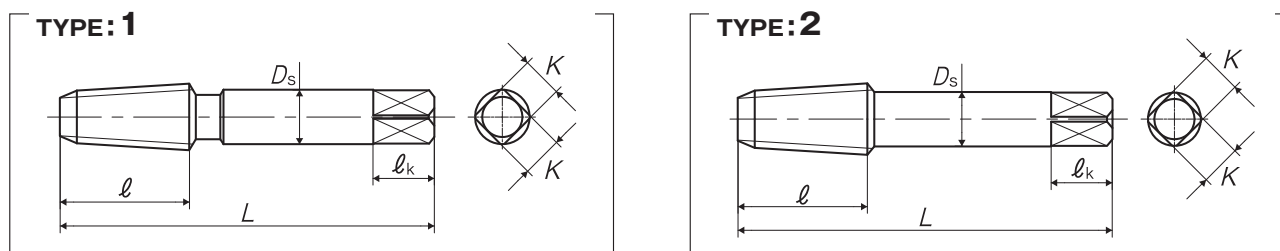
■ Suitable for hard steels of 35 ~ 45HRC, such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels.

Recommended Tapping Speed depending on Materials

Thermal refined steels	Tool steels
~5 (m/min)	~5 (m/min)

35~45HRC

For icon explanation, refer to P.50



Segment : 1H

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For American Pipe Threads											
NPT 1/8-27	ANSI G	Y89641	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
NPT 1/4-18	ANSI G	Y89643	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
NPT 3/8-18	ANSI G	Y89644	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
NPT 1/2-14	ANSI G	Y89645	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
NPT 3/4-14	ANSI G	Y89646	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

NPT

Hand Taps for American Taper Pipe Threads Specification

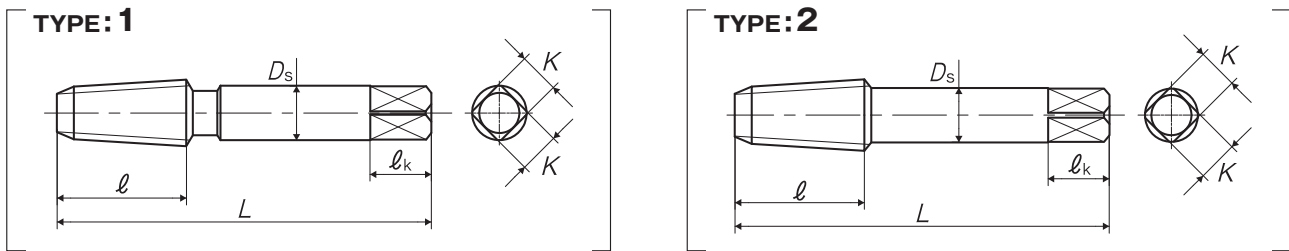


NPT 3/4~

Recommended Tapping Speed depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
For American Pipe Threads											
NPT 1/16-27	ANSI G	Y83100	3P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
		Y83100BR									
NPT 1/8-27	ANSI G	Y83101	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
		Y83101BR					0.312	0.234			2
		Y83102									
		Y83102BR									
NPT 1/4-18	ANSI G	Y83103	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
		Y83103BR									
NPT 3/8-18	ANSI G	Y83104	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
		Y83104BR									
NPT 1/2-14	ANSI G	Y83105	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
		Y83105BR									
NPT 3/4-14	ANSI G	Y83106	3P	3.25	1.375	0.565	0.906	0.679	0.687	4	2
		Y83106BR									
NPT 1-11.5	ANSI G	Y83107	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
		Y83107BR									
NPT 1 1/4-11.5	ANSI G	Y83108	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
		Y83108BR									
NPT 1 1/2-11.5	ANSI G	Y83109	3P	4.25	1.75	0.699	1.5	1.125	1	6	2
		Y83109BR									
NPT 2-11.5	ANSI G	Y83110	3P	4.5	1.75	0.667	1.875	1.406	1.125	6	2
		Y83110BR									



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

INT-NPT

Interrupted Taps for American Taper Pipe Threads

Specification

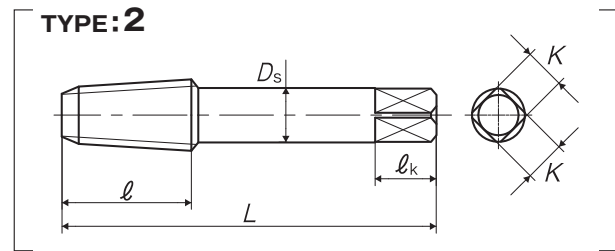
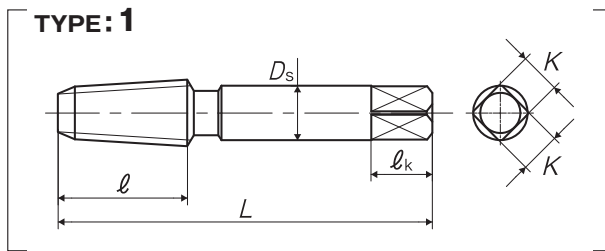


■ INT-NPT having low left-hand spiral flutes and having every other thread ground off, reduces cutting torque. INT-NPT is suitable for such sticky materials as stainless steels and chrome molybdenum steels.

Recommended Tapping Speed depending on Materials

Stainless steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
For American Pipe Threads											
NPT 1/8-27	ANSI G	Y83151	3P	2.125	0.75	0.312	0.437	0.328	0.375	5	1
		Y83151BR									2
		Y83152									
		Y83152BR									
NPT 1/4-18	ANSI G	Y83153	3P	2.437	1.062	0.459	0.562	0.421	0.437	5	1
		Y83153BR									
NPT 3/8-18	ANSI G	Y83154	3P	2.562	1.062	0.454	0.7	0.531	0.5	5	1
		Y83154BR									
NPT 1/2-14	ANSI G	Y83155	3P	3.125	1.375	0.579	0.687	0.515	0.625	5	2
		Y83155BR									
NPT 3/4-14	ANSI G	Y83156	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
		Y83156BR									
NPT 1-11.5	ANSI G	Y83157	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
		Y83157BR									
NPT 1 1/4-11.5	ANSI G	Y83158	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
		Y83158BR									
NPT 1 1/2-11.5	ANSI G	Y83159	3P	4.25	1.75	0.699	1.5	1.125	1	7	2
		Y83159BR									
NPT 2-11.5	ANSI G	Y83160	3P	4.5	1.75	0.667	1.875	1.406	1.125	7	2
		Y83160BR									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

NPT-CI

Hand Taps for American Taper Pipe Threads for Cast Irons

Specification



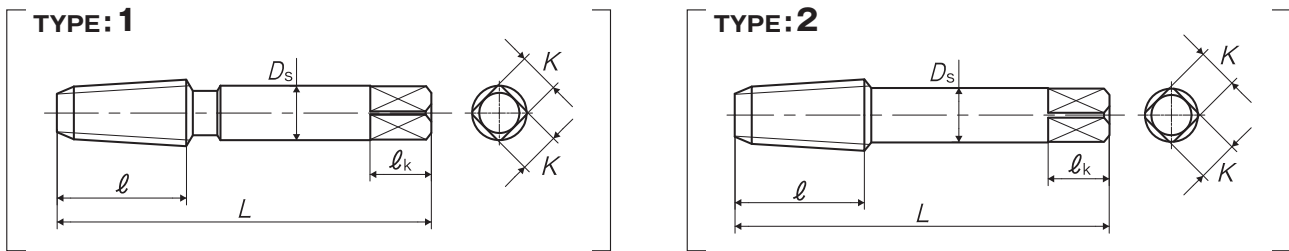
NPT 3/4~

■ Suitable for hard and abrasive materials such as cast irons.

Recommended Tapping Speed depending on Materials

Cast irons ~5 (m/min)	Ductile cast irons ~5 (m/min)
-----------------------------	-------------------------------------

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
For American Pipe Threads											
NPT 1/8-27	ANSI G	Y83201	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
		Y83202					0.312	0.234			2
NPT 1/4-18	ANSI G	Y83203	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
NPT 3/8-18	ANSI G	Y83204	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
NPT 1/2-14	ANSI G	Y83205	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
NPT 3/4-14	ANSI G	Y83206	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
NPT 1-11.5	ANSI G	Y83207	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
NPT 1 1/4-11.5	ANSI G	Y83208	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
NPT 1 1/2-11.5	ANSI G	Y83209	3P	4.25	1.75	0.699	1.5	1.125	1	7	2
NPT 2-11.5	ANSI G	Y83210	3P	4.5	1.75	0.667	1.875	1.406	1.125	7	2

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

NPTF

Hand Taps for American Dryseal Taper Pipe Threads

Specification



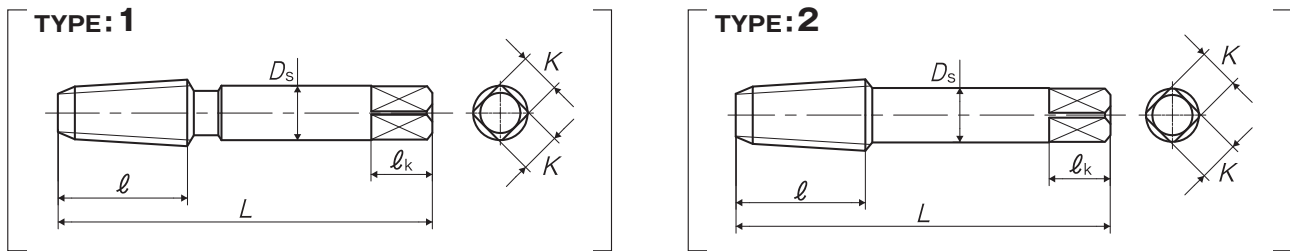
NPTF 3/4~



Recommended Tapping Speed depending on Materials



For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Type
For Dryseal American Pipe Threads											
NPTF 1/16-27	ANSI G	Y83125	3P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
		Y83125BR									
NPTF 1/8-27	ANSI G	Y83126	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
		Y83126BR									
		Y83127					0.312	0.234	2		
		Y83127BR									
NPTF 1/4-18	ANSI G	Y83128	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
		Y83128BR									
NPTF 3/8-18	ANSI G	Y83129	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
		Y83129BR									
NPTF 1/2-14	ANSI G	Y83130	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
		Y83130BR									
NPTF 3/4-14	ANSI G	Y83131	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
		Y83131BR									
NPTF 1-11.5	ANSI G	Y83132	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
		Y83132BR									
NPTF 1 1/4-11.5	ANSI G	Y83133	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
		Y83133BR									
NPTF 1 1/2-11.5	ANSI G	Y83134	3P	4.25	1.75	0.699	1.5	1.125	1	6	2
		Y83134BR									
NPTF 2-11.5	ANSI G	Y83135	3P	4.5	1.75	0.667	1.875	1.406	1.125	6	2
		Y83135BR									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	D _s	K	ℓ _k

NPTF-CI

Hand Taps for American Dryseal Taper Pipe Threads, for Cast Irons

Specification



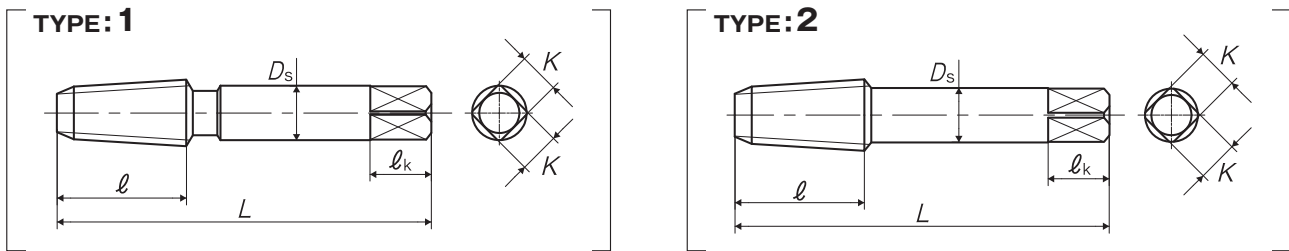
NPTF 3/4~

■ Suitable for hard and abrasive materials such as cast irons.

Recommended Tapping Speed depending on Materials

Cast irons ~5 (m/min)	Ductile cast irons ~5 (m/min)
-----------------------------	-------------------------------------

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	D _s (inch)	K (inch)	ℓ _k (inch)	No. of flutes	Type
For Dryseal American Pipe Threads											
NPTF 1/8-27	ANSI G	Y83226	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
		Y83227									2
NPTF 1/4-18	ANSI G	Y83228	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
NPTF 3/8-18	ANSI G	Y83229	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
NPTF 1/2-14	ANSI G	Y83230	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
NPTF 3/4-14	ANSI G	Y83231	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
NPTF 1-11.5	ANSI G	Y83232	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
NPTF 1 1/4-11.5	ANSI G	Y83233	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
NPTF 1 1/2-11.5	ANSI G	Y83234	3P	4.25	1.75	0.699	1.5	1.125	1	7	2
NPTF 2-11.5	ANSI G	Y83235	3P	4.5	1.75	0.667	1.875	1.406	1.125	7	2

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

NPS

Hand Taps for American Parallel Pipe Threads Specification

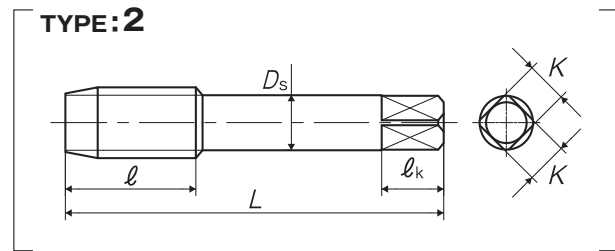
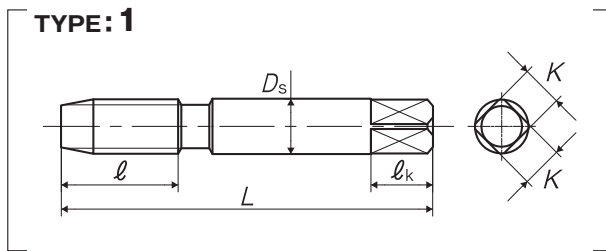


NPS 3/4~

Recommended Tapping Speed depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For American Pipe Threads										
NPS 1/8-27	ANSI G	Y83301	4P	2.125	0.75	0.437	0.328	0.375	4	1
		Y83301BR								2
		Y83302								
		Y83302BR								
NPS 1/4-18	ANSI G	Y83303	4P	2.437	1.062	0.562	0.421	0.437	4	1
		Y83303BR								
NPS 3/8-18	ANSI G	Y83304	4P	2.562	1.062	0.7	0.531	0.5	4	1
		Y83304BR								
NPS 1/2-14	ANSI G	Y83305	4P	3.125	1.375	0.687	0.515	0.625	4	2
		Y83305BR								
NPS 3/4-14	ANSI G	Y83306	4P	3.25	1.375	0.906	0.679	0.687	5	2
		Y83306BR								
NPS 1-11.5	ANSI G	Y83307	4P	3.75	1.75	1.125	0.843	0.812	5	2
		Y83307BR								

Spiral Fluted Taps (for blind hole)
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 Roll Taps
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

NPSF

Hand Taps for American Dryseal Parallel Pipe Threads

Specification



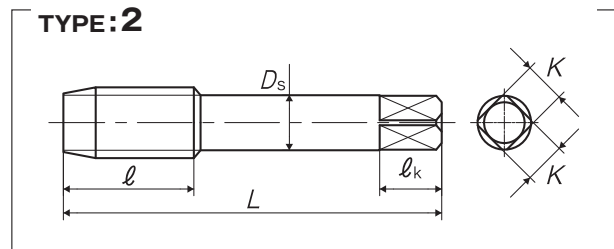
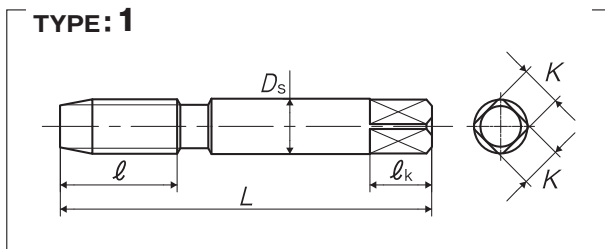
NPSF 3/4~

Recommended Tapping Speed depending on Materials

Medium carbon steels

5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓ_k (inch)	No. of flutes	Type
For Dryseal American Pipe Threads										
NPSF 1/8-27	ANSI G	Y83326	4P	2.125	0.75	0.437	0.328	0.375	4	1
		Y83326BR								2
		Y83327								
		Y83327BR								
NPSF 1/4-18	ANSI G	Y83328	4P	2.437	1.062	0.562	0.421	0.437	4	1
		Y83328BR								
NPSF 3/8-18	ANSI G	Y83329	4P	2.562	1.062	0.7	0.531	0.5	4	1
NPSF 1/2-14	ANSI G	Y83330	4P	3.125	1.375	0.687	0.515	0.625	4	2
		Y83330BR								
NPSF 3/4-14	ANSI G	Y83331	4P	3.25	1.375	0.906	0.679	0.687	5	2
		Y83331BR								
NPSF 1-11.5	ANSI G	Y83332	4P	3.75	1.75	1.125	0.843	0.812	5	2
		Y83332BR								

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

ANSI LINE UP

Dies



PO-D

Di-1

RD-DA

Di-2

Outside dia of Die	Thickness of Die
D	T

PO-D

HSS Spiral Pointed Dies

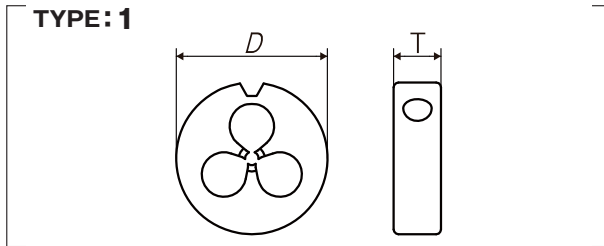
Specification



■ Due to the effect of spiral pointed flutes, PO-D pushes out chips toward the cutting direction and reduces the troubles caused by chips.



For icon explanation, refer to P.50



Segment : 32

Size	Class	Code	D (inch)	T (inch)	Clearance holes	Type
For Unified Threads						
No.2-56UNC	2A	PYDUN2EGNEBA	0.63	0.197	3	1
No.2-64UNF	2A	PYDUN2DGNNEBA	0.63	0.197	3	1
No.3-48UNC	2A	PYDUN3FGNEBA	0.63	0.197	3	1
No.3-56UNF	2A	PYDUN3EGNEBA	0.63	0.197	3	1
No.4-40UNC	2A	PYEUN4HGNEBA	0.787	0.276	3	1
No.4-48UNF	2A	PYEUN4FGNEBA	0.787	0.276	3	1
No.5-40UNC	2A	PYEUN5HGNEBA	0.787	0.276	3	1
No.5-44UNF	2A	PYEUN5GGNEBA	0.787	0.276	3	1
No.6-32UNC	2A	PYEUN6JGNEBA	0.787	0.276	3	1
No.6-40UNF	2A	PYEUN6HGNEBA	0.787	0.276	3	1
No.8-32UNC	2A	PYEUN8JGNEBA	0.787	0.276	3	1
No.8-36UNF	2A	PYEUN8IGNEBA	0.787	0.276	3	1
No.10-24UNC	2A	PYEUNAMGNEBA	0.787	0.276	4	1
No.10-32UNF	2A	PYEUNAJGNEBA	0.787	0.276	4	1
No.12-28UNF	2A	PYEUNCKGNEBA	0.787	0.276	4	1
No.12-24UNC	2A	PYEUNCMGNEBA	0.787	0.276	4	1
1/4-20UNC	2A	PYGU04NGNEBA	0.984	0.354	4	1
1/4-28UNF	2A	PYGU04KGNEBA	0.984	0.354	4	1
5/16-18UNC	2A	PYGU050GNEBA	0.984	0.354	4	1
5/16-24UNF	2A	PYGU05MGNEBA	0.984	0.354	4	1
3/8-16UNC	2A	PYJU06PGNEBA	1.496	0.512	4	1
3/8-24UNF	2A	PYJU06MGNEBA	1.496	0.512	4	1
7/16-14UNC	2A	PYJU07QGNEBA	1.496	0.512	4	1
7/16-20UNF	2A	PYJU07NGNEBA	1.496	0.512	4	1
1/2-13UNC	2A	PYJU08RGNEBA	1.496	0.512	4	1
1/2-20UNF	2A	PYJU08NGNEBA	1.496	0.512	4	1
9/16-12UNC	2A	PYJU09SGNEBA	1.496	0.512	5	1
9/16-18UNF	2A	PYJU090GNEBA	1.496	0.512	5	1

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 Simple Inspection Tools
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Shank dia.	Holder dia.	Recess dia.	Overall length	Shank length	Depth of die mounting	Cutting depth	Outside dia of Die	Thickness of Die
Ds	D1	D2	L	ls	l	l1	D	T

RD-DA

Die Attachment (for Solid Dies)

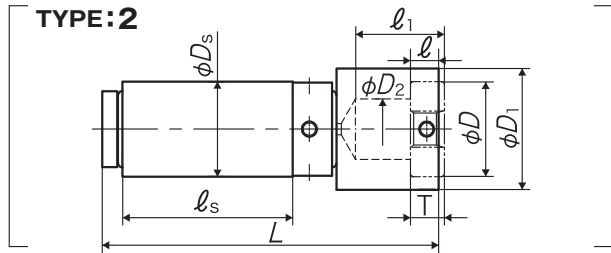
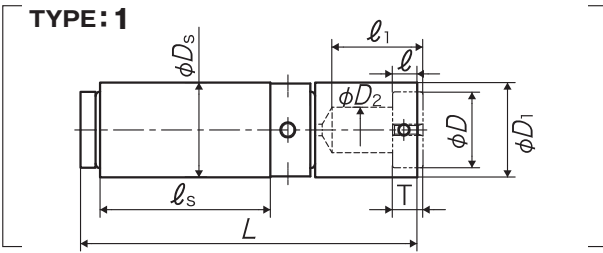
Specification



For icon explanation, refer to P.50



■ Tooling designed for Solid Dies, with a mechanism to compensate feed error and to absorb misalignment. Combined with CNC toolings, this attachment enables the cutting of external thread cuttings on complex workpieces with ease.



Segment : 3A

Code	Ds (inch)	D1 (inch)	D2 (inch)	L (inch)	ls (inch)	l (inch)	l1 (inch)	D (inch)	T (inch)	Type
DA10-.75	0.75	0.787	0.236	2.795	1.574	0.118	0.433	0.394	0.137	1
DA16-.75	0.75	0.787	0.393	2.992	1.574	0.177	0.63	0.63	0.196	1
DA20-1	1	0.984	0.472	3.503	1.771	0.255	0.885	0.787	0.275	1
DA25-1	1	1.26	0.63	3.503	1.771	0.295	0.866	0.984	0.354	2
DA38-1.25	1.25	1.968	1.023	4.803	2.362	0.433	1.417	1.496	0.511	2

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS LINE UP

SPIRAL FLUTED TAP SERIES FOR BLIND HOLE



<u>ISP</u>	<u>JIS/SP-1</u>	<u>S-SP</u>	<u>JIS/SP-42</u>
<u>SP</u>	<u>JIS/SP-3</u>	<u>E-SP</u>	<u>JIS/SP-44</u>
<u>SP 1.5P</u>	<u>JIS/SP-11</u>	<u>HC+SP/HC-SP</u>	<u>JIS/SP-46</u>
<u>+SP</u>	<u>JIS/SP-13</u>	<u>HC+SP OX/HC-SP OX</u>	<u>JIS/SP-48</u>
<u>XSP</u>	<u>JIS/SP-15</u>	<u>AL+SP/AL-SP</u>	<u>JIS/SP-49</u>
<u>SP OX</u>	<u>JIS/SP-16</u>	<u>AL-SP 1.5P</u>	<u>JIS/SP-51</u>
<u>+SP OX</u>	<u>JIS/SP-19</u>	<u>LO-SP</u>	<u>JIS/SP-52</u>
<u>SP LH</u>	<u>JIS/SP-20</u>	<u>LS-LO-SP</u>	<u>JIS/SP-53</u>
<u>SP V</u>	<u>JIS/SP-22</u>	<u>MC-SP</u>	<u>JIS/SP-54</u>
<u>AU+SP</u>	<u>JIS/SP-23</u>	<u>ZET-B</u>	<u>JIS/SP-55</u>
<u>AUXSP</u>	<u>JIS/SP-25</u>	<u>ZEN-B</u>	<u>JIS/SP-56</u>
<u>LS-SP</u>	<u>JIS/SP-26</u>	<u>F-SP</u>	<u>JIS/SP-57</u>
<u>LS-SP LH</u>	<u>JIS/SP-30</u>	<u>HFIHS</u>	<u>JIS/SP-58</u>
<u>LS-SP V</u>	<u>JIS/SP-31</u>	<u>HFISP</u>	<u>JIS/SP-59</u>
<u>SU+SP/SU-SP</u>	<u>JIS/SP-33</u>	<u>HFAHS</u>	<u>JIS/SP-60</u>
<u>SUXSP</u>	<u>JIS/SP-38</u>	<u>HFASP</u>	<u>JIS/SP-61</u>
<u>SU2-SP</u>	<u>JIS/SP-39</u>	<u>HDISP</u>	<u>JIS/SP-62</u>
<u>SU-S-SP</u>	<u>JIS/SP-41</u>	<u>HDASP</u>	<u>JIS/SP-63</u>

ISP

Spiral Fluted Taps for General Purpose Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50

Product features

- ISP is the best tap for blind holes to be used on the lower cutting speed with drilling machines.
- Use for threading of iron (SPC or SS400) products used in our daily life.
- Surface treated. Oxidization, the most suitable surface treatment for iron products.
- Suitable for internal thread cutting in small quantity, such as tapping of test pieces.
- Having spiral flutes, ISP ejects chips backward against the tapping direction and is for blind hole use.



Tapping for blind holes

How to use ISP

- Start tapping after boring holes corresponding to the thread size by using drills.
- In the case of tapping with drilling machines, recommended tapping speed is slower than 5m/min.
- During tapping, please use tapping oil.



When hand tapping, always use tap wrench



Machine tapping with drilling machine

Table for bored and drilled hole sizes

unit : mm

Size	Minor diameter of internal thread size		Drill size	Thread engagement
	Minimum tolerance	Maximum tolerance		
M3 × 0.5	2.459	2.599	2.6 (2.5)	74% (92%)
M4 × 0.7	3.242	3.422	3.4 (3.3)	79% (92%)
M5 × 0.8	4.134	4.344	4.3 (4.2)	81% (92%)
M6 × 1	4.917	5.153	5.1 (5.0)	83% (92%)
M8 × 1.25	6.647	6.912	6.9 (6.8)	91% (89%)
M10 × 1.5	8.376	8.676	8.6 (8.5)	86% (92%)

note1) Recommended drill sizes shown in this table are for internal threads of 7H class (3rd class), and are selected from the standard drills available in the market.

note2) Drill sizes shown in brackets in this table are for such case as the drilling has oversize cutting tendency or for internal threads of 6H class (2nd class).

[Related products]

Shank adjuster

- For deep hole tapplings, please use shank adjusters.
- There is only a one touch motion required to detach and attach the I series taps (IHT/ISP/IPO) from or to the shank adjuster.

*For details of shank adjuster, refer to P.545



Blister Pack



Detailed explanation about tapping

Spiral Fluted Taps ISP
Material : HSS
M10 × 1.5 UNC Chamfer: 5P
(Tap drill size 8.5mm(ref.))

A suitable surface oxide treatment is applied for soft steel.

[REMARKS]
● THIS TAP IS NOT RECOMMENDED FOR HARD TO MACHINE MATERIALS LIKE HARDENED STEELS OR STAINLESS STEELS.
● HSS TAPS MAY SHATTER DURING USE. APPLY MACHINE COVERS AND WEAR SAFETY GLASSES WHEN USING TAPS FOR CUTTING THREADS.
WHEN SETTING TOOLS AND WORKPIECES, SECURE TIGHTLY TO AVOID VIBRATION AND FLUOUT.
DO NOT USE EXCESSIVE FORCE OR LOAD AS IT MAY CAUSE THE TAP BREAK.
YAMAWA INFO. Co., Ltd. WEBSITE URL
<http://www.yamawa.com/en/>



Obtainable from Video site shown in right

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps Simple Inspection Tools

Pipe Taps

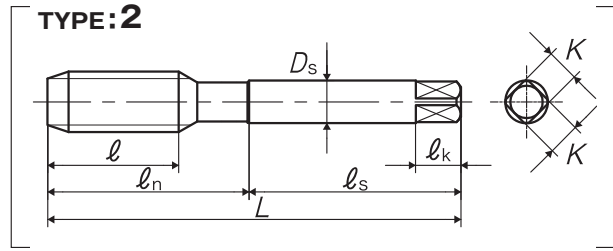
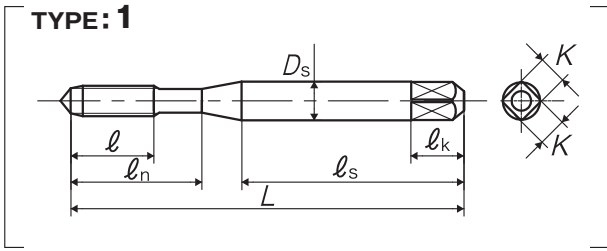
Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk



Segment : 1C

Size	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads												
M3 × 0.5	SI73.0G	2.5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	SI74.0I	2.5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	SI75.0K	2.5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	SI76.0M	2.5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	SI78.0N	2.5P	70	19	-	36	6.2	5	8	3	2	◎
M10 × 1.5	SI70100	2.5P	75	23	-	38	7	5.5	8	3	2	◎

Blister Pack

Size	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads												
M3 × 0.5	SI73.0GBP	2.5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	SI74.0IBP	2.5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	SI75.0KBP	2.5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	SI76.0MBP	2.5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	SI78.0NBP	2.5P	70	19	-	36	6.2	5	8	3	2	◎
M10 × 1.5	SI70100BP	2.5P	75	23	-	38	7	5.5	8	3	2	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SP

Spiral Fluted Taps

Specification

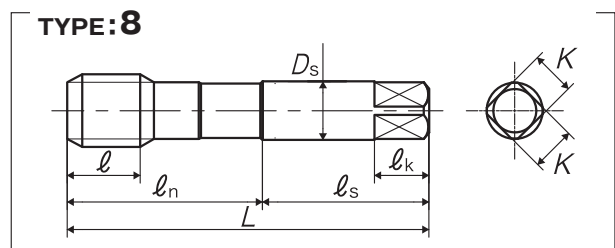
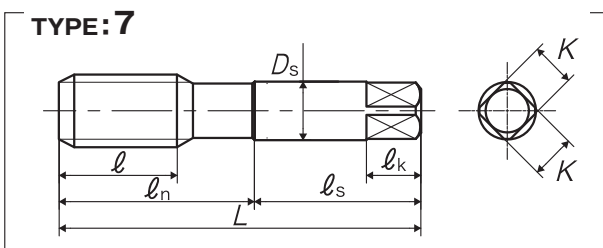
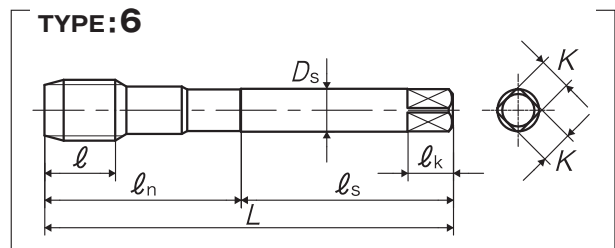
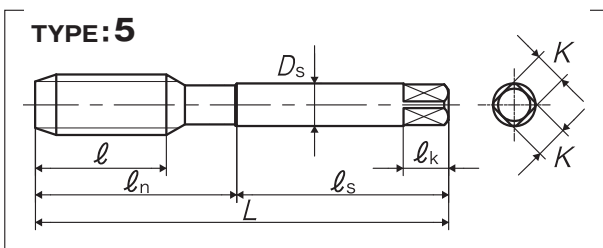
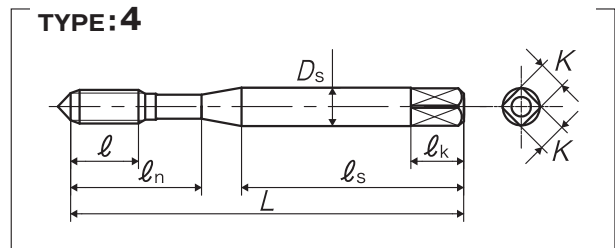
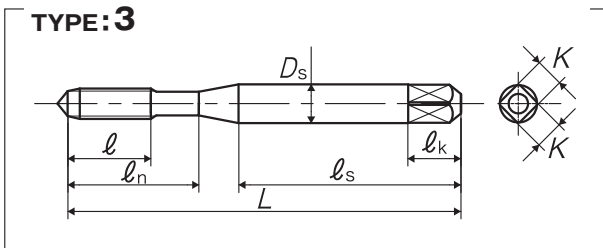
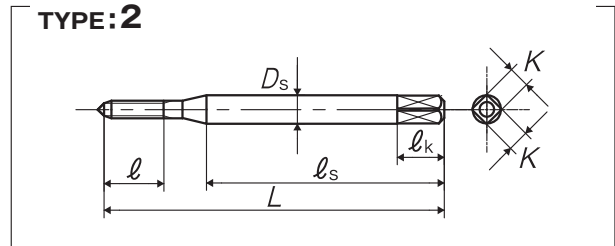
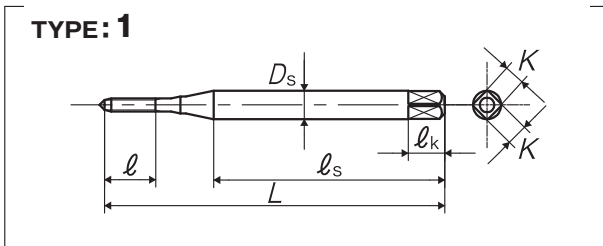


■ Suitable for blind hole tapping of middle carbon steels in low and middle speed tapping area.

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

○ Oversize
Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.2 × 0.25	P1	SPP1.2B	2.5P	36	4.5	-	24	3	2.5	5	2	1	○
M1.4 × 0.3	P1	SPP1.4C	2.5P	36	5.4	-	24	3	2.5	5	2	1	◎
M1.6 × 0.35	P1	SPP1.6D	2.5P	36	6.3	-	24	3	2.5	5	2	2	◎
M1.7 × 0.35	P1	SPP1.7D	2.5P	36	6.3	-	24	3	2.5	5	2	2	◎
	P2	SPQ1.7D											○
	P3	SPR1.7D											△
M1.8 × 0.35	P1	SPP1.8D	2.5P	42	6.3	-	27	3	2.5	5	2	2	△
M2 × 0.4	P1	SPP2.0E	2.5P	42	7.2	12	27	3	2.5	5	2	3	◎
	P2	SPQ2.0E											○
	P3	SPR2.0E											◎
	P4	SPS2.0E											△
M2 × 0.25	P1	SPP2.0B	2.5P	42	4.5	12	27	3	2.5	5	2	4	○
M2.2 × 0.45	P1	SPP2.2F	2.5P	42	8.1	12	27	3	2.5	5	2	3	○
	P3	SPR2.2F											△
M2.3 × 0.4	P1	SPP2.3E	2.5P	42	7.2	12	27	3	2.5	5	2	3	○
	P2	SPQ2.3E											△
	P3	SPR2.3E											△
	P4	SPS2.3E											△
M2.3 × 0.25	P1	SPP2.3B	2.5P	42	4.5	12	27	3	2.5	5	2	4	△
M2.5 × 0.45	P1	SPP2.5F	2.5P	46	8.1	14	29	3	2.5	5	2	3	◎
	P2	SPQ2.5F											○
	P3	SPR2.5F											○
	P4	SPS2.5F											○
M2.5 × 0.35	P1	SPP2.5D	2.5P	46	6.3	14	29	3	2.5	5	2	4	○
M2.6 × 0.45	P1	SPP2.6F	2.5P	46	8.1	14	29	3	2.5	5	2	3	◎
	P2	SPQ2.6F											○
	P3	SPR2.6F											○
	P4	SPS2.6F											△
M2.6 × 0.35	P1	SPP2.6D	2.5P	46	6.3	14	29	3	2.5	5	2	4	△
M3 × 0.5	P1	SPP3.0G	2.5P	46	9	14	26	4	3.2	6	3	3	◎
	P2	SPQ3.0G											○
	P3	SPR3.0G											○
	P4	SPS3.0G											○
3M0.6	P1	SPP3.0H	2.5P	46	9	14	26	4	3.2	6	3	3	△
M3 × 0.35	P1	SPP3.0D	2.5P	46	6.5	14	26	4	3.2	6	3	4	○
M3.5 × 0.6	P1	SPP3.5H	2.5P	52	11	16	29	5	4	7	3	3	○
	P2	SPQ3.5H											△
	P3	SPR3.5H											△
	P4	SPS3.5H											△
M3.5 × 0.35	P1	SPP3.5D	2.5P	52	6.5	16	29	5	4	7	3	4	△
M4 × 0.7	P2	SPQ4.0I	2.5P	52	11	17	29	5	4	7	3	3	◎
	P3	SPR4.0I											○
	P4	SPS4.0I											○
4M0.75	P2	SPQ4.0J	2.5P	52	11	17	29	5	4	7	3	3	○
M4 × 0.5	P1	SPP4.0G	2.5P	52	9	17	29	5	4	7	3	4	○
M4.5 × 0.75	P2	SPQ4.5J	2.5P	60	13	21	33	5.5	4.5	7	3	3	△
M4.5 × 0.5	P1	SPP4.5G	2.5P	60	9	21	33	5.5	4.5	7	3	4	△
M5 × 0.8	P2	SPQ5.0K	2.5P	60	13	22	33	5.5	4.5	7	3	3	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

SP Spiral Fluted Taps

	Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock	
Spiral Fluted Taps (for blind hole)	M5 × 0.8	P3	SPR5.0K	2.5P	60	13	22	33	5.5	4.5	7	3	3	○	
		P4	SPS5.0K												
Spiral Fluted Taps (for through hole)	5M0.9	P2	SPQ5.0L	2.5P	60	13	22	33	5.5	4.5	7	3	3	△	
	M5 × 0.75	P2	SPQ5.0J	2.5P	60	13	22	33	5.5	4.5	7	3	3	△	
	M5 × 0.5	P1	SPP5.0G	2.5P	60	9	22	33	5.5	4.5	7	3	4	○	
	M5.5 × 0.9	P2	SPQ5.5L	2.5P	62	15	26	33	6	4.5	7	3	3	△	
	M5.5 × 0.5	P1	SPP5.5G	2.5P	62	9	26	33	6	4.5	7	3	4	△	
Spiral Pointed Taps (for through hole)	M6 × 1	P2	SPQ6.0M	2.5P	62	15	26	33	6	4.5	7	3	3	◎	
			SPQ6.0M-T											○	
		P3	SPR6.0M											○	
Hand Taps	M6 × 0.75	P2	SPQ6.0J	2.5P	62	15	26	33	6	4.5	7	3	3	○	
		P3	SPR6.0J											△	
Cemented Carbide Taps	M6 × 0.5	P1	SPP6.0G	2.5P	62	9	26	33	6	4.5	7	3	4	○	
		P2	SPQ6.0G											△	
		P3	SPR6.0G											△	
Roll Taps	M7 × 1	P2	SPQ7.0M	2.5P	70	19	-	36	6.2	5	8	3	5	○	
		P3	SPR7.0M											△	
		P4	SPS7.0M											△	
Special Thread Taps Simple Inspection Tools	M7 × 0.75	P2	SPQ7.0J	2.5P	70	19	-	36	6.2	5	8	3	5	○	
	M7 × 0.5	P2	SPQ7.0G	2.5P	70	10	-	36	6.2	5	8	3	6	△	
	M8 × 1.25	P2	SPQ8.0N	2.5P	70	19	-	36	6.2	5	8	3	5	◎	
		P3	SPR8.0N											○	
		P4	SPS8.0N											○	
Pipe Taps	M8 × 1	P2	SPQ8.0M	2.5P	70	19	-	36	6.2	5	8	3	5	○	
		P3	SPR8.0M											△	
		P4	SPS8.0M											△	
Thread Mills	M8 × 0.75	P2	SPQ8.0J	2.5P	70	19	-	36	6.2	5	8	3	5	○	
		P3	SPR8.0J											△	
	M8 × 0.5	P2	SPQ8.0G	2.5P	70	10	-	36	6.2	5	8	3	6	○	
	M9 × 1.25	P2	SPQ9.0N	2.5P	75	23	-	38	7	5.5	8	3	5	△	
	M9 × 1	P2	SPQ9.0M	2.5P	75	23	-	38	7	5.5	8	3	5	○	
Dies	M9 × 0.75	P2	SPQ9.0J	2.5P	75	13	-	38	7	5.5	8	3	6	○	
		P2	SPQ9.0G											△	
		M10 × 1.5	P2											SPQ0100	2.5P
P3	SPR0100	○													
P4	SPS0100	○													
Center Drills	M10 × 1.25	P2	SPQ010N	2.5P	75	23	-	38	7	5.5	8	3	5	◎	
		P3	SPR010N											○	
		P4	SPS010N											○	
	Centering Tools	M10 × 1	P2	SPQ010M	2.5P	75	23	-	38	7	5.5	8	3	5	○
			P3	SPR010M											△
P4			SPS010M	△											
M10 × 0.75	P2	SPQ010J	2.5P	75	13	-	38	7	5.5	8	3	6	○		
M10 × 0.5	P2	SPQ010G	2.5P	75	11	-	38	7	5.5	8	3	6	△		
M11 × 1.5	P2	SPQ0110	2.5P	82	26	-	42	8.5	6.5	9	3	5	△		
M11 × 1.25	P2	SPQ011N	2.5P	82	26	-	42	8.5	6.5	9	3	5	△		
M11 × 1	P2	SPQ011M	2.5P	82	26	-	42	8.5	6.5	9	3	5	△		
M11 × 0.75	P2	SPQ011J	2.5P	82	14	-	42	8.5	6.5	9	3	6	△		
M12 × 1.75	P2	SPQ012P	2.5P	82	26	-	42	8.5	6.5	9	3	5	◎		

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.75	P3	SPR012P	2.5P	82	26	-	42	8.5	6.5	9	3	5	○
	P4	SPS012P											◎
M12 × 1.5	P2	SPQ0120	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
	P3	SPR0120											◎
M12 × 1.25	P2	SPQ012N	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
	P3	SPR012N											◎
M12 × 1	P2	SPQ012M	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
	P3	SPR012M											◎
M12 × 0.75	P2	SPQ012J	2.5P	82	14	-	42	8.5	6.5	9	3	6	△
M12 × 0.5	P2	SPQ012G	2.5P	82	12	-	42	8.5	6.5	9	3	6	△
M13 × 1	P2	SPQ013M	2.5P	88	26	-	45	10.5	8	11	3	5	△
M14 × 2	P2	SPQ014Q	2.5P	88	26	-	45	10.5	8	11	3	5	◎
	P3	SPR014Q											△
M14 × 1.5	P2	SPQ0140	2.5P	88	26	-	45	10.5	8	11	3	5	◎
	P3	SPR0140											△
M14 × 1.25	P2	SPQ014N	2.5P	88	26	-	45	10.5	8	11	3	5	◎
M14 × 1	P2	SPQ014M	2.5P	88	26	-	45	10.5	8	11	3	5	◎
M15 × 2	P2	SPQ015Q	2.5P	95	26	-	48	12.5	10	13	3	5	△
M15 × 1.5	P2	SPQ0150	2.5P	95	26	-	48	12.5	10	13	3	5	△
M15 × 1	P2	SPQ015M	2.5P	95	26	-	48	12.5	10	13	3	5	△
M16 × 2	P2	SPQ016Q	2.5P	95	26	-	48	12.5	10	13	3	5	◎
	P3	SPR016Q											○
M16 × 1.5	P2	SPQ0160	2.5P	95	26	-	48	12.5	10	13	3	5	◎
	P3	SPR0160											△
M16 × 1	P2	SPQ016M	2.5P	95	26	-	48	12.5	10	13	3	5	◎
M17 × 1.5	P2	SPQ0170	2.5P	100	33	-	51	14	11	14	4	5	△
M17 × 1	P2	SPQ017M	2.5P	100	18	-	51	14	11	14	4	6	△
M18 × 2.5	P3	SPR018R	2.5P	100	33	-	51	14	11	14	4	5	◎
	P4	SPS018R											△
M18 × 2	P3	SPR018Q	2.5P	100	33	-	51	14	11	14	4	5	△
M18 × 1.5	P2	SPQ0180	2.5P	100	33	-	51	14	11	14	4	5	◎
	P3	SPR0180											△
M18 × 1.25	P2	SPQ018N	2.5P	100	33	-	51	14	11	14	4	5	△
M18 × 1	P2	SPQ018M	2.5P	100	18	-	51	14	11	14	4	6	◎
M19 × 1.5	P3	SPR0190	2.5P	105	33	-	50	15	12	15	4	7	△
M19 × 1	P2	SPQ019M	2.5P	105	18	-	50	15	12	15	4	8	△
M20 × 2.5	P3	SPR020R	2.5P	105	33	-	50	15	12	15	4	7	◎
	P4	SPS020R											○
M20 × 2	P3	SPR020Q	2.5P	105	33	-	50	15	12	15	4	7	◎
M20 × 1.5	P3	SPR0200	2.5P	105	33	-	50	15	12	15	4	7	◎
	P4	SPS0200											△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M20 × 1.5	P5	SPT0200	2.5P	105	33	-	50	15	12	15	4	7	△
M20 × 1.25	P2	SPQ020N	2.5P	105	18	-	50	15	12	15	4	8	△
M20 × 1	P2	SPQ020M	2.5P	105	18	-	50	15	12	15	4	8	○
M22 × 2.5	P3	SPR022R	2.5P	115	33	-	55	17	13	16	4	7	⊙
	P4	SPS022R											△
M22 × 2	P3	SPR022Q	2.5P	115	33	-	55	17	13	16	4	7	△
M22 × 1.5	P3	SPR0220	2.5P	115	33	-	55	17	13	16	4	7	○
	P4	SPS0220											△
	P5	SPT0220											△
M22 × 1	P2	SPQ022M	2.5P	115	19	-	55	17	13	16	4	8	○
M23 × 1.5	P3	SPR0230	2.5P	120	39	-	55	19	15	18	4	7	△
M24 × 3	P3	SPR024S	2.5P	120	39	-	55	19	15	18	4	7	⊙
	P4	SPS024S											△
M24 × 2	P3	SPR024Q	2.5P	120	39	-	55	19	15	18	4	7	○
M24 × 1.5	P3	SPR0240	2.5P	120	39	-	55	19	15	18	4	7	○
	P4	SPS0240											△
M24 × 1	P2	SPQ024M	2.5P	120	19	-	55	19	15	18	4	8	○
M25 × 2	P3	SPR025Q	2.5P	125	39	-	58	19	15	18	4	7	△
M25 × 1.5	P3	SPR0250	2.5P	125	39	-	58	19	15	18	4	7	○
M25 × 1	P2	SPQ025M	2.5P	125	20	-	58	19	15	18	4	8	△
M26 × 3	P3	SPR026S	2.5P	130	39	-	60	20	15	18	4	7	△
M26 × 2	P3	SPR026Q	2.5P	130	39	-	60	20	15	18	4	7	△
M26 × 1.5	P3	SPR0260	2.5P	130	39	-	60	20	15	18	4	7	○
M26 × 1	P2	SPQ026M	2.5P	130	20	-	60	20	15	18	4	8	△
M27 × 3	P3	SPR027S	2.5P	130	39	-	60	20	15	18	4	7	○
M27 × 2	P3	SPR027Q	2.5P	130	39	-	60	20	15	18	4	7	○
M27 × 1.5	P3	SPR0270	2.5P	130	39	-	60	20	15	18	4	7	○
M27 × 1	P2	SPQ027M	2.5P	130	20	-	60	20	15	18	4	8	△
M28 × 2	P3	SPR028Q	2.5P	135	46	-	62	23	17	20	4	7	○
M28 × 1.5	P3	SPR0280	2.5P	135	46	-	62	23	17	20	4	7	○
M28 × 1	P2	SPQ028M	2.5P	135	20	-	62	23	17	20	4	8	△
M30 × 3.5	P4	SPS030T	2.5P	135	46	-	62	23	17	20	4	7	⊙
M30 × 3	P3	SPR030S	2.5P	135	46	-	62	23	17	20	4	7	○
M30 × 2	P3	SPR030Q	2.5P	135	46	-	62	23	17	20	4	7	○
M30 × 1.5	P3	SPR0300	2.5P	135	46	-	62	23	17	20	4	7	○
M30 × 1	P2	SPQ030M	2.5P	135	21	-	62	23	17	20	4	8	△
M32 × 3	P3	SPMR032S	2.5P	145	46	-	67	24	19	22	4	7	△
M32 × 2	P3	SPMR032Q	2.5P	145	46	-	67	24	19	22	4	7	△
M32 × 1.5	P3	SPMR0320	2.5P	145	46	-	67	24	19	22	4	7	△
M32 × 1	P2	SPMQ032M	2.5P	145	21	-	67	24	19	22	4	8	△
M33 × 3.5	P4	SPMS033T	2.5P	145	46	-	67	25	19	22	4	7	○
M33 × 3	P3	SPMR033S	2.5P	145	46	-	67	25	19	22	4	7	△
M33 × 2	P3	SPMR033Q	2.5P	145	46	-	67	25	19	22	4	7	△
M33 × 1.5	P3	SPMR0330	2.5P	145	46	-	67	25	19	22	4	7	△
M33 × 1	P2	SPMQ033M	2.5P	145	21	-	67	25	19	22	4	8	△
M34 × 3	P3	SPMR034S	2.5P	155	52	-	71	28	21	24	4	7	△
M34 × 2	P3	SPMR034Q	2.5P	155	52	-	71	28	21	24	4	7	△
M34 × 1.5	P3	SPMR0340	2.5P	155	26	-	71	28	21	24	4	8	△
M34 × 1	P2	SPMQ034M	2.5P	155	26	-	71	28	21	24	4	8	△
M35 × 3	P3	SPMR035S	2.5P	155	52	-	71	28	21	24	4	7	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M35 × 2	P3	SPMR035Q	2.5P	155	52	-	71	28	21	24	4	7	△
M35 × 1.5	P3	SPMR035O	2.5P	155	26	-	71	28	21	24	4	8	△
M35 × 1	P2	SPMQ035M	2.5P	155	26	-	71	28	21	24	4	8	△
M36 × 4	P4	SPMS036U	2.5P	155	52	-	71	28	21	24	4	7	◎
M36 × 3	P3	SPMR036S	2.5P	155	52	-	71	28	21	24	4	7	△
M36 × 2	P3	SPMR036Q	2.5P	155	52	-	71	28	21	24	4	7	△
M36 × 1.5	P3	SPMR036O	2.5P	155	26	-	71	28	21	24	4	8	△
M36 × 1	P2	SPMQ036M	2.5P	155	26	-	71	28	21	24	4	8	△
M38 × 3	P3	SPMR038S	2.5P	165	52	-	76	30	23	26	4	7	△
M38 × 2	P3	SPMR038Q	2.5P	165	52	-	76	30	23	26	4	7	△
M38 × 1.5	P3	SPMR038O	2.5P	165	26	-	76	30	23	26	4	8	△
M39 × 4	P4	SPMS039U	2.5P	165	52	-	76	30	23	26	4	7	△
M39 × 3	P3	SPMR039S	2.5P	165	52	-	76	30	23	26	4	7	△
M39 × 2	P3	SPMR039Q	2.5P	165	52	-	76	30	23	26	4	7	△
M39 × 1.5	P3	SPMR039O	2.5P	165	26	-	76	30	23	26	4	8	△
M40 × 3	P3	SPMR040S	2.5P	175	59	-	81	32	26	30	4	7	△
M40 × 2	P3	SPMR040Q	2.5P	175	59	-	81	32	26	30	4	7	△
M40 × 1.5	P3	SPMR040O	2.5P	175	27	-	81	32	26	30	4	8	△
M42 × 4.5	P4	SPMS042V	2.5P	175	59	-	81	32	26	30	4	7	△
M42 × 3	P3	SPMR042S	2.5P	175	59	-	81	32	26	30	4	7	△
M42 × 2	P3	SPMR042Q	2.5P	175	59	-	81	32	26	30	4	7	△
M42 × 1.5	P3	SPMR042O	2.5P	175	27	-	81	32	26	30	4	8	△
M45 × 4.5	P4	SPMS045V	2.5P	180	59	-	83	35	26	30	4	7	△
M45 × 3	P3	SPMR045S	2.5P	180	59	-	83	35	26	30	4	7	△
M45 × 2	P3	SPMR045Q	2.5P	180	59	-	83	35	26	30	4	7	△
M45 × 1.5	P3	SPMR045O	2.5P	180	27	-	83	35	26	30	4	8	△
M48 × 5	P4	SPMS048W	2.5P	185	65	-	85	38	29	32	4	7	△
M48 × 4	P4	SPMS048U	2.5P	185	65	-	85	38	29	32	4	7	△
M48 × 3	P3	SPMR048S	2.5P	185	65	-	85	38	29	32	4	7	△
M48 × 2	P3	SPMR048Q	2.5P	185	65	-	85	38	29	32	4	7	△
M48 × 1.5	P3	SPMR048O	2.5P	185	28	-	85	38	29	32	4	8	△
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
No.1-64UNC	P1	SPPUN1D	2.5P	42	7.2	-	27	3	2.5	5	2	2	△
No.2-56UNC	P1	SPPUN2E	2.5P	42	8.1	12	27	3	2.5	5	2	3	△
No.2-64UNF	P1	SPPUN2D	2.5P	42	8.1	12	27	3	2.5	5	2	3	△
No.3-48UNC	P1	SPPUN3F	2.5P	46	8.1	14	29	3	2.5	5	2	3	△
No.3-56UNF	P1	SPPUN3E	2.5P	46	8.1	14	29	3	2.5	5	2	3	△
No.4-40UNC	P1	SPPUN4H	2.5P	46	9	14	26	4	3.2	6	2	3	○
No.4-48UNF	P1	SPPUN4F	2.5P	46	9	14	26	4	3.2	6	2	3	△
No.5-40UNC	P1	SPPUN5H	2.5P	52	11	16	29	5	4	7	3	3	○
No.5-44UNF	P1	SPPUN5G	2.5P	52	11	16	29	5	4	7	3	3	△
No.6-32UNC	P2	SPQUN6J	2.5P	52	11	16	29	5	4	7	3	3	○
No.6-40UNF	P1	SPPUN6H	2.5P	52	11	16	29	5	4	7	3	3	△
No.8-32UNC	P2	SPQUN8J	2.5P	60	13	21	33	5.5	4.5	7	3	3	○
No.8-36UNF	P2	SPQUN8I	2.5P	60	13	21	33	5.5	4.5	7	3	3	△
No.10-24UNC	P2	SPQUNAM	2.5P	60	13	22	33	5.5	4.5	7	3	3	○
No.10-32UNF	P2	SPQUNAJ	2.5P	60	13	22	33	5.5	4.5	7	3	3	○
No.12-24UNC	P2	SPQUNCM	2.5P	62	15	26	33	6	4.5	7	3	3	△
No.12-28UNF	P2	SPQUNCK	2.5P	62	15	26	33	6	4.5	7	3	3	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Spiral Fluted Tap Series

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4-20UNC	P2	SPQU04N	2.5P	62	15	26	33	6	4.5	7	3	3	⊙
1/4-28UNF	P2	SPQU04K	2.5P	62	15	26	33	6	4.5	7	3	3	○
1/4-32UNEF	P2	SPQU04J	2.5P	62	15	26	33	6	4.5	7	3	3	△
5/16-18UNC	P2	SPQU050	2.5P	70	19	-	36	6.2	5	8	3	5	⊙
5/16-24UNF	P2	SPQU05M	2.5P	70	19	-	36	6.2	5	8	3	5	○
5/16-32UNEF	P2	SPQU05J	2.5P	70	19	-	36	6.2	5	8	3	5	△
3/8-16UNC	P2	SPQU06P	2.5P	75	23	-	38	7	5.5	8	3	5	⊙
3/8-24UNF	P2	SPQU06M	2.5P	75	23	-	38	7	5.5	8	3	5	○
7/16-14UNC	P3	SPRU07Q	2.5P	82	26	-	42	8.5	6.5	9	3	5	○
7/16-20UNF	P2	SPQU07N	2.5P	82	26	-	42	8.5	6.5	9	3	5	○
1/2-13UNC	P3	SPRU08R	2.5P	88	26	-	45	10.5	8	11	3	5	○
1/2-20UNF	P2	SPQU08N	2.5P	88	26	-	45	10.5	8	11	3	5	○
9/16-12UNC	P3	SPRU09S	2.5P	95	26	-	48	12.5	10	13	3	5	△
9/16-18UNF	P2	SPQU090	2.5P	95	26	-	48	12.5	10	13	3	5	○
9/16-24UNEF	P2	SPQU09M	2.5P	95	26	-	48	12.5	10	13	3	5	△
5/8-11UNC	P3	SPRU10U	2.5P	95	26	-	48	12.5	10	13	3	5	○
5/8-18UNF	P2	SPQU100	2.5P	95	26	-	48	12.5	10	13	3	5	○
5/8-24UNEF	P2	SPQU10M	2.5P	95	26	-	48	12.5	10	13	3	5	△
3/4-10UNC	P3	SPRU12V	2.5P	105	33	-	50	15	12	15	4	7	○
3/4-16UNF	P3	SPRU12P	2.5P	105	33	-	50	15	12	15	4	7	○
3/4-20UNEF	P2	SPQU12N	2.5P	105	33	-	50	15	12	15	4	7	△
7/8-9UNC	P3	SPRU14W	2.5P	115	33	-	55	17	13	16	4	7	○
7/8-14UNF	P3	SPRU14Q	2.5P	115	33	-	55	17	13	16	4	7	○
7/8-20UNEF	P2	SPQU14N	2.5P	115	33	-	55	17	13	16	4	7	△
1-8UNC	P3	SPRU16X	2.5P	125	39	-	58	19	15	18	4	7	○
1-12UNF	P3	SPRU16S	2.5P	125	39	-	58	19	15	18	4	7	△
1-14UNS	P3	SPRU16Q	2.5P	125	39	-	58	19	15	18	4	7	△
1-20UNEF	P2	SPQU16N	2.5P	125	39	-	58	19	15	18	4	7	△
1 1/8-7UNC	P4	SPSU18Y	2.5P	135	46	-	62	23	17	20	4	7	△
1 1/8-12UNF	P3	SPRU18S	2.5P	135	46	-	62	23	17	20	4	7	△
1 1/4-7UNC	P4	SPMSU20Y	2.5P	145	46	-	67	24	19	22	4	7	△
1 1/4-8UN	P3	SPMRU20X	2.5P	145	46	-	67	24	19	22	4	7	△
1 1/4-12UNF	P3	SPMRU20S	2.5P	145	46	-	67	24	19	22	4	7	△
1 3/8-6UNC	P4	SPMSU22Z	2.5P	155	52	-	71	28	21	24	4	7	△
1 3/8-8UN	P3	SPMRU22X	2.5P	155	52	-	71	28	21	24	4	7	△
1 3/8-12UNF	P3	SPMRU22S	2.5P	155	52	-	71	28	21	24	4	7	△
1 1/2-6UNC	P4	SPMSU24Z	2.5P	165	52	-	76	30	23	26	4	7	△
1 1/2-12UNF	P3	SPMRU24S	2.5P	165	52	-	76	30	23	26	4	7	△
1 3/4-5UNC	P4	SPMSU280	2.5P	180	59	-	83	35	26	30	4	7	△
1 3/4-12UN	P3	SPMRU28S	2.5P	180	59	-	83	35	26	30	4	7	△
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/8W40	P1	SPPW02H	2.5P	52	11	17	29	5	4	7	3	3	○
5/32W32	P2	SPQW2HJ	2.5P	52	11	17	29	5	4	7	3	3	△
3/16W24	P2	SPQW03M	2.5P	60	13	21	33	5.5	4.5	7	3	3	○
7/32W24	P2	SPQW3HM	2.5P	62	15	26	33	6	4.5	7	3	3	△
1/4W20	P2	SPQW04N	2.5P	62	15	26	33	6	4.5	7	3	3	○
5/16W18	P2	SPQW050	2.5P	70	19	-	36	6.2	5	8	3	5	○
3/8W16	P2	SPQW06P	2.5P	75	23	-	38	7	5.5	8	3	5	○
7/16W14	P3	SPRW07Q	2.5P	82	26	-	42	8.5	6.5	9	3	5	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Centering Tools Center Drills

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/2W12	P3	SPRW08S	2.5P	88	26	-	45	10.5	8	11	3	5	○
9/16W12	P3	SPRW09S	2.5P	95	26	-	48	12.5	10	13	3	5	△
5/8W11	P3	SPRW10U	2.5P	95	26	-	48	12.5	10	13	3	5	○
3/4W10	P3	SPRW12V	2.5P	105	33	-	50	15	12	15	4	7	○
7/8W9	P3	SPRW14W	2.5P	115	33	-	55	17	13	16	4	7	○
1 W8	P3	SPRW16X	2.5P	125	39	-	58	19	15	18	4	7	○
1 1/8W7	P4	SPSW18Y	2.5P	135	46	-	62	23	17	20	4	7	△
1 1/4W7	P4	SPMSW20Y	2.5P	145	46	-	67	24	19	22	4	7	△
1 3/8W6	P4	SPMSW22Z	2.5P	155	52	-	71	28	21	24	4	7	△
1 1/2W6	P4	SPMSW24Z	2.5P	165	52	-	76	30	23	26	4	7	△
1 5/8W5	P4	SPMSW260	2.5P	175	59	-	81	32	26	30	4	7	△
1 3/4W5	P4	SPMSW280	2.5P	180	59	-	83	35	26	30	4	7	△
For Screw Threads used on Sewing Machines													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
3/32SM56	P1	SPPS06E	2.5P	46	8.1	14	29	3	2.5	5	2	3	△
1/8SM40	P1	SPPS08H	2.5P	52	11	16	29	5	4	7	3	3	△
1/8SM44	P1	SPPS08G	2.5P	52	11	16	29	5	4	7	3	3	○
9/64SM40	P1	SPPS09H	2.5P	52	11	17	29	5	4	7	3	3	○
11/64SM40	P1	SPPS11H	2.5P	60	13	21	33	5.5	4.5	7	3	3	○
3/16SM28	P2	SPQS12K	2.5P	60	13	21	33	5.5	4.5	7	3	3	△
3/16SM32	P2	SPQS12J	2.5P	60	13	21	33	5.5	4.5	7	3	3	△
7/32SM32	P2	SPQS14J	2.5P	62	15	26	33	6	4.5	7	3	3	△
15/64SM28	P2	SPQS15K	2.5P	62	15	26	33	6	4.5	7	3	3	△
1/4SM24	P2	SPQS16M	2.5P	62	15	26	33	6	4.5	7	3	3	△
1/4SM40	P1	SPPS16H	2.5P	62	8.6	26	33	6	4.5	7	3	4	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SP 1.5P

Spiral Fluted Taps 1.5P

Specification



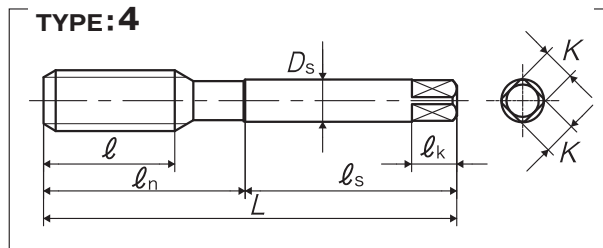
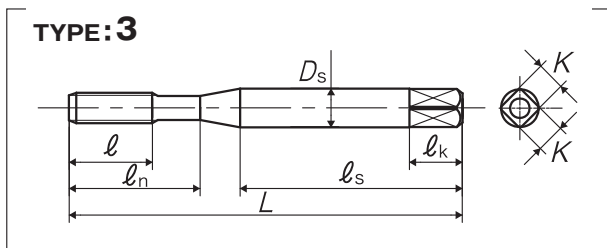
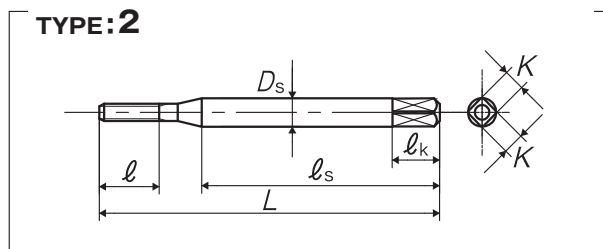
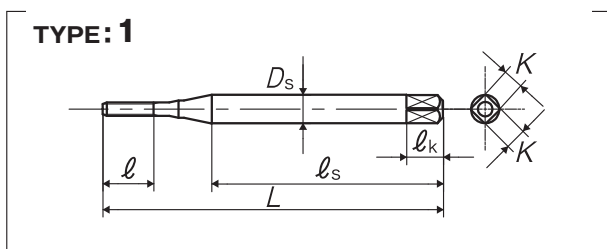
~M2.6



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.2 × 0.25	P1	SY1.2BPNEBA	1.5P	36	4.5	-	24	3	2.5	5	2	1	△
M1.4 × 0.3	P1	SY1.4CPNEBA	1.5P	36	5.4	-	24	3	2.5	5	2	1	△
M1.6 × 0.35	P1	SY1.6DPNEBA	1.5P	36	6.3	-	24	3	2.5	5	2	2	○
M1.7 × 0.35	P1	SY1.7DPNEBA	1.5P	36	6.3	-	24	3	2.5	5	2	2	△
M1.8 × 0.35	P1	SY1.8DPNEBA	1.5P	42	6.3	-	27	3	2.5	5	2	2	△
M2 × 0.4	P1	SY2.0EPNEBA	1.5P	42	7.2	12	27	3	2.5	5	2	3	○
M2.3 × 0.4	P1	SY2.3EPNEBA	1.5P	42	7.2	12	27	3	2.5	5	2	3	△
M2.5 × 0.45	P1	SY2.5FPNEBA	1.5P	46	8.1	14	29	3	2.5	5	2	3	△
M2.6 × 0.45	P1	SY2.6FPNEBA	1.5P	46	8.1	14	29	3	2.5	5	2	3	△
M3 × 0.5	P1	SY3.0GPNEBA	1.5P	46	9	14	26	4	3.2	6	3	3	○
M3.5 × 0.6	P1	SY3.5HPNEBA	1.5P	52	11	16	29	5	4	7	3	3	△
M4 × 0.7	P2	SY4.0IQNEBA	1.5P	52	11	17	29	5	4	7	3	3	○
M5 × 0.8	P2	SY5.0KQNEBA	1.5P	60	13	22	33	5.5	4.5	7	3	3	○
M6 × 1	P2	SY6.0MQNEBA	1.5P	62	15	26	33	6	4.5	7	3	3	○
M8 × 1.25	P2	SY8.0NQNEBA	1.5P	70	19	-	36	6.2	5	8	3	4	○
M8 × 1	P2	SY8.0MQNEBA	1.5P	70	19	-	36	6.2	5	8	3	4	△
M10 × 1.5	P2	SY0100QNEBA	1.5P	75	23	-	38	7	5.5	8	3	4	○
M10 × 1.25	P2	SY010NQNEBA	1.5P	75	23	-	38	7	5.5	8	3	4	△
M10 × 1	P2	SY010MQNEBA	1.5P	75	23	-	38	7	5.5	8	3	4	△

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP 1.5P Spiral Fluted Taps 1.5P

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.75	P2	SY012PQNEBA	1.5P	82	26	-	42	8.5	6.5	9	3	4	○
M12 × 1.5	P2	SY0120QNEBA	1.5P	82	26	-	42	8.5	6.5	9	3	4	△
M12 × 1.25	P2	SY012NQNEBA	1.5P	82	26	-	42	8.5	6.5	9	3	4	△
M14 × 2	P2	SY014QQNEBA	1.5P	88	26	-	45	10.5	8	11	3	4	△
M14 × 1.5	P2	SY0140QNEBA	1.5P	88	26	-	45	10.5	8	11	3	4	△
M16 × 2	P2	SY016QQNEBA	1.5P	95	26	-	48	12.5	10	13	3	4	△
M16 × 1.5	P2	SY0160QNEBA	1.5P	95	26	-	48	12.5	10	13	3	4	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

+SP

Plus Series Spiral Fluted Taps

Specification



~M2.6

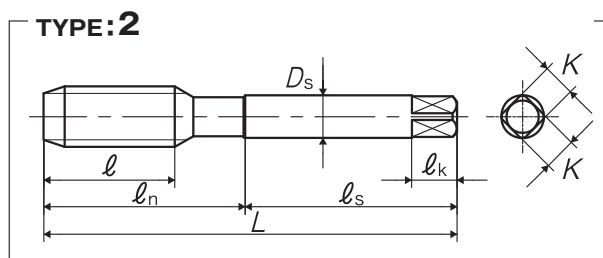
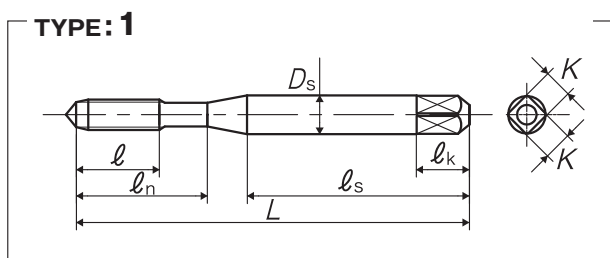


■ More suitable than SP for blind hole tapping of middle carbon steels in middle speed tapping area.

Recommended Tapping Speeds depending on Materials

Medium carbon steels
10~15
(m/min)

For icon explanation, refer to P.50



Segment : 1C

Oversize

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P1	SNPP2.0E	2.5P	42	7.2	12	27	3	2.5	5	2	1	◎
	P2	SNPQ2.0E											○
	P3	SNPR2.0E											◎
	P4	SNPS2.0E											△
M2.2 × 0.45	P1	SNPP2.2F	2.5P	42	8.1	12	27	3	2.5	5	2	1	○
	P3	SNPR2.2F											△
M2.3 × 0.4	P1	SNPP2.3E	2.5P	42	7.2	12	27	3	2.5	5	2	1	○
	P2	SNPQ2.3E											○
	P3	SNPR2.3E											△
	P4	SNPS2.3E											△
M2.5 × 0.45	P1	SNPP2.5F	2.5P	46	8.1	14	29	3	2.5	5	2	1	◎
	P2	SNPQ2.5F											○
	P3	SNPR2.5F											○
	P4	SNPS2.5F											○
M2.6 × 0.45	P1	SNPP2.6F	2.5P	46	8.1	14	29	3	2.5	5	2	1	◎
	P2	SNPQ2.6F											○
	P3	SNPR2.6F											○
	P4	SNPS2.6F											△
M3 × 0.5	P1	SNPP3.0G	2.5P	46	9	14	26	4	3.2	6	3	1	◎
	P2	SNPQ3.0G											○
	P3	SNPR3.0G											○
	P4	SNPS3.0G											○
M3.5 × 0.6	P1	SNPP3.5H	2.5P	52	11	16	29	5	4	7	3	1	○
	P2	SNPQ3.5H											○
	P3	SNPR3.5H											△
	P4	SNPS3.5H											△
M4 × 0.7	P2	SNPQ4.0I	2.5P	52	11	17	29	5	4	7	3	1	◎

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

+SP Plus Series Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M4 × 0.7	P3	SNPR4.0I	2.5P	52	11	17	29	5	4	7	3	1	○
	P4	SNPS4.0I											○
M5 × 0.8	P2	SNPQ5.0K	2.5P	60	13	22	33	5.5	4.5	7	3	1	◎
	P3	SNPR5.0K											○
M5 × 0.8	P4	SNPS5.0K											○
	P2	SNPQ6.0M	2.5P	62	15	26	33	6	4.5	7	3	1	◎
P3	SNPR6.0M	○											
M6 × 1	P4	SNPS6.0M											○
	P2	SNPQ8.0N	2.5P	70	19	-	36	6.2	5	8	3	2	◎
P3	SNPR8.0N	○											
M8 × 1.25	P4	SNPS8.0N											○
	P2	SNPQ100	2.5P	75	23	-	38	7	5.5	8	3	2	◎
P3	SNPR0100	○											
M10 × 1.5	P4	SNPS0100											○
	P2	SNPQ10N	2.5P	75	23	-	38	7	5.5	8	3	2	◎
P3	SNPR010N	○											
M10 × 1.25	P4	SNPS010N											○
	P2	SNPQ12P	2.5P	82	26	-	42	8.5	6.5	9	3	2	◎
P3	SNPR012P	○											
M12 × 1.75	P4	SNPS012P											○
	P2	SNPQ12N	2.5P	82	26	-	42	8.5	6.5	9	3	2	◎
P3	SNPR012N	○											
M12 × 1.25	P4	SNPS012N											○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

XSP

X Series Spiral Fluted Taps

Specification



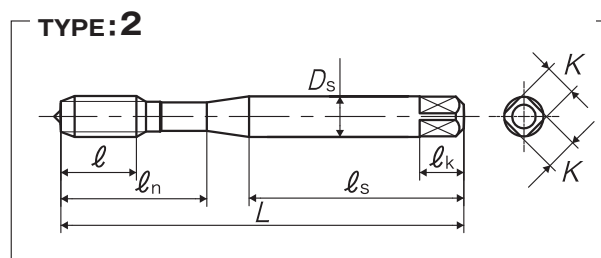
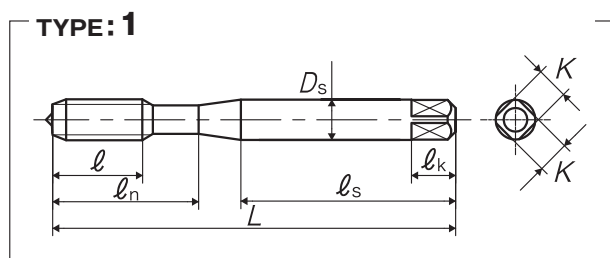
■Applying the blanks of high toughness and high accuracy, XSP derives the maximum performance from high facility machining centers and high precision toolings. Spiral fluted tap.

※Use with dedicated toolings is recommended.

Recommended Tapping Speeds depending on Materials

Medium carbon steels
10~15
(m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	SNXQ6.0M	2.5P	80	15	30	45	6	4.9	8	3	1	○
M8 × 1.25	P3	SNXR8.0N	2.5P	90	19	35	48	8	6.2	9	3	1	○
M8 × 1	P3	SNXR8.0M	2.5P	90	15	35	48	8	6.2	9	3	2	○
M10 × 1.5	P3	SNXR0100	2.5P	100	23	39	53	10	8	11	3	1	○
M10 × 1.25	P3	SNXR010N	2.5P	100	19	39	53	10	8	11	3	2	○
M10 × 1	P3	SNXR010M	2.5P	100	15	39	53	10	8	11	3	2	○
M12 × 1.75	P3	SNXR012P	2.5P	110	26	45	56	12	9	12	3	1	○
M12 × 1.5	P3	SNXR0120	2.5P	110	23	45	56	12	9	12	3	2	○
M12 × 1.25	P3	SNXR012N	2.5P	110	19	45	56	12	9	12	3	2	○

Note:

- Please use tapping holders suitable for the shank diameter and square of DIN371 for M6~M10 and those of M16 (DIN376) for M12.
- Overall length, shank diameter and square of metric coarse series are adopted for those of metric fine series.

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX

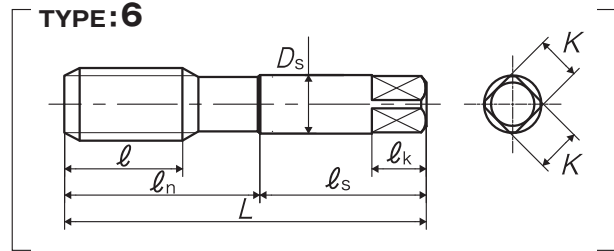
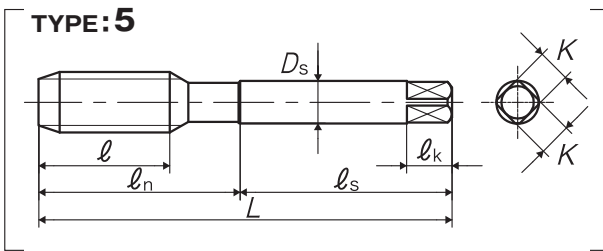
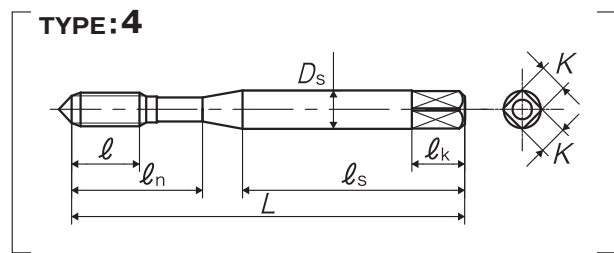
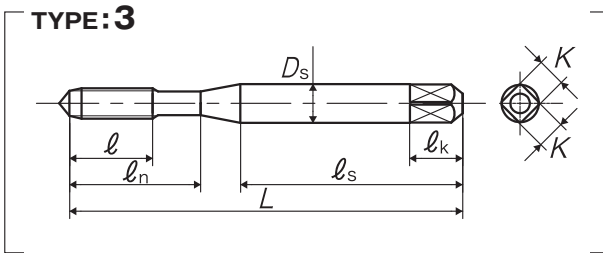
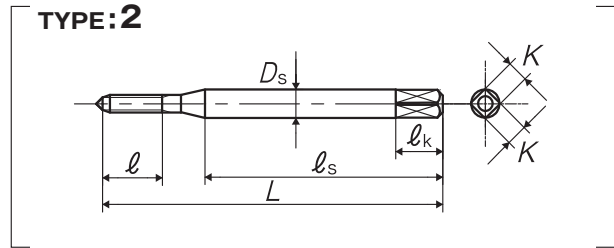
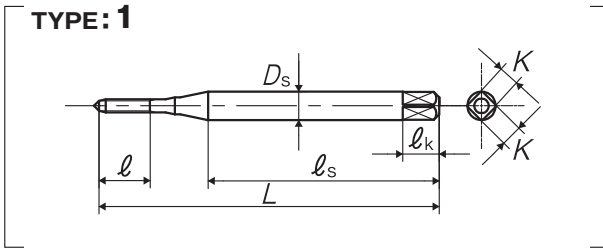
Spiral Fluted Taps, Oxided
Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



○ Oversize
Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.4 × 0.3	P1	SPP1.4CX	2.5P	36	5.4	-	24	3	2.5	5	2	1	△
M1.6 × 0.35	P1	SPP1.6DX	2.5P	36	6.3	-	24	3	2.5	5	2	2	△
M1.7 × 0.35	P1	SPP1.7DX	2.5P	36	6.3	-	24	3	2.5	5	2	2	△
M2 × 0.4	P1	SPP2.0EX	2.5P	42	7.2	12	27	3	2.5	5	2	3	△
M2.5 × 0.45	P1	SPP2.5FX	2.5P	46	8.1	14	29	3	2.5	5	2	3	△
M2.6 × 0.45	P1	SPP2.6FX	2.5P	46	8.1	14	29	3	2.5	5	2	3	△
M3 × 0.5	P1	SPP3.0GX	2.5P	46	9	14	26	4	3.2	6	3	3	◎
	P2	SPQ3.0GX											△
	P3	SPR3.0GX											△
3M0.6	P1	SPP3.0HX	2.5P	46	9	14	26	4	3.2	6	3	3	△
M3.5 × 0.6	P1	SPP3.5HX	2.5P	52	11	16	29	5	4	7	3	3	△

◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Think threads with
YAMAWA

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
SP-16

333

Spiral Fluted Tap Series

SP OX Spiral Fluted Taps, Oxidized

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M4 × 0.7	P2	SPQ4.0IX	2.5P	52	11	17	29	5	4	7	3	3	◎
	P3	SPR4.0IX											△
	P4	SPS4.0IX											△
M4 × 0.5	P1	SPP4.0GX	2.5P	52	9	17	29	5	4	7	3	4	△
M4.5 × 0.5	P1	SPP4.5GX	2.5P	60	9	21	33	5.5	4.5	7	3	4	△
M5 × 0.8	P2	SPQ5.0KX	2.5P	60	13	22	33	5.5	4.5	7	3	3	◎
	P3	SPR5.0KX											△
	P4	SPS5.0KX											△
M6 × 1	P2	SPQ6.0MX	2.5P	62	15	26	33	6	4.5	7	3	3	◎
	P3	SPR6.0MX											△
	P4	SPS6.0MX											△
M6 × 0.75	P2	SPQ6.0JX	2.5P	62	15	26	33	6	4.5	7	3	3	△
M7 × 1	P2	SPQ7.0MX	2.5P	70	19	-	36	6.2	5	8	3	5	△
M8 × 1.25	P2	SPQ8.0NX	2.5P	70	19	-	36	6.2	5	8	3	5	◎
	P3	SPR8.0NX											△
	P4	SPS8.0NX											△
M8 × 1	P2	SPQ8.0MX	2.5P	70	19	-	36	6.2	5	8	3	5	△
M10 × 1.5	P2	SPQ0100X	2.5P	75	23	-	38	7	5.5	8	3	5	◎
M10 × 1.25	P2	SPQ010NX	2.5P	75	23	-	38	7	5.5	8	3	5	△
	P3	SPR010NX											△
M10 × 1	P2	SPQ010MX	2.5P	75	23	-	38	7	5.5	8	3	5	△
M12 × 1.75	P2	SPQ012PX	2.5P	82	26	-	42	8.5	6.5	9	3	5	◎
M12 × 1.5	P2	SPQ0120X	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
M12 × 1.25	P2	SPQ012NX	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
M12 × 1	P2	SPQ012MX	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
M14 × 2	P2	SPQ014QX	2.5P	88	26	-	45	10.5	8	11	3	5	△
M14 × 1.5	P2	SPQ0140X	2.5P	88	26	-	45	10.5	8	11	3	5	△
M14 × 1	P2	SPQ014MX	2.5P	88	26	-	45	10.5	8	11	3	5	△
M16 × 2	P2	SPQ016QX	2.5P	95	26	-	48	12.5	10	13	3	5	○
M16 × 1.5	P2	SPQ0160X	2.5P	95	26	-	48	12.5	10	13	4	5	△
M18 × 2.5	P3	SPR018RX	2.5P	100	33	-	51	14	11	14	4	5	△
M18 × 1.5	P2	SPQ0180X	2.5P	100	33	-	51	14	11	14	4	5	△
M20 × 2.5	P3	SPR020RX	2.5P	105	33	-	50	15	12	15	4	6	○
M20 × 1.5	P3	SPR0200X	2.5P	105	33	-	50	15	12	15	4	6	△
M22 × 2.5	P3	SPR022RX	2.5P	115	33	-	55	17	13	16	4	6	△
M22 × 1.5	P3	SPR0220X	2.5P	115	33	-	55	17	13	16	4	6	△
M24 × 3	P3	SPR024SX	2.5P	120	39	-	55	19	15	18	4	6	△
M24 × 1.5	P3	SPR0240X	2.5P	120	39	-	55	19	15	18	4	6	△
M27 × 3	P3	SPR027SX	2.5P	130	39	-	60	20	15	18	4	6	△
M30 × 3.5	P4	SPS030TX	2.5P	135	46	-	62	23	17	20	4	6	△
M30 × 1.5	P3	SPR0300X	2.5P	135	46	-	62	23	17	20	4	6	△
M33 × 3.5	P4	SPMS033TX	2.5P	145	46	-	67	25	19	22	4	6	△
M36 × 4	P4	SPMS036UX	2.5P	155	52	-	71	28	21	24	4	6	△
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
No.2-56UNC	P1	SPPUN2EX	2.5P	42	8.1	12	27	3	2.5	5	2	3	△
No.4-40UNC	P1	SPPUN4HX	2.5P	46	9	14	26	4	3.2	6	2	3	△
No.5-40UNC	P1	SPPUN5HX	2.5P	52	11	16	29	5	4	7	3	3	△
No.6-32UNC	P2	SPQUN6JX	2.5P	52	11	16	29	5	4	7	3	3	△
No.8-32UNC	P2	SPQUN8JX	2.5P	60	13	21	33	5.5	4.5	7	3	3	△

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps, Oxided

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
No.10-24UNC	P2	SPQUNAMX	2.5P	60	13	22	33	5.5	4.5	7	3	3	△
No.10-32UNF	P2	SPQUAJX	2.5P	60	13	22	33	5.5	4.5	7	3	3	△
1/4-20UNC	P2	SPQU04NX	2.5P	62	15	26	33	6	4.5	7	3	3	△
1/4-28UNF	P2	SPQU04KX	2.5P	62	15	26	33	6	4.5	7	3	3	△
5/16-18UNC	P2	SPQU050X	2.5P	70	19	-	36	6.2	5	8	3	5	△
5/16-24UNF	P2	SPQU05MX	2.5P	70	19	-	36	6.2	5	8	3	5	△
3/8-16UNC	P2	SPQU06PX	2.5P	75	23	-	38	7	5.5	8	3	5	△
3/8-24UNF	P2	SPQU06MX	2.5P	75	23	-	38	7	5.5	8	3	5	△
7/16-14UNC	P3	SPRU07QX	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
7/16-20UNF	P2	SPQU07NX	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
1/2-13UNC	P3	SPRU08RX	2.5P	88	26	-	45	10.5	8	11	3	5	△
1/2-20UNF	P2	SPQU08NX	2.5P	88	26	-	45	10.5	8	11	3	5	△
5/8-11UNC	P3	SPRU10UX	2.5P	95	26	-	48	12.5	10	13	3	5	△
5/8-18UNF	P2	SPQU100X	2.5P	95	26	-	48	12.5	10	13	3	5	△
3/4-10UNC	P3	SPRU12VX	2.5P	105	33	-	50	15	12	15	4	6	△
3/4-16UNF	P3	SPRU12PX	2.5P	105	33	-	50	15	12	15	4	6	△
7/8-9UNC	P3	SPRU14WX	2.5P	115	33	-	55	17	13	16	4	6	△
7/8-14UNF	P3	SPRU14QX	2.5P	115	33	-	55	17	13	16	4	6	△
1 -8UNC	P3	SPRU16XX	2.5P	125	39	-	58	19	15	18	4	6	△
1 -12UNF	P3	SPRU16SX	2.5P	125	39	-	58	19	15	18	4	6	△
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
3/16W24	P2	SPQW03MX	2.5P	60	13	21	33	5.5	4.5	7	3	3	△
1/4W20	P2	SPQW04NX	2.5P	62	15	26	33	6	4.5	7	3	3	△
5/16W18	P2	SPQW050X	2.5P	70	19	-	36	6.2	5	8	3	5	△
3/8W16	P2	SPQW06PX	2.5P	75	23	-	38	7	5.5	8	3	5	△
7/16W14	P3	SPRW07QX	2.5P	82	26	-	42	8.5	6.5	9	3	5	△
1/2W12	P3	SPRW08SX	2.5P	88	26	-	45	10.5	8	11	3	5	△
5/8W11	P3	SPRW10UX	2.5P	95	26	-	48	12.5	10	13	3	5	△
3/4W10	P3	SPRW12VX	2.5P	105	33	-	50	15	12	15	4	6	△
7/8W9	P3	SPRW14WX	2.5P	115	33	-	55	17	13	16	4	6	△
1 W8	P3	SPRW16XX	2.5P	125	39	-	58	19	15	18	4	6	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

+SP OX

Plus Series Spiral Fluted Taps, Oxided
Specification



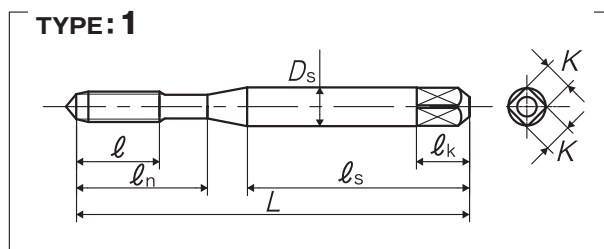
~M2.6



Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels
10~15 (m/min)	10~15 (m/min)

For icon explanation, refer to P.50



Oversize
Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P1	SNPP2.0EX	2.5P	42	7.2	12	27	3	2.5	5	2	1	△
	P2	SNPQ2.0EX											
	P3	SNPR2.0EX											
	P4	SNPS2.0EX											
M2.5 × 0.45	P1	SNPP2.5FX	2.5P	46	8.1	14	29	3	2.5	5	2	1	△
	P2	SNPQ2.5FX											
	P3	SNPR2.5FX											
	P4	SNPS2.5FX											
M2.6 × 0.45	P1	SNPP2.6FX	2.5P	46	8.1	14	29	3	2.5	5	2	1	△
	P2	SNPQ2.6FX											
	P3	SNPR2.6FX											
	P4	SNPS2.6FX											
M3 × 0.5	P1	SNPP3.0GX	2.5P	46	9	14	26	4	3.2	6	3	1	◎
	P2	SNPQ3.0GX											△
	P3	SNPR3.0GX											△
	P4	SNPS3.0GX											△
M3.5 × 0.6	P1	SNPP3.5HX	2.5P	52	11	16	29	5	4	7	3	1	△
	P2	SNPQ4.0IX											◎
	P3	SNPR4.0IX											△
	P4	SNPS4.0IX											△
M5 × 0.8	P2	SNPQ5.0KX	2.5P	60	13	22	33	5.5	4.5	7	3	1	◎
	P3	SNPR5.0KX											△
	P4	SNPS5.0KX											△
M6 × 1	P2	SNPQ6.0MX	2.5P	62	15	26	33	6	4.5	7	3	1	◎
	P3	SNPR6.0MX											△
	P4	SNPS6.0MX											△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

SP LH

Spiral Fluted Taps for Left Hand Threads

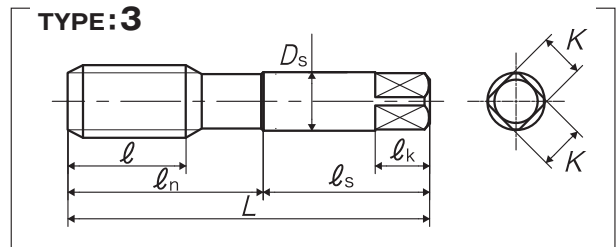
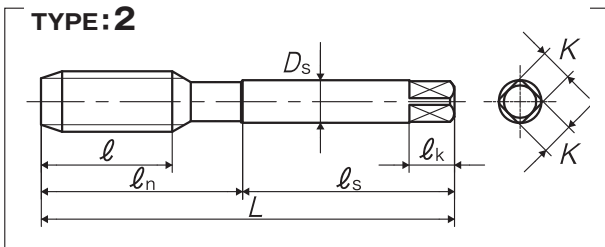
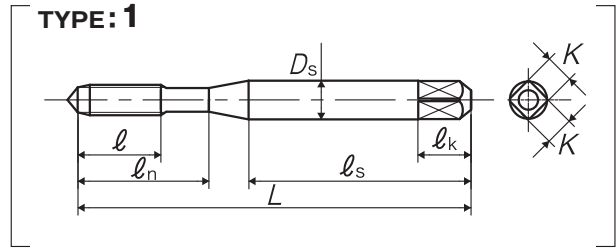
Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P1	SPP2.0E--L	2.5P	42	7.2	12	27	3	2.5	5	2	1	△
M2.3 × 0.4	P1	SPP2.3E--L	2.5P	42	7.2	12	27	3	2.5	5	2	1	△
M2.5 × 0.45	P1	SPP2.5F--L	2.5P	46	8.1	14	29	3	2.5	5	2	1	△
M2.6 × 0.45	P1	SPP2.6F--L	2.5P	46	8.1	14	29	3	2.5	5	2	1	△
M3 × 0.5	P1	SPP3.0G--L	2.5P	46	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P2	SPQ4.0I--L	2.5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P2	SPQ5.0K--L	2.5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P2	SPQ6.0M--L	2.5P	62	15	26	33	6	4.5	7	3	1	○
M7 × 1	P2	SPQ7.0M--L	2.5P	70	19	-	36	6.2	5	8	3	2	△
M8 × 1.25	P2	SPQ8.0N--L	2.5P	70	19	-	36	6.2	5	8	3	2	○
M8 × 1	P2	SPQ8.0M--L	2.5P	70	19	-	36	6.2	5	8	3	2	△
M10 × 1.5	P2	SPQ0100--L	2.5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P2	SPQ010N--L	2.5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1	P2	SPQ010M--L	2.5P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P2	SPQ012P--L	2.5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P2	SPQ0120--L	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P2	SPQ012N--L	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1	P2	SPQ012M--L	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P2	SPQ014Q--L	2.5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P2	SPQ0140--L	2.5P	88	26	-	45	10.5	8	11	3	2	△
M16 × 2	P2	SPQ016Q--L	2.5P	95	26	-	48	12.5	10	13	3	2	○
M16 × 1.5	P2	SPQ0160--L	2.5P	95	26	-	48	12.5	10	13	3	2	△
M18 × 2.5	P3	SPR018R--L	2.5P	100	33	-	51	14	11	14	4	2	△

Spiral Fluted Tap Series

SP LH Spiral Fluted Taps for Left Hand Threads

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M18 × 1.5	P2	SPQ0180--L	2.5P	100	33	-	51	14	11	14	4	2	△
M20 × 2.5	P3	SPR020R--L	2.5P	105	33	-	50	15	12	15	4	3	○
M20 × 1.5	P3	SPR0200--L	2.5P	105	33	-	50	15	12	15	4	3	△
M22 × 2.5	P3	SPR022R--L	2.5P	115	33	-	55	17	13	16	4	3	△
M22 × 1.5	P3	SPR0220--L	2.5P	115	33	-	55	17	13	16	4	3	△
M24 × 3	P3	SPR024S--L	2.5P	120	39	-	55	19	15	18	4	3	○
M24 × 1.5	P3	SPR0240--L	2.5P	120	39	-	55	19	15	18	4	3	△
M27 × 3	P3	SPR027S--L	2.5P	130	39	-	60	20	15	18	4	3	△
M30 × 3.5	P4	SPS030T--L	2.5P	135	46	-	62	23	17	20	4	3	△
M30 × 2	P3	SPR030Q--L	2.5P	135	46	-	62	23	17	20	4	3	△
M30 × 1.5	P3	SPR0300--L	2.5P	135	46	-	62	23	17	20	4	3	△
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4-20UNC	P2	SPQU04N--L	2.5P	62	15	26	33	6	4.5	7	3	1	△
1/4-28UNF	P2	SPQU04K--L	2.5P	62	15	26	33	6	4.5	7	3	1	△
5/16-18UNC	P2	SPQU050--L	2.5P	70	19	-	36	6.2	5	8	3	2	△
5/16-24UNF	P2	SPQU05M--L	2.5P	70	19	-	36	6.2	5	8	3	2	△
3/8-16UNC	P2	SPQU06P--L	2.5P	75	23	-	38	7	5.5	8	3	2	△
3/8-24UNF	P2	SPQU06M--L	2.5P	75	23	-	38	7	5.5	8	3	2	△
7/16-14UNC	P3	SPRU07Q--L	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
7/16-20UNF	P2	SPQU07N--L	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
1/2-13UNC	P3	SPRU08R--L	2.5P	88	26	-	45	10.5	8	11	3	2	△
1/2-20UNF	P2	SPQU08N--L	2.5P	88	26	-	45	10.5	8	11	3	2	△
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4W20	P2	SPQW04N--L	2.5P	62	15	26	33	6	4.5	7	3	1	△
5/16W18	P2	SPQW050--L	2.5P	70	19	-	36	6.2	5	8	3	2	△
3/8W16	P2	SPQW06P--L	2.5P	75	23	-	38	7	5.5	8	3	2	△
7/16W14	P3	SPRW07Q--L	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
1/2W12	P3	SPRW08S--L	2.5P	88	26	-	45	10.5	8	11	3	2	△
5/8W11	P3	SPRW10U--L	2.5P	95	26	-	48	12.5	10	13	3	2	△
3/4W10	P3	SPRW12V--L	2.5P	105	33	-	50	15	12	15	4	3	△

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk

SP V

Spiral Fluted Taps, Coated Specification

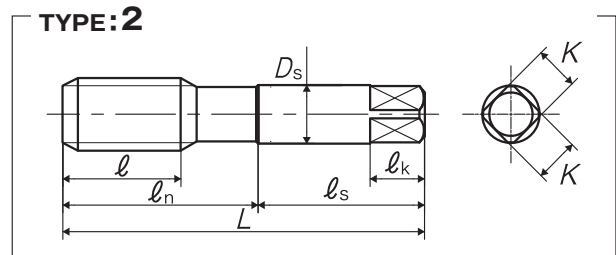
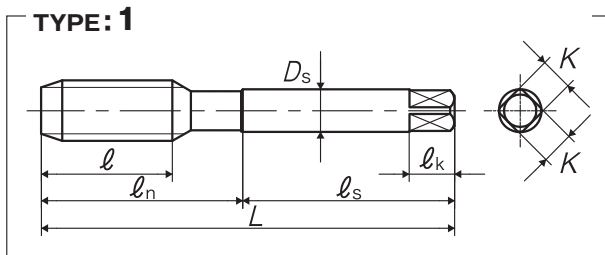


■ Adopting the optimum coating for the tapping condition.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M14 × 2	P2	VSPQ014Q	2.5P	88	26	-	45	10.5	8	11	3	1	○
M16 × 2	P2	VSPQ016Q	2.5P	95	26	-	48	12.5	10	13	3	1	○
M20 × 2.5	P3	VSPR020R	2.5P	105	33	-	50	15	12	15	4	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

AU+SP

Plus Series Spiral Fluted Taps, Optimum Coating for the tapping



~M2.6

Recommended Tapping Speeds depending on Materials

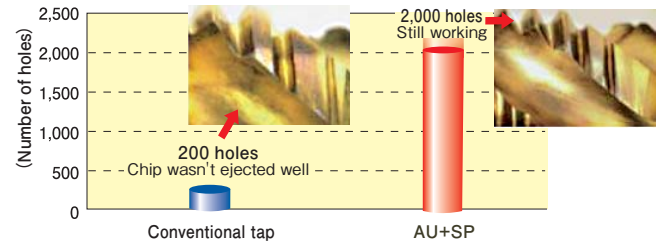
Low carbon steels 10 ~ 20 (m/min)	Medium carbon steels 10 ~ 20 (m/min)	High carbon steels 10 ~ 20 (m/min)	Alloy steels 10 ~ 20 (m/min)
Stainless steels 5 ~ 10 (m/min)	Aluminum alloy castings 20 ~ 30 (m/min)	Zinc alloy castings 20 ~ 30 (m/min)	

For icon explanation, refer to P.50

Tapping data

Tapping condition (M6×1)

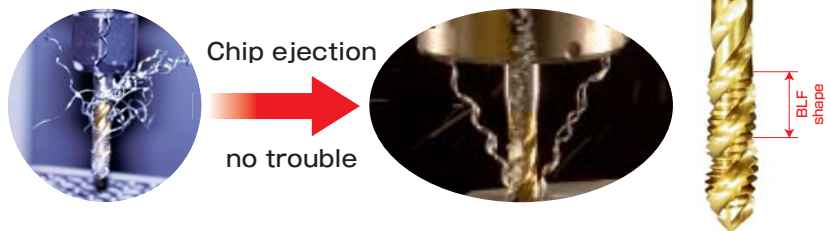
Work material	SCM440
Tapping speed	10m/min
Hole diameter	φ5.0
Tapping length	9mm, blind hole
Machine	Machining center vertical type (Floating holder used)
Tapping fluid	Water soluble cutting oil (Chlorine-free, 20 fold dilution)



Product features

BLF (thread portion of special design) + proprietary flute design :
Great improvement in chip ejection efficiency.

- AU+SP has a special thread portion design with thread crests ground off and a few full threads after chamfer left unchanged.
- Effects of AU+SP are as follows:
 - Prevention of chipping trouble at full thread portion
 - Reduction of tapping torque and tapping friction
 - Good chip ejection



Change of marking position from shank into square portion

Laser marking can roughen the shank surface.

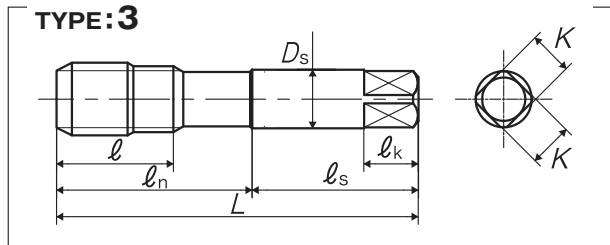
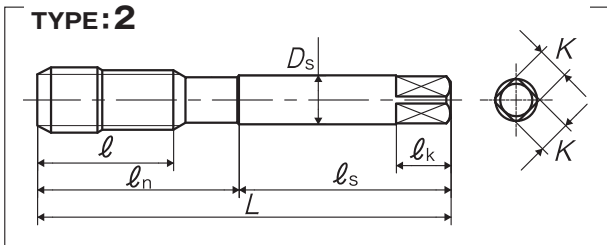
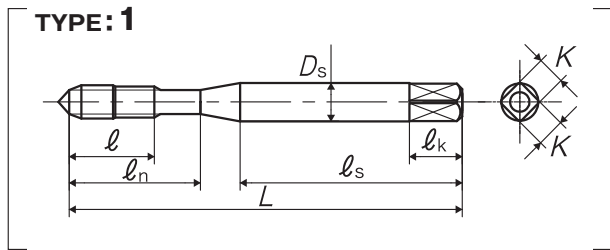
In order to keep high accuracy of shank circularity and diameter, marking has been transferred from shank to square portion.



For wide range of materials

Adopting the flute of special design which enables the coating (features: wear resistance, heat resistance, and welding resistance) to work most efficiently, AU+SP is suitable for the wide range of materials and is well applicable under water soluble oil.

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P2	VSAPQ2.0E	2.5P	42	7.2	12	27	3	2.5	5	2	1	○
M2.5 × 0.45	P2	VSAPQ2.5F	2.5P	46	8.1	14	29	3	2.5	5	2	1	○
M2.6 × 0.45	P2	VSAPQ2.6F	2.5P	46	8.1	14	29	3	2.5	5	2	1	○
M3 × 0.5	P2	VSAPQ3.0G	2.5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	P2	VSAPQ4.0I	2.5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	P2	VSAPQ5.0K	2.5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	P2	VSAPQ6.0M	2.5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	P3	VSAPR8.0N	2.5P	70	19	-	36	6.2	5	8	3	2	◎
M8 × 1	P3	VSAPR8.0M	2.5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	VSAPR0100	2.5P	75	23	-	38	7	5.5	8	4	2	◎
M10 × 1.25	P3	VSAPR010N	2.5P	75	23	-	38	7	5.5	8	4	2	◎
M10 × 1	P3	VSAPR010M	2.5P	75	23	-	38	7	5.5	8	4	2	○
M12 × 1.75	P3	VSAPR012P	2.5P	82	26	-	42	8.5	6.5	9	4	2	◎
M12 × 1.5	P3	VSAPR0120	2.5P	82	26	-	42	8.5	6.5	9	4	2	◎
M12 × 1.25	P3	VSAPR012N	2.5P	82	26	-	42	8.5	6.5	9	4	2	◎
M14 × 2	P3	VSAPR014Q	2.5P	88	26	-	45	10.5	8	11	4	2	◎
M14 × 1.5	P3	VSAPR0140	2.5P	88	26	-	45	10.5	8	11	4	2	◎
M16 × 2	P3	VSAPR016Q	2.5P	95	26	-	48	12.5	10	13	4	2	◎
M16 × 1.5	P3	VSAPR0160	2.5P	95	26	-	48	12.5	10	13	4	2	◎
M18 × 2.5	P4	VSAPS018R	2.5P	100	33	-	51	14	11	14	4	2	◎
M18 × 1.5	P4	VSAPS0180	2.5P	100	33	-	51	14	11	14	4	2	◎
M20 × 2.5	P4	VSAPS020R	2.5P	105	33	-	50	15	12	15	4	3	◎
M20 × 1.5	P4	VSAPS0200	2.5P	105	33	-	50	15	12	15	4	3	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

AUXSP

X Series Spiral Fluted Taps, Coated Specification



Recommended Tapping Speeds depending on Materials

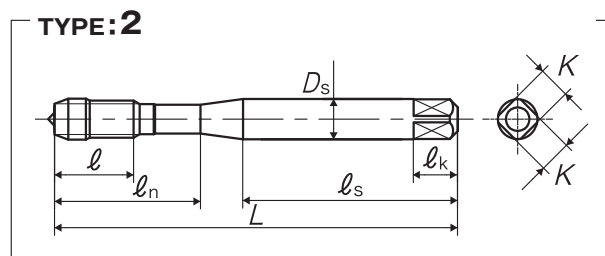
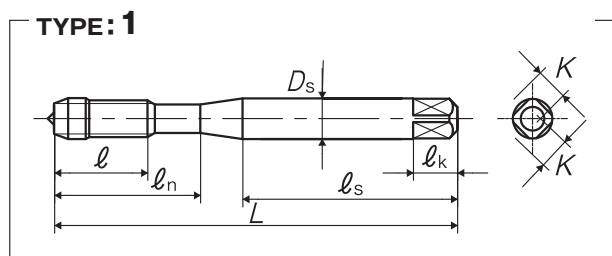
Low carbon steels 10~25 (m/min)	Medium carbon steels 10~25 (m/min)	High carbon steels 10~25 (m/min)	Alloy steels 10~25 (m/min)
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Stainless steels 10~15 (m/min)	Aluminum alloy castings 20~30 (m/min)	Zinc alloy castings 20~30 (m/min)
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For icon explanation, refer to P.50

■Applying the blanks of high toughness and high accuracy, AUXSP derives the maximum performance from high facility machining centers and high precision toolings. Special thread portion design with thread crests ground off and a few full threads left unchanged. Combination of this design and the special flute geometry maintains good chip ejection and reduces friction. The Spiral Fluted Tap is adopting the optimum coating for the tapping condition.

※Use with dedicated toolings is recommended.



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	VSAXQ6.0M	2.5P	80	15	30	45	6	4.9	8	3	1	○
M8 × 1.25	P3	VSAXR8.0N	2.5P	90	19	35	48	8	6.2	9	3	1	○
M8 × 1	P3	VSAXR8.0M	2.5P	90	15	35	48	8	6.2	9	3	2	○
M10 × 1.5	P3	VSAXR0100	2.5P	100	23	39	53	10	8	11	4	1	○
M10 × 1.25	P3	VSAXR010N	2.5P	100	19	39	53	10	8	11	4	2	○
M10 × 1	P3	VSAXR010M	2.5P	100	15	39	53	10	8	11	4	2	○
M12 × 1.75	P3	VSAXR012P	2.5P	110	26	45	56	12	9	12	4	1	○
M12 × 1.5	P3	VSAXR0120	2.5P	110	23	45	56	12	9	12	4	2	○
M12 × 1.25	P3	VSAXR012N	2.5P	110	19	45	56	12	9	12	4	2	○

Note:

- Please use tapping holders suitable for the shank diameter and square of DIN371 for M6~M10 and those of M16 (DIN376) for M12.
- Overall length, shank diameter and square of metric coarse series are adopted for those of metric fine series.

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-SP

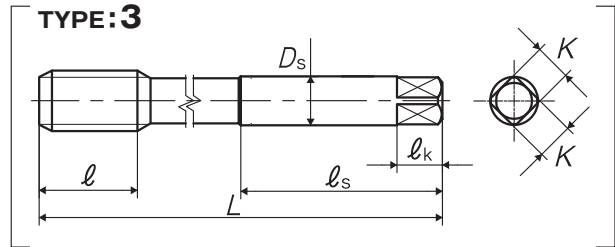
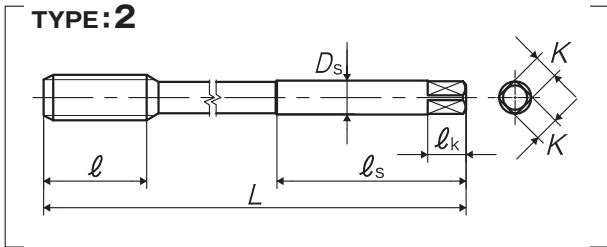
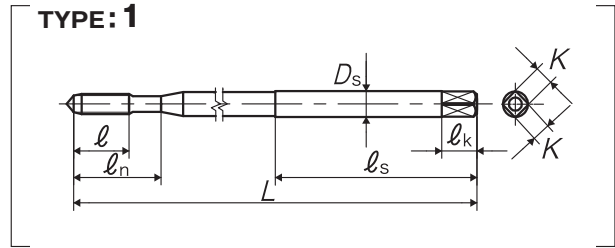
Long Shank Spiral Fluted Taps Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Oversize
Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P1	SPP2.0EL07	2.5P	70	7.2	12	55	3	2.5	5	2	1	△
M2.3 × 0.4	P1	SPP2.3EL07	2.5P	70	7.2	12	55	3	2.5	5	2	1	△
M2.5 × 0.45	P1	SPP2.5FL07	2.5P	70	8.1	14	53	3	2.5	5	2	1	△
M2.6 × 0.45	P1	SPP2.6FL07	2.5P	70	8.1	14	53	3	2.5	5	2	1	△
M3 × 0.5	P1	SPP3.0GL07	2.5P	70	9	14	40	4	3.2	6	3	1	△
		SPP3.0GL10		100									◎
		SPP3.0GL12		120									△
		SPP3.0GL15		150									○
	P2	SPQ3.0GL10		100									△
		SPQ3.0GL15		150									△
		P3		SPR3.0GL10									100
SPR3.0GL15	150		△										
M4 × 0.7	P2	SPQ4.0IL07	2.5P	70	11	17	40	5	4	7	3	1	△
		SPQ4.0IL10		100									◎
		SPQ4.0IL12		120									△
		SPQ4.0IL15		150									◎
	P3	SPR4.0IL10		100									△
		SPR4.0IL15		150									△
M5 × 0.8	P2	SPQ5.0KL10	2.5P	100	13	22	40	5.5	4.5	7	3	1	◎
		SPQ5.0KL12		120									△
		SPQ5.0KL15		150									◎
	P3	SPR5.0KL10		100									△
		SPR5.0KL15		150									△

Spiral Fluted Tap Series

LS-SP Long Shank Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock									
M6 × 1	P2	SPQ6.0ML10	2.5P	100	15	26	40	6	4.5	7	3	1	◎									
		SPQ6.0ML12		120									△									
		SPQ6.0ML15		150									◎									
		SPQ6.0ML20		200									△									
	P3	SPR6.0ML10		100									△									
		SPR6.0ML15		150									△									
M6 × 0.75	P2	SPQ6.0JL10	2.5P	100	15	26	40	6	4.5	7	3	1	△									
M8 × 1.25	P2	SPQ8.0NL10	2.5P	100	19	-	50	6.2	5	8	3	2	◎									
		SPQ8.0NL12		120									△									
		SPQ8.0NL15		150									◎									
		SPQ8.0NL20		200									△									
	P3	SPR8.0NL10		100									△									
		SPR8.0NL15		150									△									
M8 × 1	P2	SPQ8.0ML10	2.5P	100	19	-	50	6.2	5	8	3	2	△									
		SPQ8.0ML15		150									△									
M10 × 1.5	P2	SPQ0100L10	2.5P	100	23	-	50	7	5.5	8	3	2	◎									
		SPQ0100L12		120									△									
		SPQ0100L15		150									◎									
		SPQ0100L20		200									△									
	P3	SPR0100L10		100									△									
		SPR0100L15		150									△									
M10 × 1.25	P2	SPQ010NL10	2.5P	100	23	-	50	7	5.5	8	3	2	○									
		SPQ010NL12		120									△									
		SPQ010NL15		150									○									
		SPQ010NL20		200									△									
M10 × 1	P2	SPQ010ML10	2.5P	100	23	-	50	7	5.5	8	3	2	△									
		SPQ010ML15		150									△									
M12 × 1.75	P2	SPQ012PL10	2.5P	100	26	-	50	8.5	6.5	9	3	2	△									
		SPQ012PL12		120									△									
		SPQ012PL15		150									◎									
		SPQ012PL20		200									△									
	P3	SPR012PL15		150									△									
M12 × 1.5	P2	SPQ0120L10		2.5P									100	26	-	50	8.5	6.5	9	3	2	△
		SPQ0120L15	150		△																	
		SPQ0120L20	200		△																	
M12 × 1.25	P2	SPQ012NL10	2.5P	100	26	-	50	8.5	6.5	9	3	2	△									
		SPQ012NL12		120									△									
		SPQ012NL15		150									○									
		SPQ012NL20		200									△									
M12 × 1	P2	SPQ012ML12		2.5P									120	26	-	50	8.5	6.5	9	3	2	△
		SPQ012ML15											150									△
M14 × 2	P2	SPQ014QL12	2.5P	120	26	-	60	10.5	8	11	3	2	△									
		SPQ014QL15		150									○									
		SPQ014QL20		200									△									
M14 × 1.5	P2	SPQ0140L12	2.5P	120	26	-	60	10.5	8	11	3	2	△									
		SPQ0140L15		150									○									
		SPQ0140L20		200									△									
M16 × 2	P2	SPQ016QL15	2.5P	150	26	-	60	12.5	10	13	3	2	◎									
		SPQ016QL20		200									△									
		SPQ016QL25		250									△									

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps (Simple inspection tools)

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-SP Long Shank Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M16 × 1.5	P2	SPQ0160L15	2.5P	150	26	-	60	12.5	10	13	3	2	○
		SPQ0160L20		200									△
M18 × 2.5	P3	SPR018RL15	2.5P	150	33	-	70	14	11	14	4	2	○
		SPR018RL20		200									△
		SPR018RL25		250									
M18 × 1.5	P2	SPQ0180L15	2.5P	150	33	-	70	14	11	14	4	2	○
		SPQ0180L20		200									△
M20 × 2.5	P3	SPR020RL15	2.5P	150	33	-	70	15	12	15	4	3	◎
		SPR020RL20		200									△
		SPR020RL25		250									
M20 × 1.5	P3	SPR0200L15	2.5P	150	33	-	70	15	12	15	4	3	○
		SPR0200L20		200									△
M22 × 2.5	P3	SPR022RL15	2.5P	150	33	-	70	17	13	16	4	3	△
		SPR022RL20		200									
M22 × 1.5	P3	SPR0220L15	2.5P	150	33	-	70	17	13	16	4	3	○
		SPR0220L20		200									△
M24 × 3	P3	SPR024SL15	2.5P	150	39	-	80	19	15	18	4	3	○
		SPR024SL20		200									◎
		SPR024SL25		250									△
M24 × 2	P3	SPR024QL20	2.5P	200	39	-	80	19	15	18	4	3	△
M24 × 1.5	P3	SPR0240L15	2.5P	150	39	-	80	19	15	18	4	3	○
		SPR0240L20		200									△
M27 × 3	P3	SPR027SL20	2.5P	200	39	-	80	20	15	18	4	3	△
		SPR027SL25		250									
M27 × 2	P3	SPR027QL20	2.5P	200	39	-	80	20	15	18	4	3	△
M27 × 1.5	P3	SPR0270L20	2.5P	200	39	-	80	20	15	18	4	3	△
		SPR0270L25		250									
M30 × 3.5	P4	SPS030TL20	2.5P	200	46	-	80	23	17	20	4	3	△
		SPS030TL25		250									
		SPS030TL30		300									
M30 × 1.5	P3	SPR0300L20	2.5P	200	46	-	80	23	17	20	4	3	△
		SPR0300L25		250									
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4-20UNC	P2	SPQU04NL10	2.5P	100	15	26	40	6	4.5	7	3	1	△
		SPQU04NL15		150									
1/4-28UNF	P2	SPQU04KL10	2.5P	100	15	26	40	6	4.5	7	3	1	△
		SPQU04KL15		150									
5/16-18UNC	P2	SPQU050L10	2.5P	100	19	-	50	6.2	5	8	3	2	△
		SPQU050L15		150									
5/16-24UNF	P2	SPQU05ML10	2.5P	100	19	-	50	6.2	5	8	3	2	△
		SPQU05ML15		150									
3/8-16UNC	P2	SPQU06PL10	2.5P	100	23	-	50	7	5.5	8	3	2	△
		SPQU06PL15		150									
		SPQU06PL20		200									
3/8-24UNF	P2	SPQU06ML10	2.5P	100	23	-	50	7	5.5	8	3	2	△
		SPQU06ML15		150									
7/16-14UNC	P3	SPRU07QL15	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
7/16-20UNF	P2	SPQU07NL15	2.5P	150	26	-	50	8.5	6.5	9	3	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

LS-SP Long Shank Spiral Fluted Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/2-13UNC	P3	SPRU08RL15	2.5P	150	26	-	60	10.5	8	11	3	2	△
		SPRU08RL20		200									
1/2-20UNF	P2	SPQU08NL15	2.5P	150	26	-	60	10.5	8	11	3	2	△
5/8-11UNC	P3	SPRU10UL15	2.5P	150	26	-	60	12.5	10	13	3	2	△
		SPRU10UL20		200									
5/8-18UNF	P2	SPQU10OL15	2.5P	150	26	-	60	12.5	10	13	3	2	△
3/4-10UNC	P3	SPRU12VL15	2.5P	150	33	-	70	15	12	15	4	3	△
		SPRU12VL20		200									
3/4-16UNF	P3	SPRU12PL15	2.5P	150	33	-	70	15	12	15	4	3	△
7/8-9UNC	P3	SPRU14WL15	2.5P	150	33	-	70	17	13	16	4	3	△
		SPRU14WL20		200									
1-8UNC	P3	SPRU16XL15	2.5P	150	39	-	80	19	15	18	4	3	△
		SPRU16XL20		200									
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4W20	P2	SPQW04NL10	2.5P	100	15	26	40	6	4.5	7	3	1	△
		SPQW04NL15		150									
5/16W18	P2	SPQW05OL10	2.5P	100	19	-	50	6.2	5	8	3	2	△
		SPQW05OL15		150									
3/8W16	P2	SPQW06PL10	2.5P	100	23	-	50	7	5.5	8	3	2	△
		SPQW06PL15		150									
		SPQW06PL20		200									
7/16W14	P3	SPRW07QL15	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
1/2W12	P3	SPRW08SL15	2.5P	150	26	-	60	10.5	8	11	3	2	△
		SPRW08SL20		200									
5/8W11	P3	SPRW10UL15	2.5P	150	26	-	60	12.5	10	13	3	2	△
		SPRW10UL20		200									
3/4W10	P3	SPRW12VL15	2.5P	150	33	-	70	15	12	15	4	3	△
		SPRW12VL20		200									
7/8W9	P3	SPRW14WL15	2.5P	150	33	-	70	17	13	16	4	3	△
		SPRW14WL20		200									
1 W8	P3	SPRW16XL15	2.5P	150	39	-	80	19	15	18	4	3	△
		SPRW16XL20		200									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-SP LH



Long Shank Spiral Fluted Taps for Left Hand Threads

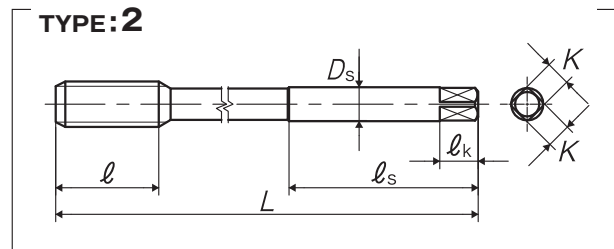
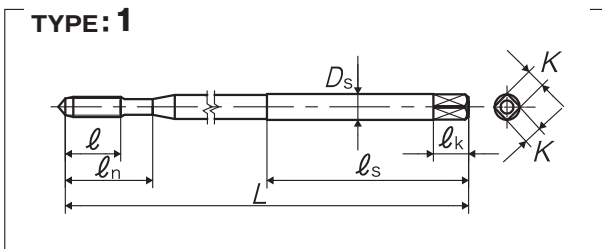
Specification



Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P1	SPP3.0GL10-L	2.5P	100	9	14	40	4	3.2	6	3	1	△
M4 × 0.7	P2	SPQ4.0IL10-L	2.5P	100	11	17	40	5	4	7	3	1	△
M5 × 0.8	P2	SPQ5.0KL10-L	2.5P	100	13	22	40	5.5	4.5	7	3	1	△
M6 × 1	P2	SPQ6.0ML10L	2.5P	100	15	26	40	6	4.5	7	3	1	△
		SPQ6.0ML15L		150									
M8 × 1.25	P2	SPQ8.0NL15-L	2.5P	150	19	-	50	6.2	5	8	3	2	△
M10 × 1.5	P2	SPQ0100L15-L	2.5P	150	23	-	50	7	5.5	8	3	2	△
M10 × 1.25	P2	SPQ010NL15-L	2.5P	150	23	-	50	7	5.5	8	3	2	△
M12 × 1.75	P2	SPQ012PL15-L	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
M12 × 1.5	P2	SPQ0120L15-L	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
M12 × 1.25	P2	SPQ012NL15-L	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
M14 × 2	P2	SPQ014QL15-L	2.5P	150	26	-	60	10.5	8	11	3	2	△
M14 × 1.5	P2	SPQ0140L15-L	2.5P	150	26	-	60	10.5	8	11	3	2	△
M16 × 2	P2	SPQ016QL15-L	2.5P	150	26	-	60	12.5	10	13	3	2	△
M16 × 1.5	P2	SPQ0160L15-L	2.5P	150	26	-	60	12.5	10	13	3	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+ Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-SP V

Long Shank Spiral Fluted Taps, Coated
Specification



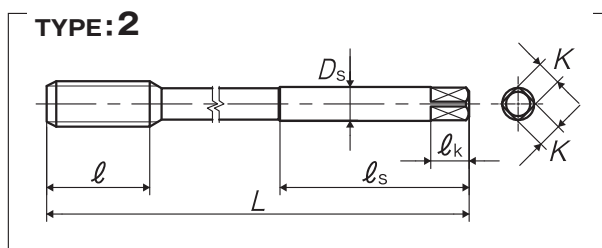
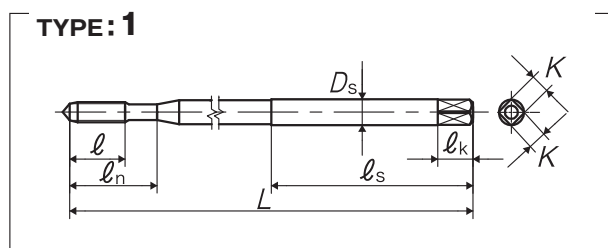
■ Adopting the optimum coating for the tapping condition.



Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels
10~20 [m/min]	10~20 [m/min]	10~20 [m/min]	10~20 [m/min]

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P1	VSP3.0GL10	2.5P	100	9	14	40	4	3.2	6	3	1	○
M4 × 0.7	P2	VSPQ4.0IL10	2.5P	100	11	17	40	5	4	7	3	1	○
M5 × 0.8	P2	VSPQ5.0KL10	2.5P	100	13	22	40	5.5	4.5	7	3	1	○
M6 × 1	P2	VSPQ6.0ML10	2.5P	100	15	26	40	6	4.5	7	3	1	○
		VSPQ6.0ML15		150									△
M8 × 1.25	P2	VSPQ8.0NL10	2.5P	100	19	-	50	6.2	5	8	3	2	○
		VSPQ8.0NL15		150									○
M10 × 1.5	P2	VSPQ10.0L15	2.5P	150	23	-	50	7	5.5	8	3	2	○
M10 × 1.25	P2	VSPQ10.0NL15	2.5P	150	23	-	50	7	5.5	8	3	2	△
M12 × 1.75	P2	VSPQ12.0PL15	2.5P	150	26	-	50	8.5	6.5	9	3	2	○
M12 × 1.5	P2	VSPQ12.0L15	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
M12 × 1.25	P2	VSPQ12.0NL15	2.5P	150	26	-	50	8.5	6.5	9	3	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

M E M O

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SU+SP/SU-SP

Spiral Fluted Taps for Stainless Steels

Specification



Recommended Tapping Speeds depending on Materials

Alloy steels ~10 (m/min)	Stainless steels ~10 (m/min)
--------------------------------	------------------------------------

SU+SP	~ M6 (coarse thread)
SU-SP	~ M1.7, M8~, all U, all W

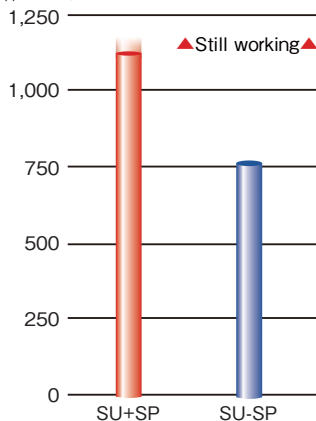
For icon explanation, refer to P.50

Product features

- Most suitable for stainless steels, sticky and tending to work-harden, as well as chrome steels and molybdenum steels, blind hole use.
- Reduction of cutting load on each cutting edge due to optimum design of thread portion.
- Decrease of cutting resistance and increase of tool life.
- Improvement of chip ejection and good thread finish.
- Increase of tool life due to the improvement of tap strength.
- Suitable for both rigid tapping machine and non-rigid tapping machine.

Comparison of tool life

(Number of tapped holes)

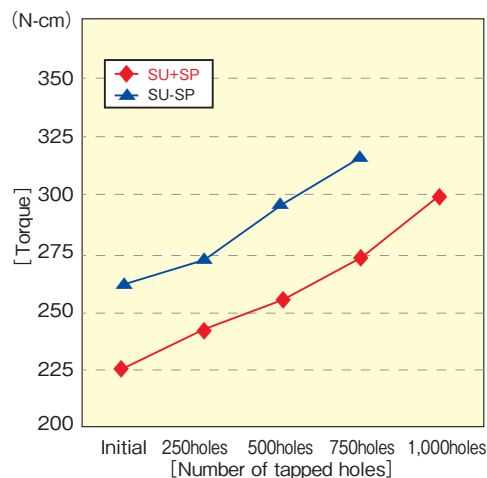


Tapping data

Tapping condition (M6×1)

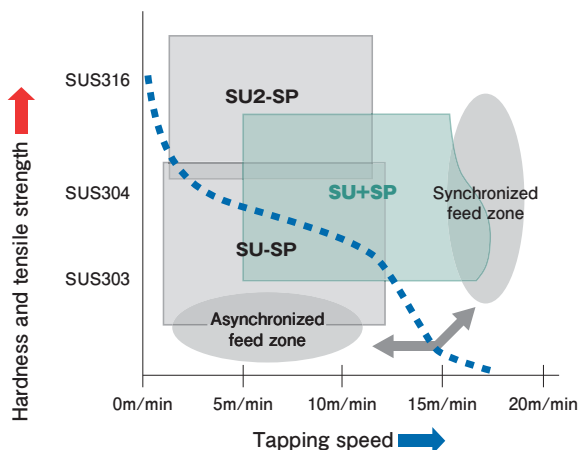
Work material	SUS304(90HRB)
Tapping speed	8m/min
Hole size	φ5.0
Tapping length	9mm, blind hole
Machine	Vertical machining center (with rigid feed)
Tapping fluid	Insoluble oil without chlorine

Transition of tapping torque

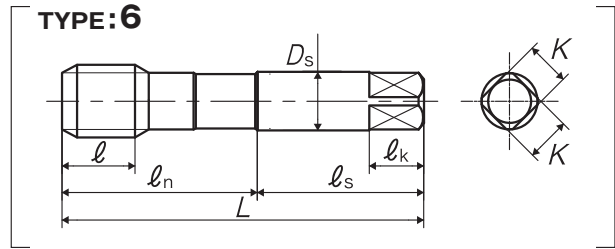
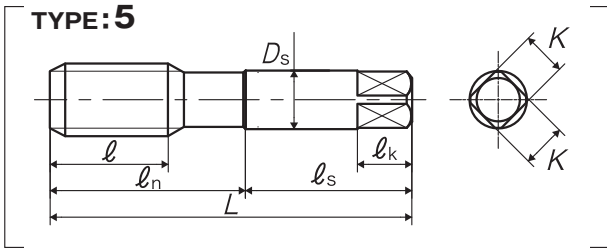
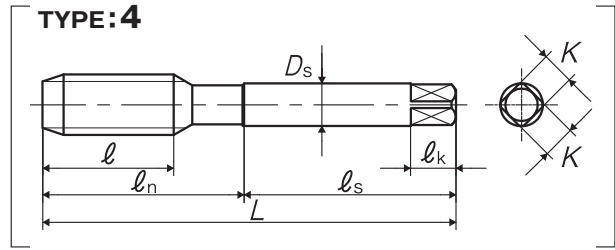
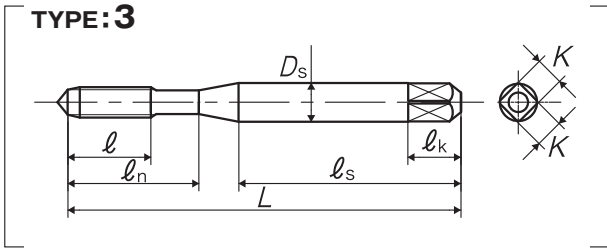
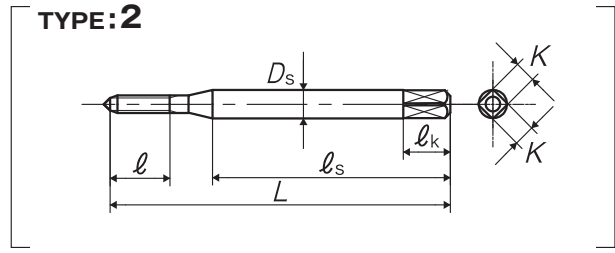
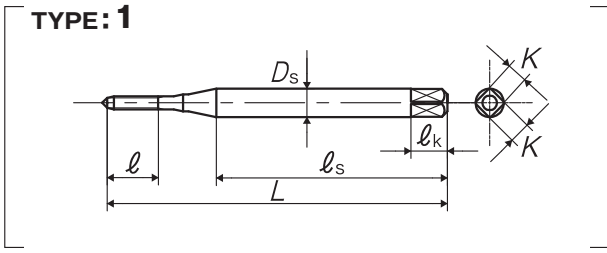


Products System

System table of taps for stainless steels, blind hole use



Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk



Oversize
Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.4 × 0.3	P1	SUMP1.4C	2.5P	36	5.4	-	24	3	2.5	5	2	1	△
M1.7 × 0.35	P1	SUMP1.7D	2.5P	36	6.3	-	24	3	2.5	5	2	2	△
	P2	SUMQ1.7D											
M2 × 0.4	P1	SUPP2.0E	2.5P	42	7.2	12	27	3	2.5	5	2	3	◎
	P2	SUPQ2.0E											△
	P3	SUPR2.0E											△
M2.3 × 0.4	P1	SUPP2.3E	2.5P	42	7.2	12	27	3	2.5	5	2	3	△
	P2	SUPQ2.3E											△
	P3	SUPR2.3E											△
M2.5 × 0.45	P1	SUPP2.5F	2.5P	46	8.1	14	29	3	2.5	5	2	3	○
	P2	SUPQ2.5F											△
	P3	SUPR2.5F											△
M2.6 × 0.45	P1	SUPP2.6F	2.5P	46	8.1	14	29	3	2.5	5	2	3	○
	P2	SUPQ2.6F											△
	P3	SUPR2.6F											△
M3 × 0.5	P1	SUPP3.0G	2.5P	46	9	14	26	4	3.2	6	3	3	◎
	P2	SUPQ3.0G											△
	P3	SUPR3.0G											△
3M0.6	P1	SUPP3.0H	2.5P	46	9	14	26	4	3.2	6	3	3	△
M3.5 × 0.6	P1	SUPP3.5H	2.5P	52	11	16	29	5	4	7	3	3	△
	P3	SUPR3.5H											△
M4 × 0.7	P2	SUPQ4.0I	2.5P	52	11	17	29	5	4	7	3	3	◎
	P3	SUPR4.0I											△
	P4	SUPS4.0I											△

◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Think threads with
YAMAWA

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
SP-34

351

Spiral Fluted Tap Series

SU+SP/SU-SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
4M0.75	P2	SUPQ4.0J	2.5P	52	11	17	29	5	4	7	3	3	△
	P2	SUPQ5.0K											⊙
	P3	SUPR5.0K											△
M5 × 0.8	P4	SUPR5.0K	2.5P	60	13	22	33	5.5	4.5	7	3	3	△
	P4	SUPS5.0K											△
5M0.9	P2	SUPQ5.0L	2.5P	60	13	22	33	5.5	4.5	7	3	3	△
	P2	SUPQ6.0M											⊙
	P3	SUPR6.0M											△
M6 × 1	P4	SUPS6.0M	2.5P	62	15	26	33	6	4.5	7	3	3	△
	P4	SUPS6.0M											△
M6 × 0.75	P2	SUMQ6.0J	2.5P	62	15	26	33	6	4.5	7	3	3	△
	P2	SUMQ8.0N											⊙
	P3	SUMR8.0N											△
M8 × 1.25	P4	SUMS8.0N	2.5P	70	19	-	36	6.2	5	8	3	4	△
	P4	SUMS8.0N											△
M8 × 1	P2	SUMQ8.0M	2.5P	70	19	-	36	6.2	5	8	3	4	△
	P2	SUMQ8.0J											△
	P2	SUMQ0100											⊙
M10 × 1.5	P3	SUMR0100	2.5P	75	23	-	38	7	5.5	8	3	4	△
	P4	SUMS0100											△
M10 × 1.25	P2	SUMQ010N	2.5P	75	23	-	38	7	5.5	8	3	4	○
	P3	SUMR010N											△
	P4	SUMS010N											△
M10 × 1	P2	SUMQ010M	2.5P	75	23	-	38	7	5.5	8	3	4	△
	P4	SUMS010M											△
M12 × 1.75	P2	SUMQ012P	2.5P	82	26	-	42	8.5	6.5	9	3	4	⊙
	P3	SUMR012P											△
	P4	SUMS012P											△
M12 × 1.5	P2	SUMQ0120	2.5P	82	26	-	42	8.5	6.5	9	3	4	○
	P3	SUMR0120											△
	P4	SUMS0120											△
M12 × 1.25	P2	SUMQ012N	2.5P	82	26	-	42	8.5	6.5	9	3	4	○
	P3	SUMR012N											△
M12 × 1	P2	SUMQ012M	2.5P	82	26	-	42	8.5	6.5	9	3	4	△
	P2	SUMQ014Q											○
	P3	SUMR014Q											△
M14 × 2	P4	SUMS014Q	2.5P	88	26	-	45	10.5	8	11	3	4	△
	P4	SUMS014Q											△
M14 × 1.5	P2	SUMQ0140	2.5P	88	26	-	45	10.5	8	11	3	4	○
	P4	SUMS0140											△
	P4	SUMS0140											△
M14 × 1	P2	SUMQ014M	2.5P	88	26	-	45	10.5	8	11	3	4	△
	P2	SUMQ016Q											⊙
	P3	SUMR016Q											△
M16 × 2	P4	SUMS016Q	2.5P	95	26	-	48	12.5	10	13	3	4	△
	P4	SUMS016Q											△
M16 × 1.5	P2	SUMQ0160	2.5P	95	26	-	48	12.5	10	13	3	4	○
	P4	SUMS0160											△
	P4	SUMS0160											△
M18 × 2.5	P3	SUMR018R	2.5P	100	33	-	51	14	11	14	4	4	○
	P4	SUMS018R											△
M18 × 1.5	P2	SUMQ0180	2.5P	100	33	-	51	14	11	14	4	4	○
	P4	SUMS0180											△
	P4	SUMS0180											△
M20 × 2.5	P3	SUMR020R	2.5P	105	33	-	50	15	12	15	4	5	⊙
	P4	SUMS020R											△
M20 × 1.5	P3	SUMR0200	2.5P	105	33	-	50	15	12	15	4	5	○
	P4	SUMS0200											△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

SU+SP/SU-SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M22 × 2.5	P3	SUMR022R	2.5P	115	33	-	55	17	13	16	4	5	○
	P4	SUMS022R											△
	P5	SUMT022R											
M22 × 1.5	P3	SUMR0220	2.5P	115	33	-	55	17	13	16	4	5	△
	P4	SUMS0220											
M24 × 3	P3	SUMR024S	2.5P	120	39	-	55	19	15	18	4	5	○
	P4	SUMS024S											△
	P5	SUMT024S											
M24 × 1.5	P3	SUMR0240	2.5P	120	39	-	55	19	15	18	4	5	△
	P4	SUMS0240											
M27 × 3	P3	SUMR027S	2.5P	130	39	-	60	20	15	18	4	5	△
M27 × 1.5	P3	SUMR0270	2.5P	130	39	-	60	20	15	18	4	5	△
M30 × 3.5	P4	SUMS030T	2.5P	135	46	-	62	23	17	20	4	5	△
M30 × 1.5	P3	SUMR0300	2.5P	135	46	-	62	23	17	20	4	5	△
M33 × 3.5	P4	SUMS033T	2.5P	145	46	-	67	25	19	22	4	5	△
M36 × 4	P4	SUMS036U	2.5P	155	52	-	71	28	21	24	4	5	△
M39 × 4	P4	SUMS039U	2.5P	165	52	-	76	30	23	26	4	5	△
M42 × 4.5	P4	SUMS042V	2.5P	175	59	-	81	32	26	30	4	5	△
M42 × 1.5	P3	SUMR0420	2.5P	175	27	-	81	32	26	30	4	6	△
M45 × 4.5	P4	SUMS045V	2.5P	180	59	-	83	35	26	30	4	5	△
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
No.2-56UNC	P1	SUMPUN2E	2.5P	42	8.1	12	27	3	2.5	5	2	3	△
No.3-48UNC	P1	SUMPUN3F	2.5P	46	8.1	14	29	3	2.5	5	2	3	△
No.4-40UNC	P1	SUMPUN4H	2.5P	46	9	14	26	4	3.2	6	2	3	△
No.4-48UNF	P1	SUMPUN4F	2.5P	46	9	14	26	4	3.2	6	2	3	△
No.5-40UNC	P1	SUMPUN5H	2.5P	52	11	16	29	5	4	7	3	3	△
No.5-44UNF	P1	SUMPUN5G	2.5P	52	11	16	29	5	4	7	3	3	△
No.6-32UNC	P2	SUMQUN6J	2.5P	52	11	16	29	5	4	7	3	3	△
No.6-40UNF	P1	SUMPUN6H	2.5P	52	11	16	29	5	4	7	3	3	△
No.8-32UNC	P2	SUMQUN8J	2.5P	60	13	21	33	5.5	4.5	7	3	3	△
No.8-36UNF	P2	SUMQUN8I	2.5P	60	13	21	33	5.5	4.5	7	3	3	△
No.10-24UNC	P2	SUMQUNAM	2.5P	60	13	22	33	5.5	4.5	7	3	3	△
No.10-32UNF	P2	SUMQUNAJ	2.5P	60	13	22	33	5.5	4.5	7	3	3	△
1/4-20UNC	P2	SUMQU04N	2.5P	62	15	26	33	6	4.5	7	3	3	△
1/4-28UNF	P2	SUMQU04K	2.5P	62	15	26	33	6	4.5	7	3	3	△
5/16-18UNC	P2	SUMQU050	2.5P	70	19	-	36	6.2	5	8	3	4	△
5/16-24UNF	P2	SUMQU05M	2.5P	70	19	-	36	6.2	5	8	3	4	△
3/8-16UNC	P2	SUMQU06P	2.5P	75	23	-	38	7	5.5	8	3	4	△
3/8-24UNF	P2	SUMQU06M	2.5P	75	23	-	38	7	5.5	8	3	4	△
7/16-14UNC	P3	SUMRU07Q	2.5P	82	26	-	42	8.5	6.5	9	3	4	△
7/16-20UNF	P2	SUMQU07N	2.5P	82	26	-	42	8.5	6.5	9	3	4	△
1/2-13UNC	P3	SUMRU08R	2.5P	88	26	-	45	10.5	8	11	3	4	△
1/2-20UNF	P2	SUMQU08N	2.5P	88	26	-	45	10.5	8	11	3	4	△
5/8-11UNC	P3	SUMRU10U	2.5P	95	26	-	48	12.5	10	13	3	4	△
5/8-18UNF	P2	SUMQU100	2.5P	95	26	-	48	12.5	10	13	3	4	△
3/4-10UNC	P3	SUMRU12V	2.5P	105	33	-	50	15	12	15	4	5	△
3/4-16UNF	P3	SUMRU12P	2.5P	105	33	-	50	15	12	15	4	5	△
7/8-9UNC	P3	SUMRU14W	2.5P	115	33	-	55	17	13	16	4	5	△
7/8-14UNF	P3	SUMRU14Q	2.5P	115	33	-	55	17	13	16	4	5	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Spiral Fluted Tap Series

SU+SP/SU-SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1 -8UNC	P3	SUMRU16X	2.5P	125	39	-	58	19	15	18	4	5	△
1 -12UNF	P3	SUMRU16S	2.5P	125	39	-	58	19	15	18	4	5	△
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
3/16W24	P2	SUMQW03M	2.5P	60	13	21	33	5.5	4.5	7	3	3	△
1/4W20	P2	SUMQW04N	2.5P	62	15	26	33	6	4.5	7	3	3	△
5/16W18	P2	SUMQW05O	2.5P	70	19	-	36	6.2	5	8	3	4	△
3/8W16	P2	SUMQW06P	2.5P	75	23	-	38	7	5.5	8	3	4	△
7/16W14	P3	SUMRW07Q	2.5P	82	26	-	42	8.5	6.5	9	3	4	△
1/2W12	P3	SUMRW08S	2.5P	88	26	-	45	10.5	8	11	3	4	△
9/16W12	P3	SUMRW09S	2.5P	95	26	-	48	12.5	10	13	3	4	△
5/8W11	P3	SUMRW10U	2.5P	95	26	-	48	12.5	10	13	3	4	△
3/4W10	P3	SUMRW12V	2.5P	105	33	-	50	15	12	15	4	5	△
7/8W9	P3	SUMRW14W	2.5P	115	33	-	55	17	13	16	4	5	△
1 W8	P3	SUMRW16X	2.5P	125	39	-	58	19	15	18	4	5	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

SUXSP



X Series Spiral Fluted Taps for Stainless Steels

Specification



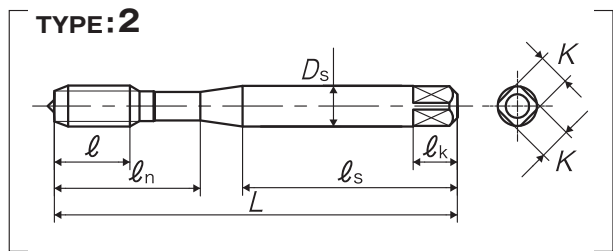
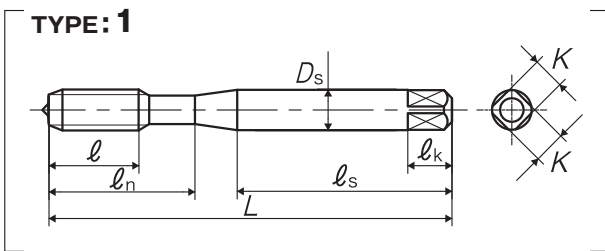
■Applying the blanks of high toughness and high accuracy, SUXSP derives the maximum performance from high facility machining centers and high precision toolings. Spiral fluted taps for stainless steels.

※Use with dedicated toolings is recommended.

Recommended Tapping Speeds depending on Materials

Alloy steels	Stainless steels
5~15 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	SUXQ6.0M	2.5P	80	15	30	45	6	4.9	8	3	1	○
M8 × 1.25	P3	SUXR8.0N	2.5P	90	19	35	48	8	6.2	9	3	1	○
M8 × 1	P3	SUXR8.0M	2.5P	90	15	35	48	8	6.2	9	3	2	○
M10 × 1.5	P3	SUXR0100	2.5P	100	23	39	53	10	8	11	4	1	○
M10 × 1.25	P3	SUXR010N	2.5P	100	19	39	53	10	8	11	4	2	○
M10 × 1	P3	SUXR010M	2.5P	100	15	39	53	10	8	11	4	2	○
M12 × 1.75	P4	SUXS012P	2.5P	110	26	45	56	12	9	12	4	1	○
M12 × 1.5	P3	SUXR0120	2.5P	110	23	45	56	12	9	12	4	2	○
M12 × 1.25	P3	SUXR012N	2.5P	110	19	45	56	12	9	12	4	2	○

Note:

- Please use tapping holders suitable for the shank diameter and square of DIN371 for M6~M10 and those of M16 (DIN376) for M12.
- Overall length, shank diameter and square of metric coarse series are adopted for those of metric fine series.

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

SU2-SP

Spiral Fluted Taps for Tough Stainless Steels

Specification



■ SU2-SP is the spiral fluted tap most suitable for such tough stainless steels as SUS316 and SUS317, blind hole use

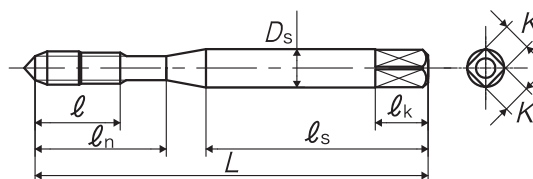
Recommended Tapping Speeds depending on Materials

Alloy steels	Stainless steels
5~20 (m/min)	5~15 (m/min)

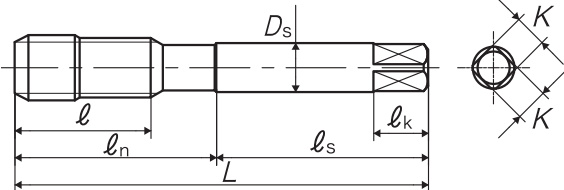
For icon explanation, refer to P.50



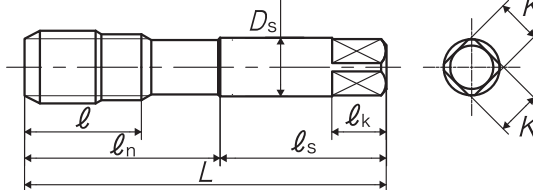
TYPE:1



TYPE:2



TYPE:3



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	SU2MQ3.0G	3P	46	9	14	26	4	3.2	6	3	1	○
M3.5 × 0.6	P2	SU2MQ3.5H	3P	52	11	16	29	5	4	7	3	1	△
M4 × 0.7	P2	SU2MQ4.0I	3P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P2	SU2MQ5.0K	3P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P2	SU2MQ6.0M	3P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P3	SU2MR8.0N	3P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	SU2MR0100	3P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	SU2MR010N	3P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1	P3	SU2MR010M	3P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P3	SU2MR012P	3P	82	26	-	42	8.5	6.5	9	4	2	○
M12 × 1.5	P3	SU2MR0120	3P	82	26	-	42	8.5	6.5	9	4	2	△
M12 × 1.25	P3	SU2MR012N	3P	82	26	-	42	8.5	6.5	9	4	2	△
M12 × 1	P3	SU2MR012M	3P	82	26	-	42	8.5	6.5	9	4	2	△
M14 × 2	P3	SU2MR014Q	3P	88	26	-	45	10.5	8	11	4	2	△
M14 × 1.5	P3	SU2MR0140	3P	88	26	-	45	10.5	8	11	4	2	△
M16 × 2	P3	SU2MR016Q	3P	95	26	-	48	12.5	10	13	4	2	○
M16 × 1.5	P3	SU2MR0160	3P	95	26	-	48	12.5	10	13	4	2	△
M18 × 2.5	P4	SU2MS018R	3P	100	33	-	51	14	11	14	4	2	△
M18 × 1.5	P3	SU2MR0180	3P	100	33	-	51	14	11	14	4	2	△
M20 × 2.5	P4	SU2MS020R	3P	105	33	-	50	15	12	15	4	3	○
M20 × 1.5	P4	SU2MS0200	3P	105	33	-	50	15	12	15	4	3	△
M22 × 2.5	P4	SU2MS022R	3P	115	33	-	55	17	13	16	4	3	△
M22 × 1.5	P4	SU2MS0220	3P	115	33	-	55	17	13	16	4	3	△

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk

SU2-SP Spiral Fluted Taps for Tough Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M24 × 3	P4	SU2MS024S	3P	120	39	-	55	19	15	18	4	3	△
M24 × 1.5	P4	SU2MS0240	3P	120	39	-	55	19	15	18	4	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SU-S-SP



Spiral Fluted Taps for Stainless Steels, Deep Hole Use

Specification

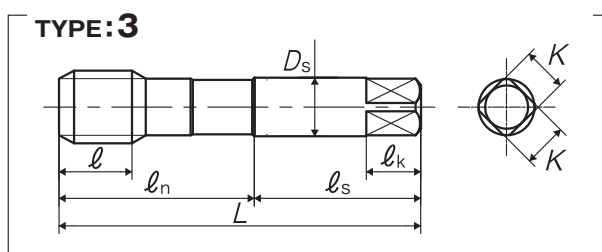
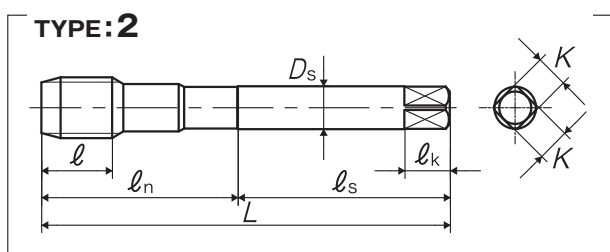
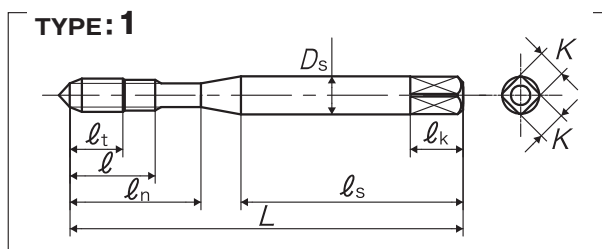


■SU-S-SP is the short spiral fluted tap for stainless steels suitable for stainless steels tending to work-harden and sticky, as well as chrome steels and molybdenum steels. Blind hole use. Deeper hole tapping is attainable.

Recommended Tapping Speeds depending on Materials

High carbon steels	Stainless steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	P1	SSMP3.0G-SU	2.5P	46	5	9	14	26	4	3.2	6	3	1	△
M4 × 0.7	P2	SSMQ4.0I-SU	2.5P	52	7	11	17	29	5	4	7	3	1	△
M5 × 0.8	P2	SSMQ5.0K-SU	2.5P	60	9	13	22	33	5.5	4.5	7	3	1	△
M6 × 1	P2	SSMQ6.0M-SU	2.5P	62	11	15	26	33	6	4.5	7	3	1	△
M8 × 1.25	P2	SSMQ8.0N-SU	2.5P	70	-	12	-	36	6.2	5	8	3	2	△
M10 × 1.5	P2	SSMQ0100-SU	2.5P	75	-	13	-	38	7	5.5	8	3	2	△
M12 × 1.75	P2	SSMQ012P-SU	2.5P	82	-	15	-	42	8.5	6.5	9	3	2	△
M14 × 2	P2	SSMQ014Q-SU	2.5P	88	-	18	-	45	10.5	8	11	3	2	△
M16 × 2	P2	SSMQ016Q-SU	2.5P	95	-	18	-	48	12.5	10	13	3	2	△
M18 × 2.5	P3	SSMR018R-SU	2.5P	100	-	20	-	51	14	11	14	4	2	△
M20 × 2.5	P3	SSMR020R-SU	2.5P	105	-	20	-	50	15	12	15	4	3	△

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

S-SP

Short Spiral Fluted Taps, Deep Hole Use Specification

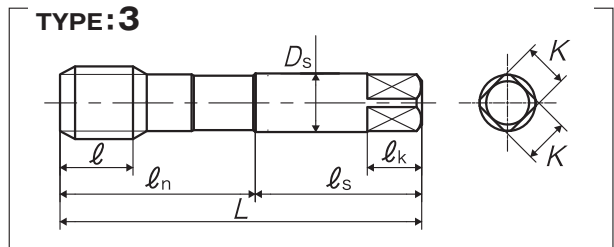
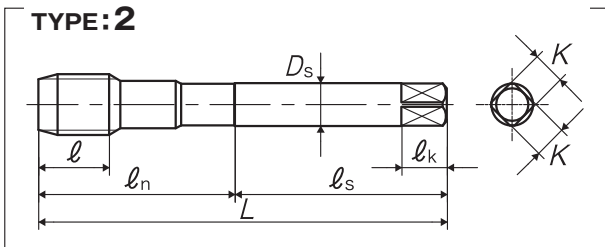
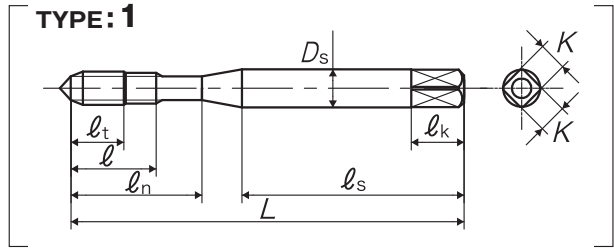


■ Due to short thread portion, friction becomes less and lubrication supply becomes better, and S-SP is the spiral fluted tap quite efficient for tapping deep holes that are 2.5 times deeper than the nominal dia.

Recommended Tapping Speeds depending on Materials

Medium carbon steels	Alloy steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



○ Oversize
Segment : 1C

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M2 × 0.4	P1	SSMP2.0E	2.5P	42	4	7.2	12	27	3	2.5	5	2	1	○
M2.3 × 0.4	P1	SSMP2.3E	2.5P	42	4	7.2	12	27	3	2.5	5	2	1	△
M2.5 × 0.45	P1	SSMP2.5F	2.5P	46	4	8.1	14	29	3	2.5	5	2	1	△
M2.6 × 0.45	P1	SSMP2.6F	2.5P	46	4	8.1	14	29	3	2.5	5	2	1	△
M3 × 0.5	P1	SSMP3.0G-3	2.5P	46	5	9	14	26	4	3.2	6	3	1	○
	P3	SSMR3.0G												△
M3.5 × 0.6	P1	SSMP3.5H-3	2.5P	52	7	11	16	29	5	4	7	3	1	△
M4 × 0.7	P2	SSMQ4.0I	2.5P	52	7	11	17	29	5	4	7	3	1	○
	P3	SSMR4.0I												△
M5 × 0.8	P2	SSMQ5.0K	2.5P	60	9	13	22	33	5.5	4.5	7	3	1	○
	P3	SSMR5.0K												△
M6 × 1	P2	SSMQ6.0M	2.5P	62	11	15	26	33	6	4.5	7	3	1	○
	P3	SSMR6.0M												△
M8 × 1.25	P2	SSMQ8.0N	2.5P	70	-	12	-	36	6.2	5	8	3	2	○
	P3	SSMR8.0N												△
M8 × 1	P2	SSMQ8.0M	2.5P	70	-	12	-	36	6.2	5	8	3	2	△
M10 × 1.5	P2	SSMQ0100	2.5P	75	-	13	-	38	7	5.5	8	3	2	○
	P3	SSMR0100												△
M10 × 1.25	P2	SSMQ010N	2.5P	75	-	13	-	38	7	5.5	8	3	2	○
M10 × 1	P2	SSMQ010M	2.5P	75	-	13	-	38	7	5.5	8	3	2	△
M12 × 1.75	P2	SSMQ012P	2.5P	82	-	15	-	42	8.5	6.5	9	3	2	○
	P3	SSMR012P												△
M12 × 1.5	P2	SSMQ0120	2.5P	82	-	15	-	42	8.5	6.5	9	3	2	△

○=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Think threads with
YAMAWA

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
SP-42

359

Spiral Fluted Tap Series

S-SP Short Spiral Fluted Taps, Deep Hole Use

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.25	P2	SSMQ012N	2.5P	82	-	15	-	42	8.5	6.5	9	3	2	○
M12 × 1	P2	SSMQ012M	2.5P	82	-	15	-	42	8.5	6.5	9	3	2	△
M14 × 2	P2	SSMQ014Q	2.5P	88	-	18	-	45	10.5	8	11	3	2	○
M14 × 1.5	P2	SSMQ014O	2.5P	88	-	14	-	45	10.5	8	11	3	2	○
M14 × 1	P2	SSMQ014M	2.5P	88	-	14	-	45	10.5	8	11	3	2	△
M16 × 2	P2	SSMQ016Q	2.5P	95	-	18	-	48	12.5	10	13	3	2	◎
M16 × 1.5	P2	SSMQ016O	2.5P	95	-	14	-	48	12.5	10	13	3	2	○
M16 × 1	P2	SSMQ016M	2.5P	95	-	14	-	48	12.5	10	13	3	2	△
M18 × 2.5	P3	SSMR018R	2.5P	100	-	20	-	51	14	11	14	4	2	○
M18 × 2	P3	SSMR018Q	2.5P	100	-	18	-	51	14	11	14	4	2	△
M18 × 1.5	P2	SSMQ018O	2.5P	100	-	14	-	51	14	11	14	4	2	△
M18 × 1	P2	SSMQ018M	2.5P	100	-	14	-	51	14	11	14	4	2	△
M20 × 2.5	P3	SSMR020R	2.5P	105	-	20	-	50	15	12	15	4	3	◎
M20 × 2	P3	SSMR020Q	2.5P	105	-	18	-	50	15	12	15	4	3	△
M20 × 1.5	P3	SSMR020O	2.5P	105	-	14	-	50	15	12	15	4	3	△
M20 × 1	P2	SSMQ020M	2.5P	105	-	14	-	50	15	12	15	4	3	△
M22 × 2.5	P3	SSMR022R	2.5P	115	-	20	-	55	17	13	16	4	3	○
M22 × 2	P3	SSMR022Q	2.5P	115	-	18	-	55	17	13	16	4	3	△
M22 × 1.5	P3	SSMR022O	2.5P	115	-	14	-	55	17	13	16	4	3	△
M24 × 3	P3	SSMR024S	2.5P	120	-	25	-	55	19	15	18	4	3	○
M24 × 2	P3	SSMR024Q	2.5P	120	-	18	-	55	19	15	18	4	3	△
M24 × 1.5	P3	SSMR024O	2.5P	120	-	18	-	55	19	15	18	4	3	△
M27 × 3	P3	SSMR027S	2.5P	130	-	25	-	60	20	15	18	4	3	△
M27 × 2	P3	SSMR027Q	2.5P	130	-	20	-	60	20	15	18	4	3	△
M27 × 1.5	P3	SSMR027O	2.5P	130	-	20	-	60	20	15	18	4	3	△
M30 × 3.5	P4	SSMS030T	2.5P	135	-	30	-	62	23	17	20	4	3	△
M30 × 3	P3	SSMR030S	2.5P	135	-	28	-	62	23	17	20	4	3	△
M30 × 2	P3	SSMR030Q	2.5P	135	-	20	-	62	23	17	20	4	3	△
M30 × 1.5	P3	SSMR030O	2.5P	135	-	20	-	62	23	17	20	4	3	△
M33 × 3.5	P4	SSMS033T	2.5P	145	-	30	-	67	25	19	22	4	3	△
M33 × 3	P3	SSMR033S	2.5P	145	-	28	-	67	25	19	22	4	3	△
M33 × 2	P3	SSMR033Q	2.5P	145	-	20	-	67	25	19	22	4	3	△
M33 × 1.5	P3	SSMR033O	2.5P	145	-	20	-	67	25	19	22	4	3	△
M36 × 4	P4	SSMS036U	2.5P	155	-	40	-	71	28	21	24	4	3	△
M36 × 3	P3	SSMR036S	2.5P	155	-	30	-	71	28	21	24	4	3	△
M36 × 1.5	P3	SSMR036O	2.5P	155	-	20	-	71	28	21	24	4	3	△
M39 × 4	P4	SSMS039U	2.5P	165	-	40	-	76	30	23	26	4	3	△
M42 × 4.5	P4	SSMS042V	2.5P	175	-	40	-	81	32	26	30	4	3	△
M45 × 4.5	P4	SSMS045V	2.5P	180	-	45	-	83	35	26	30	4	3	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Centering Tools
 Center Drills

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

E-SP

Spiral Fluted Taps for Soft Structural Steels

Specification



■ Suitable particularly for soft steels such as SS41, S25C and the like.

Recommended Tapping Speeds depending on Materials

Low carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

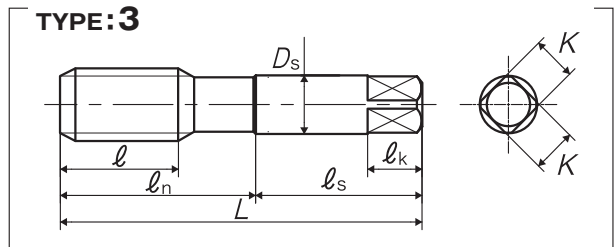
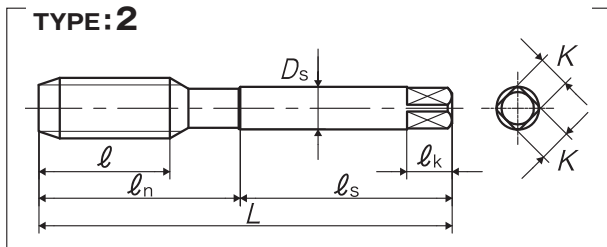
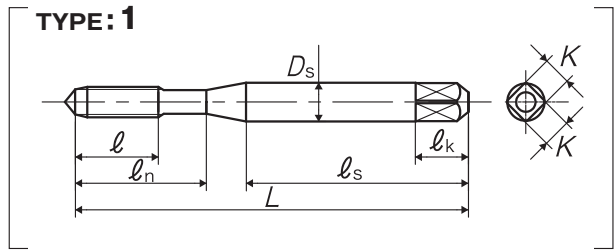
Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P1	ESHMP3.0G	2.5P	46	9	14	26	4	3.2	6	2	1	△
		ESHMP3.0G-3									3		○
M3.5 × 0.6	P1	ESHMP3.5H	2.5P	52	11	16	29	5	4	7	3	1	△
M4 × 0.7	P2	ESHMQ4.0I	2.5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P2	ESHMQ5.0K	2.5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P2	ESHMQ6.0M	2.5P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P2	ESHMQ8.0N	2.5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P2	ESHMQ0100	2.5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P2	ESHMQ010N	2.5P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P2	ESHMQ012P	2.5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P2	ESHMQ0120	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P2	ESHMQ012N	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P2	ESHMQ014Q	2.5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P2	ESHMQ0140	2.5P	88	26	-	45	10.5	8	11	3	2	△
M16 × 2	P2	ESHMQ016Q	2.5P	95	26	-	48	12.5	10	13	3	2	○
M16 × 1.5	P2	ESHMQ0160	2.5P	95	26	-	48	12.5	10	13	3	2	△
M18 × 2.5	P3	ESHMR018R	2.5P	100	33	-	51	14	11	14	4	2	△
M18 × 1.5	P2	ESHMQ0180	2.5P	100	33	-	51	14	11	14	4	2	△
M20 × 2.5	P3	ESHMR020R	2.5P	105	33	-	50	15	12	15	4	3	○
M20 × 1.5	P3	ESHMR0200	2.5P	105	33	-	50	15	12	15	4	3	△
M22 × 2.5	P3	ESHMR022R	2.5P	115	33	-	55	17	13	16	4	3	△
M22 × 1.5	P3	ESHMR0220	2.5P	115	33	-	55	17	13	16	4	3	△
M24 × 3	P3	ESHMR024S	2.5P	120	39	-	55	19	15	18	4	3	△

Spiral Fluted Tap Series

E-SP Spiral Fluted Taps for Soft Structural Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M24 × 1.5	P3	ESHMR0240	2.5P	120	39	-	55	19	15	18	4	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk

HC+SP/HC-SP

Spiral Fluted Taps for High Carbon Steels
Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels	High carbon steels
5~10 (m/min)	5~10 (m/min)

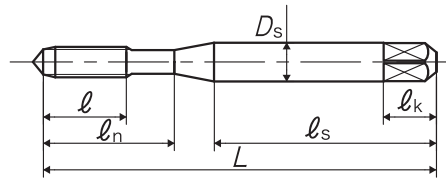
For icon explanation, refer to P.50



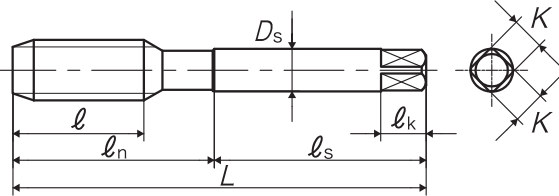
■Spiral fluted tap suitable for high carbon steels such as S55C and the like.

HC+SP	~M6
HC-SP	M8~, all W

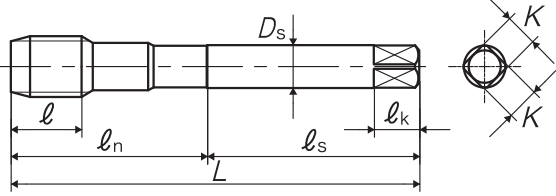
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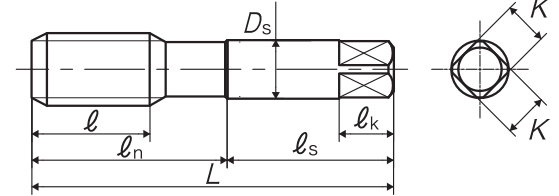
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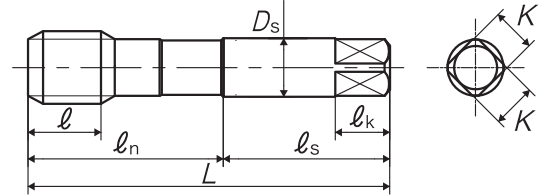
TYPE:3



TYPE:4



TYPE:5



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P1	SCPP3.0G	2.5P	46	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P2	SCPQ4.0I	2.5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P2	SCPQ5.0K	2.5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P2	SCPQ6.0M	2.5P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P2	SCMQ8.0N	2.5P	70	19	-	36	6.2	5	8	3	2	○
M8 × 1	P2	SCMQ8.0M	2.5P	70	19	-	36	6.2	5	8	3	2	△
M10 × 1.5	P2	SCMQ0100	2.5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P2	SCMQ010N	2.5P	75	23	-	38	7	5.5	8	3	2	△
M10 × 1	P2	SCMQ010M	2.5P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P2	SCMQ012P	2.5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P2	SCMQ0120	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P2	SCMQ012N	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1	P2	SCMQ012M	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P2	SCMQ014Q	2.5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P2	SCMQ0140	2.5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.25	P2	SCMQ014N	2.5P	88	26	-	45	10.5	8	11	3	2	△

◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Think threads with
YAMAWA

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
SP-46

363

Spiral Fluted Tap Series

HC+SP/HC-SP Spiral Fluted Taps for High Carbon Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M14 × 1	P2	SCMQ014M	2.5P	88	26	-	45	10.5	8	11	3	2	△
M16 × 2	P2	SCMQ016Q	2.5P	95	26	-	48	12.5	10	13	3	2	○
M16 × 1.5	P2	SCMQ016O	2.5P	95	26	-	48	12.5	10	13	3	2	△
M16 × 1	P2	SCMQ016M	2.5P	95	26	-	48	12.5	10	13	3	2	△
M18 × 2.5	P3	SCMR018R	2.5P	100	33	-	51	14	11	14	4	2	△
M18 × 2	P3	SCMR018Q	2.5P	100	33	-	51	14	11	14	4	2	△
M18 × 1.5	P2	SCMQ018O	2.5P	100	33	-	51	14	11	14	4	2	△
M18 × 1	P2	SCMQ018M	2.5P	100	18	-	51	14	11	14	4	3	△
M20 × 2.5	P3	SCMR020R	2.5P	105	33	-	50	15	12	15	4	4	○
M20 × 2	P3	SCMR020Q	2.5P	105	33	-	50	15	12	15	4	4	△
M20 × 1.5	P3	SCMR020O	2.5P	105	33	-	50	15	12	15	4	4	△
M20 × 1	P2	SCMQ020M	2.5P	105	18	-	50	15	12	15	4	5	△
M22 × 2.5	P3	SCMR022R	2.5P	115	33	-	55	17	13	16	4	4	△
M22 × 2	P3	SCMR022Q	2.5P	115	33	-	55	17	13	16	4	4	△
M22 × 1.5	P3	SCMR022O	2.5P	115	33	-	55	17	13	16	4	4	△
M24 × 3	P3	SCMR024S	2.5P	120	39	-	55	19	15	18	4	4	△
M24 × 2	P3	SCMR024Q	2.5P	120	39	-	55	19	15	18	4	4	△
M24 × 1.5	P3	SCMR024O	2.5P	120	39	-	55	19	15	18	4	4	△
M25 × 1.5	P3	SCMR025O	2.5P	125	39	-	58	19	15	18	4	4	△
M26 × 1.5	P3	SCMR026O	2.5P	130	39	-	60	20	15	18	4	4	△
M27 × 3	P3	SCMR027S	2.5P	130	39	-	60	20	15	18	4	4	△
M27 × 1.5	P3	SCMR027O	2.5P	130	39	-	60	20	15	18	4	4	△
M28 × 1.5	P3	SCMR028O	2.5P	135	46	-	62	23	17	20	4	4	△
M30 × 3.5	P4	SCMS030T	2.5P	135	46	-	62	23	17	20	4	4	△
M30 × 1.5	P3	SCMR030O	2.5P	135	46	-	62	23	17	20	4	4	△
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4W20	P2	SCMQW04N	2.5P	62	15	26	33	6	4.5	7	3	1	△
5/16W18	P2	SCMQW05O	2.5P	70	19	-	36	6.2	5	8	3	2	△
3/8W16	P2	SCMQW06P	2.5P	75	23	-	38	7	5.5	8	3	2	△
1/2W12	P3	SCMRW08S	2.5P	88	26	-	45	10.5	8	11	3	2	△
5/8W11	P3	SCMRW10U	2.5P	95	26	-	48	12.5	10	13	3	2	△
3/4W10	P3	SCMRW12V	2.5P	105	33	-	50	15	12	15	4	4	△
7/8W9	P3	SCMRW14W	2.5P	115	33	-	55	17	13	16	4	4	△
1 W8	P3	SCMRW16X	2.5P	125	39	-	58	19	15	18	4	4	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

HC+SP OX / HC-SP OX



Spiral Fluted Taps for High Carbon Steels, Oxided
Specification



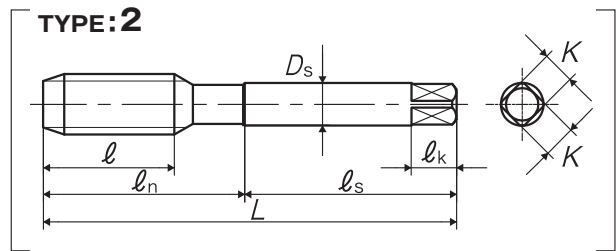
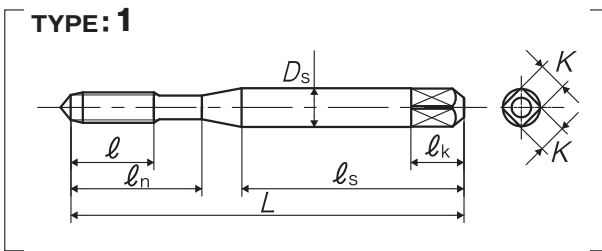
■ Spiral fluted tap suitable for high carbon steels such as S55C and the like, oxidized to avoid welding trouble.

Recommended Tapping Speeds depending on Materials

Medium carbon steels	High carbon steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50

HC+SP OX	~ M6
HC-SP OX	M8~



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P1	SCPP3.0GX	2.5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	P2	SCPQ4.0IX	2.5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	P2	SCPQ5.0KX	2.5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	P2	SCPQ6.0MX	2.5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	P2	SCMQ8.0NX	2.5P	70	19	-	36	6.2	5	8	3	2	◎
M10 × 1.5	P2	SCMQ0100X	2.5P	75	23	-	38	7	5.5	8	3	2	◎
M12 × 1.75	P2	SCMQ012PX	2.5P	82	26	-	42	8.5	6.5	9	3	2	◎
M16 × 2	P2	SCMQ016QX	2.5P	95	26	-	48	12.5	10	13	3	2	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

AL+SP/AL-SP



Spiral Fluted Taps for Aluminum

Specification



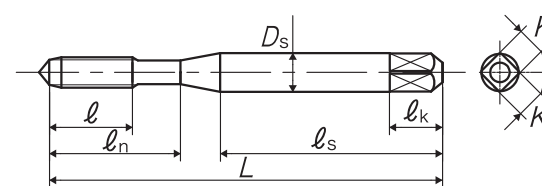
AL+SP	~ M6
AL-SP	M8 ~, all STI

Recommended Tapping Speeds depending on Materials

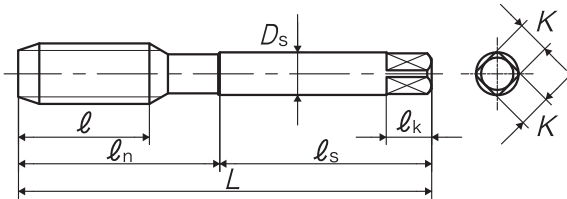
Brass 10~25 (m/min)	Brass castings 10~25 (m/min)	Bronze 10~25 (m/min)	Wrought aluminum 10~25 (m/min)	Aluminum alloy castings 10~25 (m/min)	Magnesium alloy die castings 10~25 (m/min)	Zinc alloy castings 10~25 (m/min)
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For icon explanation, refer to P.50

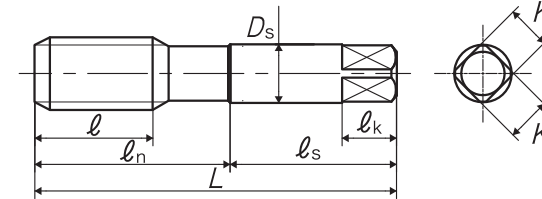
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P2	ASHPQ2.0E	2.5P	42	7.2	12	27	3	2.5	5	2	1	○
M2.3 × 0.4	P2	ASHPQ2.3E	2.5P	42	7.2	12	27	3	2.5	5	2	1	△
M2.5 × 0.45	P2	ASHPQ2.5F	2.5P	46	8.1	14	29	3	2.5	5	2	1	○
M2.6 × 0.45	P2	ASHPQ2.6F	2.5P	46	8.1	14	29	3	2.5	5	2	1	○
M3 × 0.5	P2	ASHPQ3.0G	2.5P	46	9	14	26	4	3.2	6	3	1	○
M3.5 × 0.6	P2	ASHPQ3.5H	2.5P	52	11	16	29	5	4	7	3	1	△
M4 × 0.7	P3	ASHPR4.0I	2.5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P3	ASHPR5.0K	2.5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P3	ASHPR6.0M	2.5P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P3	ASHMR8.0N	2.5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	ASHMR010O	2.5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	ASHMR010N	2.5P	75	23	-	38	7	5.5	8	3	2	△
M10 × 1	P3	ASHMR010M	2.5P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P3	ASHMR012P	2.5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P3	ASHMR012O	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P3	ASHMR012N	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1	P3	ASHMR012M	2.5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P3	ASHMR014Q	2.5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P3	ASHMR014O	2.5P	88	26	-	45	10.5	8	11	3	2	△
M16 × 2	P3	ASHMR016Q	2.5P	95	26	-	48	12.5	10	13	3	2	△
M16 × 1.5	P3	ASHMR016O	2.5P	95	26	-	48	12.5	10	13	3	2	△

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk

AL+SP/AL-SP Spiral Fluted Taps for Aluminum

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Helical Coil Wire Screw Thread Inserts, for Metric Threads														
STI M3 × 0.5	1b	SW3.0G1LEN	2.5P	3.65	52	7.5	17	29	5	4	7	3	1	○
STI M4 × 0.7	1b	SW4.0I1LEN	2.5P	4.909	60	13	22	33	5.5	4.5	7	3	1	○
STI M5 × 0.8	1b	SW5.0K1LEN	2.5P	6.039	62	15	26	33	6	4.5	7	3	1	○
STI M6 × 1	1b	SW6.0M1LEN	2.5P	7.299	70	19	-	36	6.2	5	8	3	2	○
STI M8 × 1.25	1b	SW8.0N1LEN	2.5P	9.624	75	23	-	38	7	5.5	8	3	2	○
STI M10 × 1.5	1b	SW01001LEN	2.5P	11.948	82	26	-	42	8.5	6.5	9	3	2	○
STI M10 × 1.25	1b	SW010N1LEN	2.5P	11.624	82	26	-	42	8.5	6.5	9	3	2	△
STI M12 × 1.75	1b	SW012P1LEN	2.5P	14.273	95	26	-	48	12.5	10	13	3	2	○
STI M12 × 1.5	1b	SW012O1LEN	2.5P	13.948	88	26	-	45	10.5	8	11	3	2	△
STI M12 × 1.25	1b	SW012N1LEN	2.5P	13.624	88	26	-	45	10.5	8	11	3	2	△
STI M14 × 2	1b	SW014Q1LEN	2.5P	16.598	100	33	-	51	14	11	14	3	2	△
STI M14 × 1.5	1b	SW014O1LEN	2.5P	15.948	95	26	-	48	12.5	10	13	3	2	△
STI M16 × 2	1b	SW016Q1LEN	2.5P	18.598	105	33	-	50	15	12	15	4	3	○
STI M16 × 1.5	1b	SW016O1LEN	2.5P	17.948	100	33	-	51	14	11	14	4	3	△
STI M18 × 2.5	1b	SW018R1LEN	2.5P	21.248	115	33	-	55	17	13	16	4	3	△
STI M18 × 1.5	1b	SW018O1LEN	2.5P	19.948	105	33	-	50	15	12	15	4	3	△
STI M20 × 2.5	1b	SW020R1LEN	2.5P	23.248	120	39	-	55	19	15	18	4	3	○
STI M20 × 1.5	1b	SW020O1LEN	2.5P	21.948	115	33	-	55	17	13	16	4	3	△
STI M22 × 2.5	1b	SW022R1LEN	2.5P	25.248	125	39	-	58	19	15	18	4	3	△
STI M24 × 3	1b	SW024S1LEN	2.5P	27.897	135	46	-	62	23	17	20	4	3	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

AL-SP 1.5P

Spiral Fluted Taps for Aluminum 1.5P

Specification



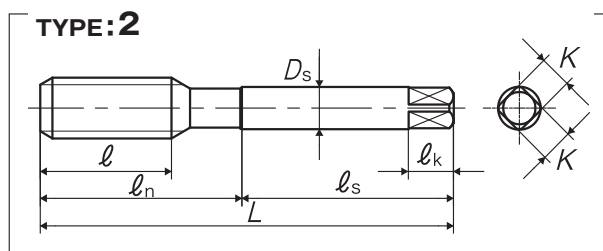
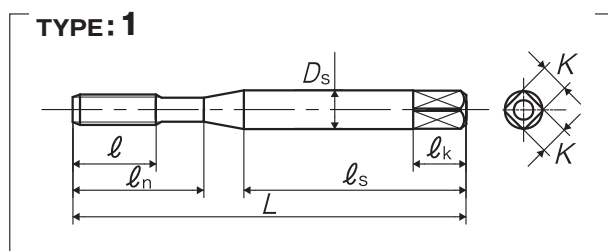
■ In aluminum die casting and aluminum casting tapping, AL-SP solves such problems as chip jamming, chip clogging, and torn threads.



Recommended Tapping Speeds depending on Materials

Brass 10~25 (m/min)	Brass castings 10~25 (m/min)	Bronze 10~25 (m/min)	Wrought aluminum 10~25 (m/min)	Aluminum alloy castings 10~25 (m/min)	Magnesium alloy die castings 10~25 (m/min)	Zinc alloy castings 10~25 (m/min)
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For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P2	SY2.0EQLENA	1.5P	42	7.2	12	27	3	2.5	5	2	1	○
M2.3 × 0.4	P2	SY2.3EQLENA	1.5P	42	7.2	12	27	3	2.5	5	2	1	△
M2.5 × 0.45	P2	SY2.5FQLENA	1.5P	46	8.1	14	29	3	2.5	5	2	1	○
M2.6 × 0.45	P2	SY2.6FQLENA	1.5P	46	8.1	14	29	3	2.5	5	2	1	○
M3 × 0.5	P2	SY3.0GQLENA	1.5P	46	9	14	26	4	3.2	6	3	1	○
M3.5 × 0.6	P2	SY3.5HQLENA	1.5P	52	11	16	29	5	4	7	3	1	△
M4 × 0.7	P3	SY4.0IRLENA	1.5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P3	SY5.0KRLENA	1.5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P3	SY6.0MRLENA	1.5P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P3	SY8.0NRLENA	1.5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	SY010ORLENA	1.5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	SY010NRLENA	1.5P	75	23	-	38	7	5.5	8	3	2	△
M10 × 1	P3	SY010MRLENA	1.5P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P3	SY012PRLENA	1.5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P3	SY012ORLENA	1.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P3	SY012NRLENA	1.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1	P3	SY012MRLENA	1.5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P3	SY014QRLENA	1.5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P3	SY014ORLENA	1.5P	88	26	-	45	10.5	8	11	3	2	△
M16 × 2	P3	SY016QRLENA	1.5P	95	26	-	48	12.5	10	13	3	2	△
M16 × 1.5	P3	SY016ORLENA	1.5P	95	26	-	48	12.5	10	13	3	2	△

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

LO-SP

Low Spiral Fluted Taps Specification

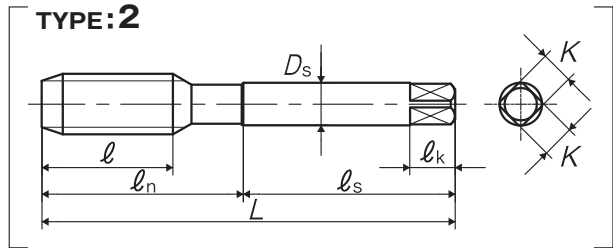
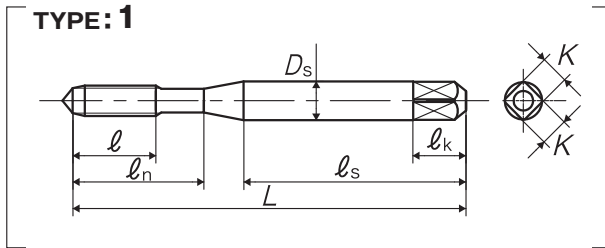


■ Spiral flutes with low helix can break down chips and can eject them smoothly. Suitable for thermal refined high carbon steels and alloy tool steels. Effective in horizontal tapping.

Recommended Tapping Speeds depending on Materials

Medium carbon steels	High carbon steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	Helix angle of spiral flutes	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	P1	LSHMP3.0G8	2.5P	8°	46	9	14	26	4	3.2	6	3	1	△
		LSHMP3.0G15		15°										
		LSHMP3.0G20		20°										
M4 × 0.7	P2	LSHMQ4.0I8	2.5P	8°	52	11	17	29	5	4	7	3	1	△
		LSHMQ4.0I15		15°										
		LSHMQ4.0I20		20°										
M5 × 0.8	P2	LSHMQ5.0K8	2.5P	8°	60	13	22	33	5.5	4.5	7	3	1	△
		LSHMQ5.0K15		15°										
		LSHMQ5.0K20		20°										
M6 × 1	P2	LSHMQ6.0M8	2.5P	8°	62	15	26	33	6	4.5	7	3	1	△
		LSHMQ6.0M15		15°										
		LSHMQ6.0M20		20°										
M8 × 1.25	P2	LSHMQ8.0N8	2.5P	8°	70	19	-	36	6.2	5	8	3	2	△
		LSHMQ8.0N15		15°										
		LSHMQ8.0N20		20°										
M10 × 1.5	P2	LSHMQ01008	2.5P	8°	75	23	-	38	7	5.5	8	3	2	△
		LSHMQ010015		15°										
		LSHMQ010020		20°										
M12 × 1.75	P2	LSHMQ012P8	2.5P	8°	82	26	-	42	8.5	6.5	9	3	2	△
		LSHMQ012P15		15°										
		LSHMQ012P20		20°										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-LO-SP

Long Shank Low Spiral Fluted Taps

Specification



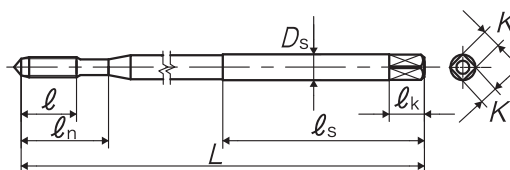
■ Spiral flutes with low helix can break down chips and can eject them smoothly. LS-LO-SP is the long shank spiral fluted tap suitable for thermal refined high carbon steels and alloy tool steels. Effective in horizontal tapping.

Recommended Tapping Speeds depending on Materials

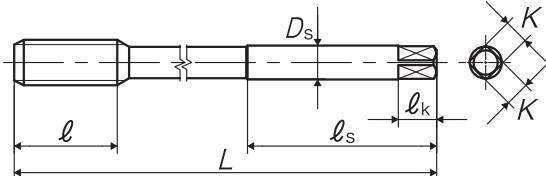
Medium carbon steels	High carbon steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50

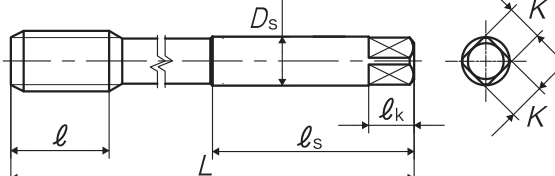
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	LSHMQ6.0ML10	2.5P	100	15	26	40	6	4.5	7	3	1	△
M8 × 1.25	P2	LSHMQ8.0NL10	2.5P	100	19	-	50	6.2	5	8	3	2	△
		LSHMQ8.0NL15		150									
M10 × 1.5	P2	LSHMQ0100L15	2.5P	150	23	-	50	7	5.5	8	3	2	△
M10 × 1.25	P2	LSHMQ010NL15	2.5P	150	23	-	50	7	5.5	8	3	2	△
M12 × 1.75	P2	LSHMQ012PL15	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
M12 × 1.5	P2	LSHMQ0120L15	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
M12 × 1.25	P2	LSHMQ012NL15	2.5P	150	26	-	50	8.5	6.5	9	3	2	△
M14 × 2	P2	LSHMQ014QL15	2.5P	150	26	-	60	10.5	8	11	3	2	△
M14 × 1.5	P2	LSHMQ0140L15	2.5P	150	26	-	60	10.5	8	11	3	2	△
		LSHMQ016QL15		150									
M16 × 2	P2	LSHMQ016QL15	2.5P	150	26	-	60	12.5	10	13	3	2	△
		LSHMQ016QL20		200									
M16 × 1.5	P2	LSHMQ0160L15	2.5P	150	26	-	60	12.5	10	13	3	2	△
		LSHMQ0160L20		200									
M18 × 2.5	P3	LSHMR018RL20	2.5P	200	33	-	70	14	11	14	4	2	△
M18 × 1.5	P2	LSHMQ0180L20	2.5P	200	33	-	70	14	11	14	4	2	△
M20 × 2.5	P3	LSHMR020RL20	2.5P	200	33	-	70	15	12	15	4	3	△
M20 × 1.5	P3	LSHMR0200L20	2.5P	200	33	-	70	15	12	15	4	3	△
M22 × 2.5	P3	LSHMR022RL20	2.5P	200	33	-	70	17	13	16	4	3	△
M22 × 1.5	P3	LSHMR0220L20	2.5P	200	33	-	70	17	13	16	4	3	△
M24 × 3	P3	LSHMR024SL20	2.5P	200	39	-	80	19	15	18	4	3	△
M24 × 1.5	P3	LSHMR0240L20	2.5P	200	39	-	80	19	15	18	4	3	△

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk

MC-SP

Spiral Fluted Taps with Internal Coolant Hole

Specification

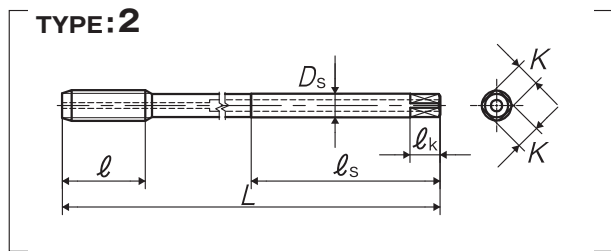
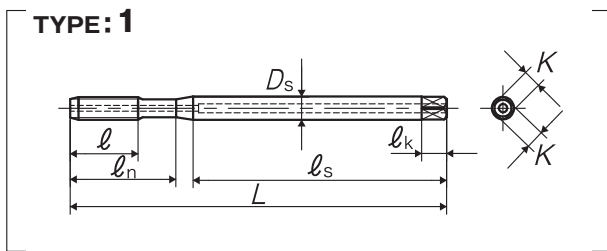


■ Through internal coolant hole (center through type), satisfactory amount of oil is supplied to the exact cutting area. MC-SP spiral fluted tap ensures a long tool life as well as cuts high precision threads with good surface finish.

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	MSHQ6.0ML10	2.5P	100	19	28	40	6	4.5	7	3	1	△
		MSHQ6.0ML15		150									
M8 × 1.25	P2	MSHQ8.0NL10	2.5P	100	22	-	50	6.2	5	8	3	2	△
		MSHQ8.0NL15		150									
M10 × 1.5	P2	MSHQ10.0L10	2.5P	100	24	-	50	7	5.5	8	3	2	△
		MSHQ10.0L15		150									
M10 × 1.25	P2	MSHQ10.0NL10	2.5P	100	24	-	50	7	5.5	8	3	2	△
M12 × 1.75	P2	MSHQ12.0PL10	2.5P	100	29	-	50	8.5	6.5	9	3	2	△
		MSHQ12.0PL15		150									
M12 × 1.5	P2	MSHQ12.0L10	2.5P	100	29	-	50	8.5	6.5	9	3	2	△
M12 × 1.25	P2	MSHQ12.0NL10	2.5P	100	29	-	50	8.5	6.5	9	3	2	△
M14 × 2	P2	MSHQ14.0QL15	2.5P	150	30	-	60	10.5	8	11	3	2	△
M16 × 2	P2	MSHQ16.0QL15	2.5P	150	32	-	60	12.5	10	13	3	2	△
M18 × 2.5	P3	MSHR018RL15	2.5P	150	37	-	70	14	11	14	4	2	△
M20 × 2.5	P3	MSHR020RL15	2.5P	150	37	-	70	15	12	15	4	2	△
M22 × 2.5	P3	MSHR022RL15	2.5P	150	38	-	70	17	13	16	4	2	△
M24 × 3	P3	MSHR024SL15	2.5P	150	45	-	80	19	15	18	4	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

ZET-B

Spiral Fluted Taps for Titanium Alloys
Specification

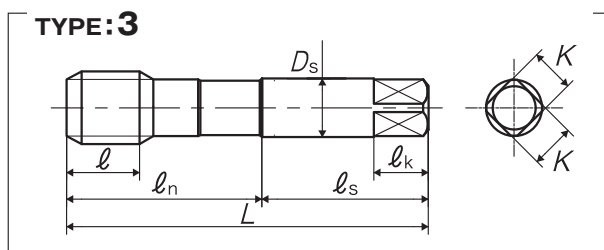
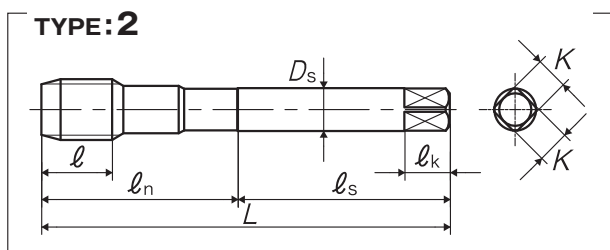
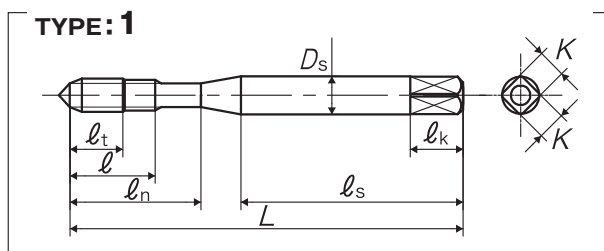


■ Spiral Fluted Tap suitable for titanium alloys which, including titanium as the main composition, are tough, light and heat resistant.

Recommended Tapping Speeds depending on Materials

Titanium alloys
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	P2	ZETBMQ3.0G	3P	46	5	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P3	ZETBMR4.0I	3P	52	7	11	17	29	5	4	7	3	1	○
M5 × 0.8	P3	ZETBMR5.0K	3P	60	9	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P3	ZETBMR6.0M	3P	62	11	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P3	ZETBMR8.0N	3P	70	-	12	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	ZETBMR0100	3P	75	-	13	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	ZETBMR010N	3P	75	-	13	-	38	7	5.5	8	3	2	○
M12 × 1.75	P3	ZETBMR012P	3P	82	-	15	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P3	ZETBMR0120	3P	82	-	15	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P3	ZETBMR012N	3P	82	-	15	-	42	8.5	6.5	9	3	2	△
M14 × 2	P3	ZETBMR014Q	3P	88	-	18	-	45	10.5	8	11	3	2	△
M14 × 1.5	P3	ZETBMR0140	3P	88	-	14	-	45	10.5	8	11	3	2	△
M16 × 2	P3	ZETBMR016Q	3P	95	-	18	-	48	12.5	10	13	4	2	△
M16 × 1.5	P3	ZETBMR0160	3P	95	-	14	-	48	12.5	10	13	4	2	△
M18 × 2.5	P4	ZETBMS018R	3P	100	-	20	-	51	14	11	14	4	2	△
M18 × 1.5	P3	ZETBMR0180	3P	100	-	14	-	51	14	11	14	4	2	△
M20 × 2.5	P4	ZETBMS020R	3P	105	-	20	-	50	15	12	15	4	3	△
M20 × 1.5	P4	ZETBMS0200	3P	105	-	14	-	50	15	12	15	4	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

ZEN-B

Spiral Fluted Taps for Nickel Base Alloys Specification

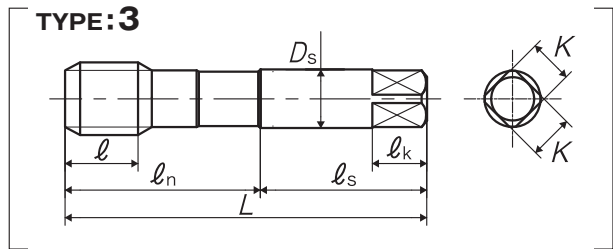
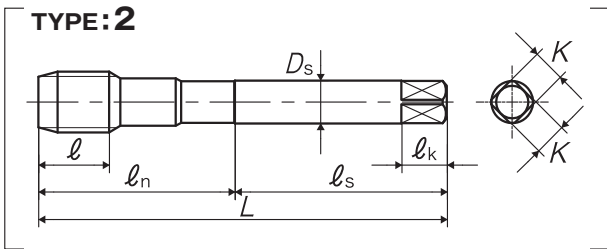
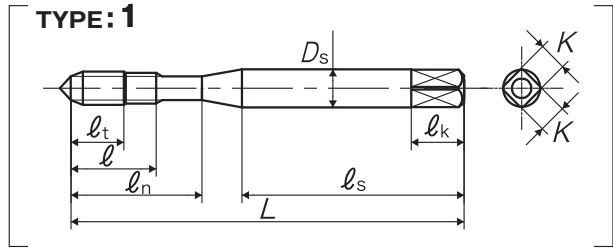


■ ZEN-B is the spiral fluted tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels.

Recommended Tapping Speeds depending on Materials

Low carbon steels 5~15 (m/min)	Medium carbon steels 5~15 (m/min)	Stainless steels 5~15 (m/min)	Nickel base alloys 5~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	P2	ZENBMQ3.0G	3P	46	5	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P3	ZENBMR4.0I	3P	52	7	11	17	29	5	4	7	3	1	○
M5 × 0.8	P3	ZENBMR5.0K	3P	60	9	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P3	ZENBMR6.0M	3P	62	11	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P3	ZENBMR8.0N	3P	70	-	12	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	ZENBMR0100	3P	75	-	13	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	ZENBMR010N	3P	75	-	13	-	38	7	5.5	8	3	2	○
M12 × 1.75	P3	ZENBMR012P	3P	82	-	15	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P3	ZENBMR0120	3P	82	-	15	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P3	ZENBMR012N	3P	82	-	15	-	42	8.5	6.5	9	3	2	△
M14 × 2	P3	ZENBMR014Q	3P	88	-	18	-	45	10.5	8	11	3	2	△
M14 × 1.5	P3	ZENBMR0140	3P	88	-	14	-	45	10.5	8	11	3	2	△
M16 × 2	P3	ZENBMR016Q	3P	95	-	18	-	48	12.5	10	13	3	2	△
M16 × 1.5	P3	ZENBMR0160	3P	95	-	14	-	48	12.5	10	13	3	2	△
M18 × 2.5	P4	ZENBMS018R	3P	100	-	20	-	51	14	11	14	4	2	△
M18 × 1.5	P3	ZENBMR0180	3P	100	-	14	-	51	14	11	14	4	2	△
M20 × 2.5	P4	ZENBMS020R	3P	105	-	20	-	50	15	12	15	4	3	△
M20 × 1.5	P4	ZENBMS0200	3P	105	-	14	-	50	15	12	15	4	3	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

F-SP

Spiral Fluted Taps for High Speed Tapping Specification

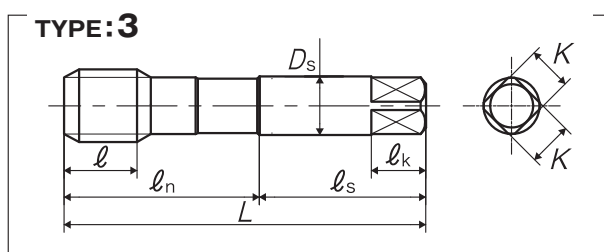
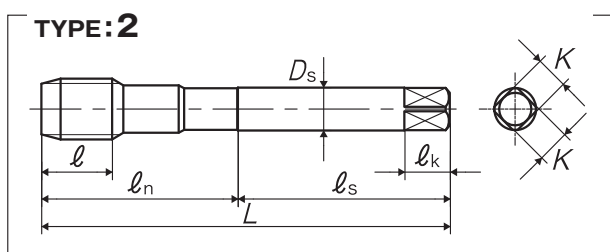
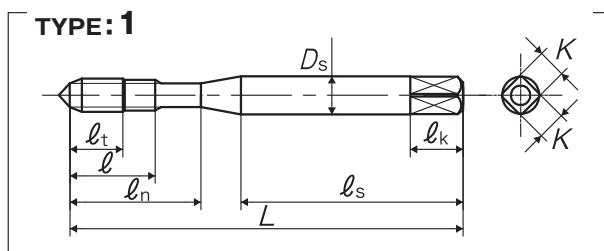


■ Spiral Fluted Tap applicable for such high speed tapping as 15m/min to 25m/min. Under low tapping speed, poor chip shape and poor chip ejection may occur and cause tapping troubles.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels
15~25 (m/min)	15~25 (m/min)

For icon explanation, refer to P.50



Segment : 1C

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M3 × 0.5	P2	VFSHMQ3.0G	2.5P	46	5	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P2	VFSHMQ4.0I	2.5P	52	7	11	17	29	5	4	7	3	1	○
M5 × 0.8	P2	VFSHMQ5.0K	2.5P	60	9	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P2	VFSHMQ6.0M	2.5P	62	11	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P3	VFSHMR8.0N	2.5P	70	-	12	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	VFSHMR0100	2.5P	75	-	13	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	VFSHMR010N	2.5P	75	-	13	-	38	7	5.5	8	3	2	○
M12 × 1.75	P4	VFSHMS012P	2.5P	82	-	15	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P3	VFSHMR0120	2.5P	82	-	15	-	42	8.5	6.5	9	3	2	○
M12 × 1.25	P4	VFSHMS012N	2.5P	82	-	15	-	42	8.5	6.5	9	3	2	○
M16 × 2	P4	-	2.5P	95	-	18	-	48	12.5	10	13	3	2	△
M20 × 2.5	P4	-	2.5P	105	-	20	-	50	15	12	15	3	3	△

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

HFIHS



For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Carbon Steels

Specification

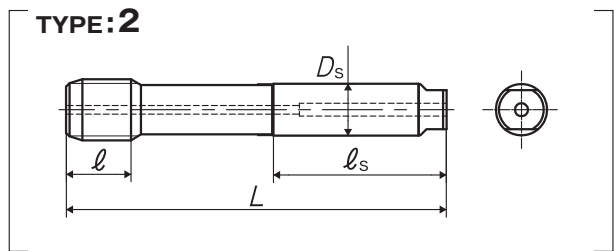
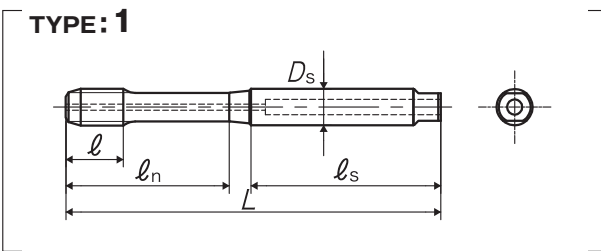


■ Applicable for ultra high speed tapping. Having internal coolant hole(center through type), HFIHS is suitable for carbon steels and alloy steels, blind hole use. Vertical tapping use.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels
20~50 (m/min)	20~50 (m/min)	20~30 (m/min)	20~30 (m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P4	HFIHSS6.0M	2.5P	62	11	27	32	6	-	-	3	1	○
M8 × 1.25	P4	HFIHSS8.0N	2.5P	70	12	-	36	8	-	-	3	2	○
M10 × 1.5	P4	HFIHSS0100	2.5P	75	13	-	37	10	-	-	3	2	○
M10 × 1.25	P4	HFIHSS010N	2.5P	75	12	-	37	10	-	-	3	2	○
M12 × 1.75	P4	HFIHSS012P	2.5P	82	15	-	40	12	-	-	3	2	○
M12 × 1.5	P4	HFIHSS0120	2.5P	82	14	-	40	12	-	-	3	2	○
M12 × 1.25	P4	HFIHSS012N	2.5P	82	14	-	40	12	-	-	3	2	○
M14 × 1.5	P4	HFIHSS0140	2.5P	88	14	-	40	12	-	-	3	2	○
M16 × 1.5	P4	HFIHSS0160	2.5P	95	14	-	43	16	-	-	3	2	○
M18 × 1.5	P4	HFIHSS0180	2.5P	100	14	-	45	16	-	-	4	2	○
M20 × 1.5	P5	HFIHST0200	2.5P	105	14	-	45	16	-	-	4	2	○

Remarks:

- HFIHS do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HFISP



For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Carbon Steels
Specification

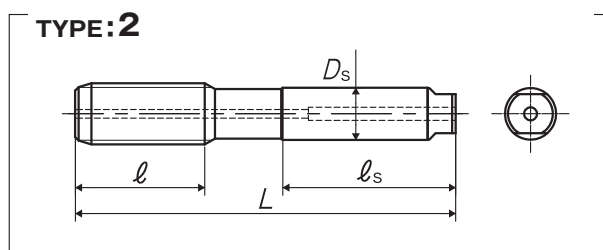
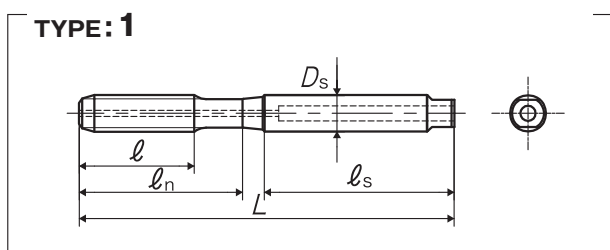


■ Applicable for ultra high speed tapping. Having internal coolant hole (center through hole), HFISP is suitable for carbon steels and alloy steels, blind hole use. Effective in horizontal tapping use.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels
20~50 (m/min)	20~50 (m/min)	20~30 (m/min)	20~30 (m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P4	HFISPS6.0M	2.5P	62	19	27	32	6	-	-	3	1	○
M8 × 1.25	P4	HFISPS8.0N	2.5P	70	22	-	36	8	-	-	3	2	○
M10 × 1.5	P4	HFISPS0100	2.5P	75	24	-	37	10	-	-	3	2	○
M10 × 1.25	P4	HFISPS010N	2.5P	75	24	-	37	10	-	-	3	2	○
M12 × 1.75	P4	HFISPS012P	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.5	P4	HFISPS0120	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.25	P4	HFISPS012N	2.5P	82	29	-	40	12	-	-	3	2	○
M14 × 1.5	P4	HFISPS0140	2.5P	88	30	-	40	12	-	-	3	2	○
M16 × 1.5	P4	HFISPS0160	2.5P	95	32	-	43	16	-	-	3	2	○
M18 × 1.5	P4	HFISPS0180	2.5P	100	37	-	45	16	-	-	4	2	○
M20 × 1.5	P5	HFISPT0200	2.5P	105	37	-	45	16	-	-	4	2	○

Remarks:

- 1.HFISP do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- 2.Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

HFAHS



For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Aluminum

Specification

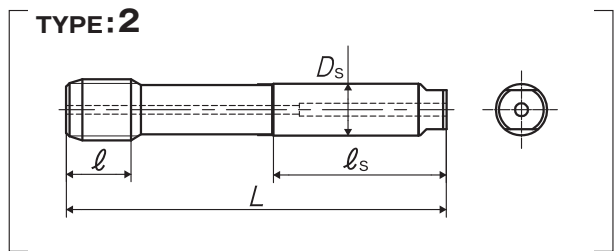
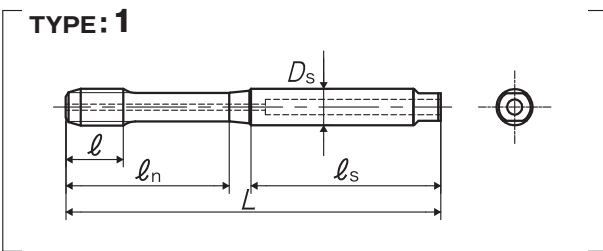


■ Applicable for ultra high speed tapping. Having internal coolant hole(center through hole), HFAHS is suitable for aluminum castings, blind hole use. Effective in vertical tapping use.

Recommended Tapping Speeds depending on Materials

Wrought aluminum 30~100 (m/min)	Aluminum alloy castings 30~100 (m/min)	Magnesium alloy die castings 30~100 (m/min)	Zinc alloy castings 30~100 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P4	HFAHSS6.0M	2.5P	62	11	27	32	6	-	-	3	1	○
M8 × 1.25	P4	HFAHSS8.0N	2.5P	70	12	-	36	8	-	-	3	2	○
M10 × 1.5	P4	HFAHSS0100	2.5P	75	13	-	37	10	-	-	3	2	○
M10 × 1.25	P4	HFAHSS010N	2.5P	75	12	-	37	10	-	-	3	2	○
M12 × 1.75	P4	HFAHSS012P	2.5P	82	15	-	40	12	-	-	3	2	○
M12 × 1.5	P4	HFAHSS0120	2.5P	82	14	-	40	12	-	-	3	2	○
M12 × 1.25	P4	HFAHSS012N	2.5P	82	14	-	40	12	-	-	3	2	○
M14 × 1.5	P4	HFAHSS0140	2.5P	88	14	-	40	12	-	-	3	2	○
M16 × 1.5	P4	HFAHSS0160	2.5P	95	14	-	43	16	-	-	3	2	○
M18 × 1.5	P4	HFAHSS0180	2.5P	100	14	-	45	16	-	-	3	2	○
M20 × 1.5	P5	HFAHST0200	2.5P	105	14	-	45	16	-	-	3	2	○

Remarks:

- HFAHS do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HFASP



For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Aluminum Specification

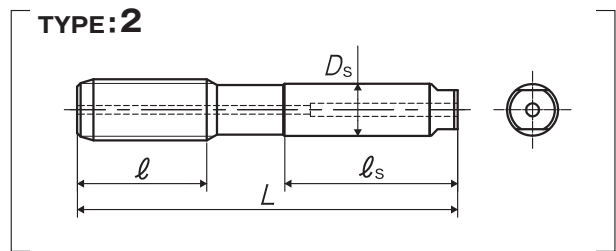
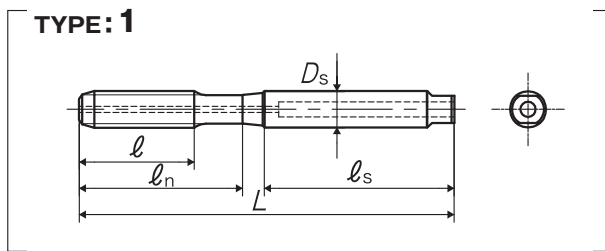


■ Applicable for ultra high speed tapping. Having internal coolant hole(center through type), HFASP is suitable for aluminum castings, blind hole use. Effective in horizontal tapping use.

Recommended Tapping Speeds depending on Materials

Wrought aluminum 30~100 (m/min)	Aluminum alloy castings 30~100 (m/min)	Magnesium alloy die castings 30~100 (m/min)	Zinc alloy castings 30~100 (m/min)
--	---	--	---

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P4	HFASPS6.0M	2.5P	62	19	27	32	6	-	-	3	1	○
M8 × 1.25	P4	HFASPS8.0N	2.5P	70	22	-	36	8	-	-	3	2	○
M10 × 1.5	P4	HFASPS0100	2.5P	75	24	-	37	10	-	-	3	2	○
M10 × 1.25	P4	HFASPS010N	2.5P	75	24	-	37	10	-	-	3	2	○
M12 × 1.75	P4	HFASPS012P	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.5	P4	HFASPS0120	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.25	P4	HFASPS012N	2.5P	82	29	-	40	12	-	-	3	2	○
M14 × 1.5	P4	HFASPS0140	2.5P	88	30	-	40	12	-	-	3	2	○
M16 × 1.5	P4	HFASPS0160	2.5P	95	32	-	43	16	-	-	3	2	○
M18 × 1.5	P4	HFASPS0180	2.5P	100	37	-	45	16	-	-	3	2	○
M20 × 1.5	P5	HFASPT0200	2.5P	105	37	-	45	16	-	-	3	2	○

Remarks:

- 1.HFASP do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- 2.Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

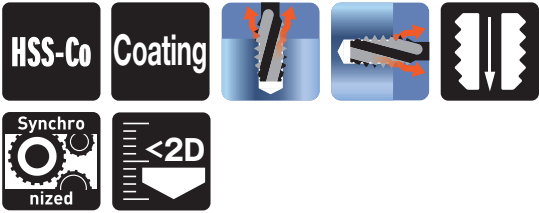
Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	ℓ	ℓn	ℓs	Ds	K	ℓk

HDISP

For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Steels

Specification

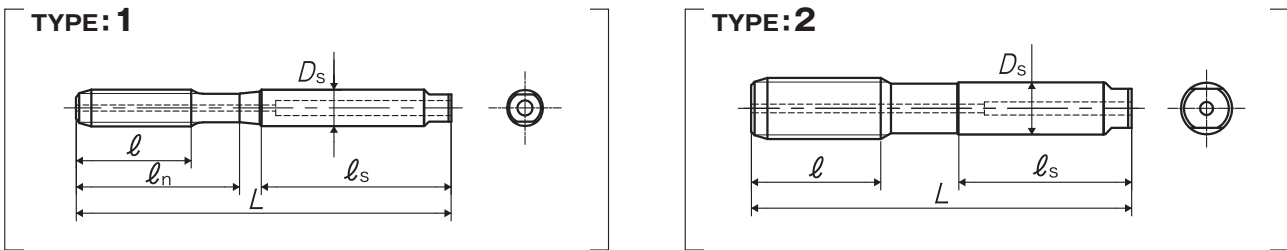


- Applicable for the tapping under mist or dry condition. Having internal coolant hole(center through type), HDISP is suitable for carbon steels and alloy steels, blind hole use. For both horizontal and vertical tapping use.

Recommended Tapping Speeds depending on Materials

High carbon steels	Alloy steels
10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P4	HDISPS6.0M	2.5P	62	19	27	32	6	-	-	3	1	○
M8 × 1.25	P4	HDISPS8.0N	2.5P	70	22	-	36	8	-	-	3	2	○
M10 × 1.5	P4	HDISPS0100	2.5P	75	24	-	37	10	-	-	3	2	○
M10 × 1.25	P4	HDISPS010N	2.5P	75	24	-	37	10	-	-	3	2	○
M12 × 1.75	P4	HDISPS012P	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.5	P4	HDISPS0120	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.25	P4	HDISPS012N	2.5P	82	29	-	40	12	-	-	3	2	○
M14 × 1.5	P4	HDISPS0140	2.5P	88	30	-	40	12	-	-	3	2	○
M16 × 1.5	P4	HDISPS0160	2.5P	95	32	-	43	16	-	-	3	2	○
M18 × 1.5	P4	HDISPS0180	2.5P	100	37	-	45	16	-	-	4	2	○
M20 × 1.5	P5	HDISPT0200	2.5P	105	37	-	45	16	-	-	4	2	○

Remarks:

- 1.HDISP do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- 2.Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Chamfer+ full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

HDASP

For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Aluminum

Specification

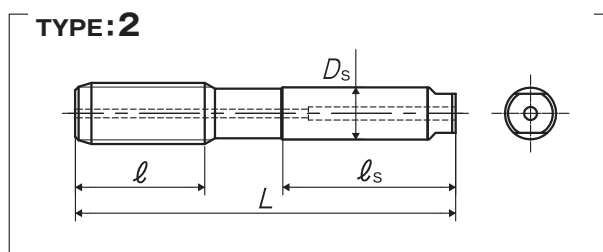
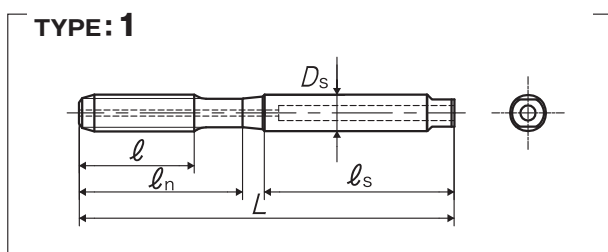


- Applicable for the tapping under mist or dry condition. Having internal coolant hole(center through type), HDASP is suitable for aluminum castings, blind hole use. For both horizontal and vertical tapping use.

Recommended Tapping Speeds depending on Materials

Wrought aluminum 20~50 (m/min)	Aluminum alloy castings 20~50 (m/min)	Magnesium alloy die castings 20~50 (m/min)	Zinc alloy castings 20~50 (m/min)
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For icon explanation, refer to P.50



Segment : 1D

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P4	HDASPS6.0M	2.5P	62	19	27	32	6	-	-	3	1	○
M8 × 1.25	P4	HDASPS8.0N	2.5P	70	22	-	36	8	-	-	3	2	○
M10 × 1.5	P4	HDASPS0100	2.5P	75	24	-	37	10	-	-	3	2	○
M10 × 1.25	P4	HDASPS010N	2.5P	75	24	-	37	10	-	-	3	2	○
M12 × 1.75	P4	HDASPS012P	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.5	P4	HDASPS0120	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.25	P4	HDASPS012N	2.5P	82	29	-	40	12	-	-	3	2	○
M14 × 1.5	P4	HDASPS0140	2.5P	88	30	-	40	12	-	-	3	2	○
M16 × 1.5	P4	HDASPS0160	2.5P	95	32	-	43	16	-	-	3	2	○
M18 × 1.5	P4	HDASPS0180	2.5P	100	37	-	45	16	-	-	3	2	○
M20 × 1.5	P5	HDASPT0200	2.5P	105	37	-	45	16	-	-	3	2	○

Remarks:

- 1.HDASP do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- 2.Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS LINE UP

SPIRAL FLUTED TAP SERIES FOR THROUGH HOLE



XSL	JIS/SL-1
AU+SL	JIS/SL-2
AUXSL	JIS/SL-3
SU+SL	JIS/SL-5
SUXSL	JIS/SL-7
ZET-P	JIS/SL-8
F-SL	JIS/SL-9
HDISL	JIS/SL-10
MHSL	JIS/SL-11

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



XSL

X Series Spiral Fluted Taps, Through Hole Use (with LH spiral flutes)

Specification



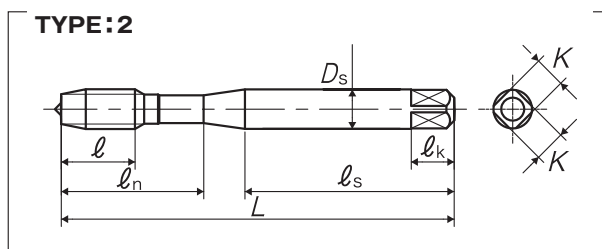
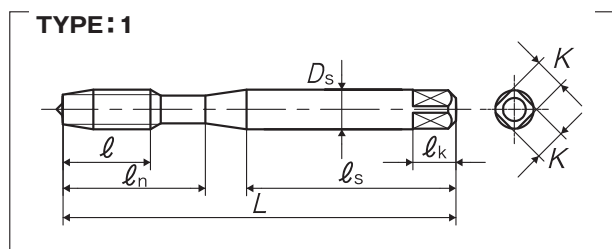
■Applying the blanks of high toughness and high accuracy, XSL, spiral fluted tap for through hole use (with LH spiral flutes), derives the maximum performance from high facility machining centers and high precision toolings.

※Use with dedicated toolings is recommended.

Recommended Tapping Speeds depending on Materials

Medium carbon steels
10~15
(m/min)

For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	SNXQ6.0ML	5P	80	15	30	45	6	4.9	8	3	1	○
M8 × 1.25	P3	SNXR8.0NL	5P	90	19	35	48	8	6.2	9	3	1	○
M8 × 1	P3	SNXR8.0ML	5P	90	15	35	48	8	6.2	9	3	2	○
M10 × 1.5	P3	SNXR0100L	5P	100	23	39	53	10	8	11	3	1	○
M10 × 1.25	P3	SNXR010NL	5P	100	19	39	53	10	8	11	3	2	○
M10 × 1	P3	SNXR010ML	5P	100	15	39	53	10	8	11	3	2	○
M12 × 1.75	P4	SNXS012PL	5P	110	26	45	56	12	9	12	3	1	○
M12 × 1.5	P3	SNXR0120L	5P	110	23	45	56	12	9	12	3	2	○
M12 × 1.25	P3	SNXR012NL	5P	110	19	45	56	12	9	12	3	2	○

Note:

- Please use tapping holders suitable for the shank diameter and square of DIN371 for M6~M10 and those of M16 (DIN376) for M12.
- Overall length, shank diameter and square of metric coarse series are adopted for those of metric fine series.

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

AU+SL



Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)

Specification

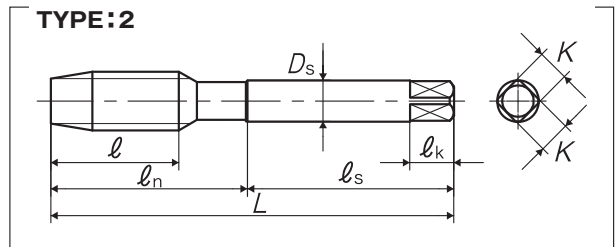
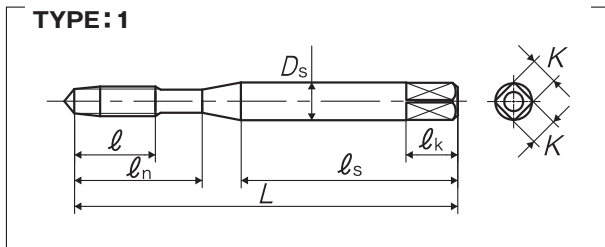


■ Smooth chip ejection in high speed tapping area. Suitable for the wide range of work materials, such as steels, stainless steels, aluminum alloy castings and zinc alloy castings.

Recommended Tapping Speeds depending on Materials

Low carbon steels 10~20 (m/min)	Medium carbon steels 10~20 (m/min)	High carbon steels 10~20 (m/min)	Alloy steels 10~20 (m/min)
Stainless steels 5~10 (m/min)	Aluminum alloy castings 20~30 (m/min)	Zinc alloy castings 20~30 (m/min)	

For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	VSAPQ3.0GL	5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	P3	VSAPR4.0IL	5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	P3	VSAPR5.0KL	5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	P3	VSAPR6.0ML	5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	P3	VSAPR8.0NL	5P	70	19	-	36	6.2	5	8	3	2	◎
M8 × 1	P3	VSAPR8.0ML	5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	VSAPR0100L	5P	75	23	-	38	7	5.5	8	3	2	◎
M10 × 1.25	P3	VSAPR010NL	5P	75	23	-	38	7	5.5	8	3	2	◎
M10 × 1	P3	VSAPR010ML	5P	75	23	-	38	7	5.5	8	3	2	○
M12 × 1.75	P4	VSAPS012PL	5P	82	26	-	42	8.5	6.5	9	3	2	◎
M12 × 1.5	P3	VSAPR0120L	5P	82	26	-	42	8.5	6.5	9	3	2	◎
M12 × 1.25	P3	VSAPR012NL	5P	82	26	-	42	8.5	6.5	9	3	2	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

AUXSL

X Series Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)

Specification



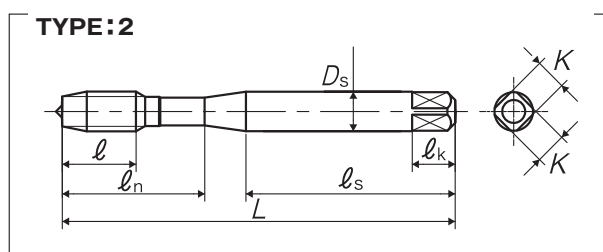
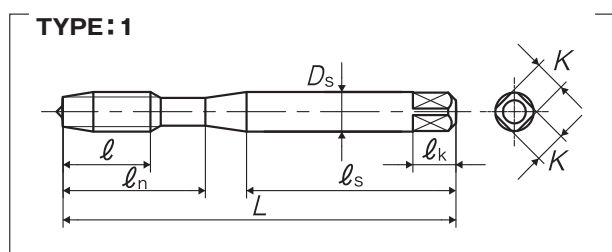
■ Applying the blanks of high toughness and high accuracy, AUXSL, spiral fluted tap, coated, for through hole use (with LH spiral flutes), derives the maximum performance from high facility machining centers and high precision toolings. Optimum coating for the tapping condition.

※ Use with dedicated toolings is recommended.

Recommended Tapping Speeds depending on Materials

Low carbon steels 10~25 (m/min)	Medium carbon steels 10~25 (m/min)	High carbon steels 10~25 (m/min)	Alloy steels 10~25 (m/min)
Stainless steels 10~15 (m/min)	Aluminum alloy castings 20~30 (m/min)	Zinc alloy castings 20~30 (m/min)	

For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	VSAXQ6.0ML	5P	80	15	30	45	6	4.9	8	3	1	○
M8 × 1.25	P3	VSAXR8.0NL	5P	90	19	35	48	8	6.2	9	3	1	○
M8 × 1	P3	VSAXR8.0ML	5P	90	15	35	48	8	6.2	9	3	2	○
M10 × 1.5	P3	VSAXR0100L	5P	100	23	39	53	10	8	11	3	1	○
M10 × 1.25	P3	VSAXR010NL	5P	100	19	39	53	10	8	11	3	2	○
M10 × 1	P3	VSAXR010ML	5P	100	15	39	53	10	8	11	3	2	○
M12 × 1.75	P4	VSAXS012PL	5P	110	26	45	56	12	9	12	3	1	○
M12 × 1.5	P3	VSAXR0120L	5P	110	23	45	56	12	9	12	3	2	○
M12 × 1.25	P3	VSAXR012NL	5P	110	19	45	56	12	9	12	3	2	○

Note:

- Please use tapping holders suitable for the shank diameter and square of DIN371 for M6~M10 and those of M16 (DIN376) for M12.
- Overall length, shank diameter and square of metric coarse series are adopted for those of metric fine series.



SU+SL

Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)

Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels 10~15 (m/min)	Medium carbon steels 10~15 (m/min)	Stainless steels 5~15 (m/min)
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For icon explanation, refer to P.50

Product features

- Suitable for stainless steels tending to work-harden and sticky, as well as chrome steels and molybdenum steels, through hole use.
- Recommended speed : 5 ~ 15m/min
- In tapping SUS304, SU+SL has more than 3 times longer tool life than SU-PO. Even in 2000 tapping holes, the surface of thread finish is good and the shape of threads is clearly stable.
- Adopting left hand spiral flutes, compared with SU-PO, SU+SL improves the chip ejection and realizes longer tool life.

Tapping data

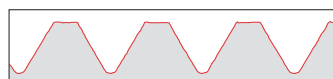
Tapping condition (M5×0.8)

Work material	SUS304(90HRB)
Tapping speed	15m/min
Hole size	φ4.2
Tapping length	12mm, through hole
Machine	Vertical machining center
Tapping fluid	Insoluble oil without chlorine

Comparison of internal threads



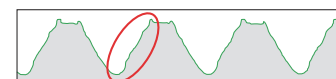
Roughness of thread flank face Ra=1.1 μm



Shape of internal thread



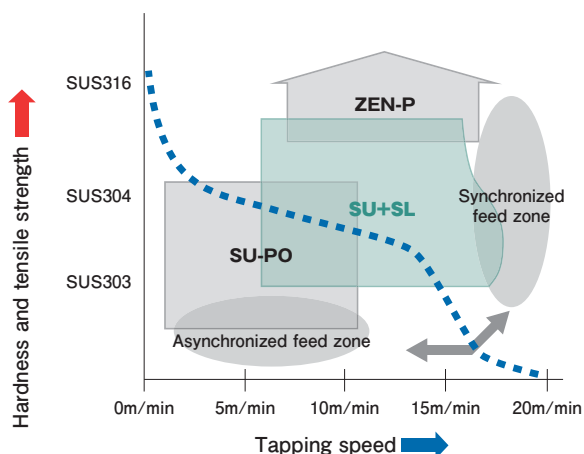
Roughness of thread flank face Ra=2.0 μm



Shape of internal thread

Product System

System table of taps for stainless steel, through hole use



Obtainable from Video site shown in right



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

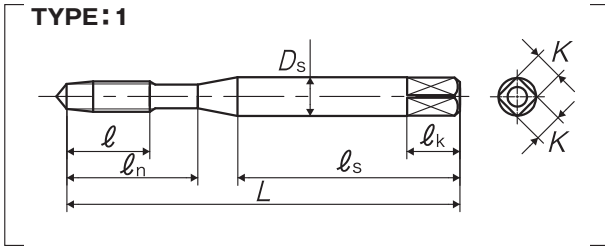
Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	SUPQ3.0GL	5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	P2	SUPQ4.0IL	5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	P3	SUPR5.0KL	5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	P2	SUPQ6.0ML	5P	62	15	26	33	6	4.5	7	3	1	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SUXSL



X Series Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)

Specification



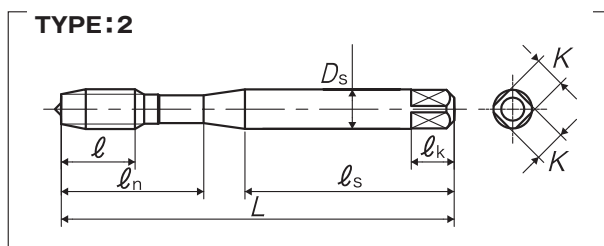
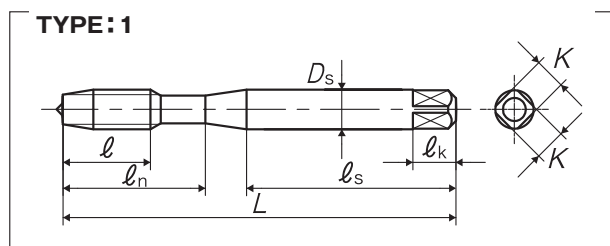
■Applying the blanks of high toughness and high accuracy, SUXSL, spiral fluted tap for stainless steels, through hole use (with LH spiral flutes), derives the maximum performance from high facility machining centers and high precision toolings.

※Use with dedicated toolings is recommended.

Recommended Tapping Speeds depending on Materials

Low carbon steels 10~20 (m/min)	Medium carbon steels 10~20 (m/min)	Stainless steels 10~20 (m/min)
--	---	--

For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	SUXQ6.0ML	5P	80	15	30	45	6	4.9	8	3	1	○
M8 × 1.25	P3	SUXR8.0NL	5P	90	19	35	48	8	6.2	9	3	1	○
M8 × 1	P3	SUXR8.0ML	5P	90	15	35	48	8	6.2	9	3	2	○
M10 × 1.5	P3	SUXR0100L	5P	100	23	39	53	10	8	11	3	1	○
M10 × 1.25	P3	SUXR010NL	5P	100	19	39	53	10	8	11	3	2	○
M10 × 1	P3	SUXR010ML	5P	100	15	39	53	10	8	11	3	2	○
M12 × 1.75	P4	SUXS012PL	5P	110	26	45	56	12	9	12	3	1	○
M12 × 1.5	P4	SUXS0120L	5P	110	23	45	56	12	9	12	3	2	○
M12 × 1.25	P4	SUXS012NL	5P	110	19	45	56	12	9	12	3	2	○

Note:

- Please use tapping holders suitable for the shank diameter and square of DIN371 for M6~M10 and those of M16 (DIN376) for M12.
- Overall length, shank diameter and square of metric coarse series are adopted for those of metric fine series.

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

ZET-P

Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)

Specification



Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

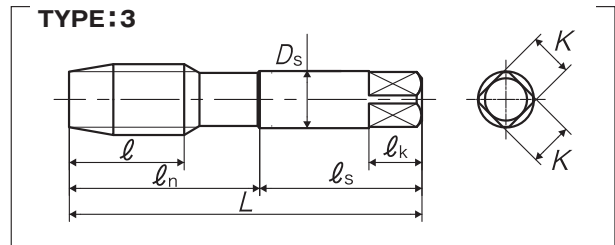
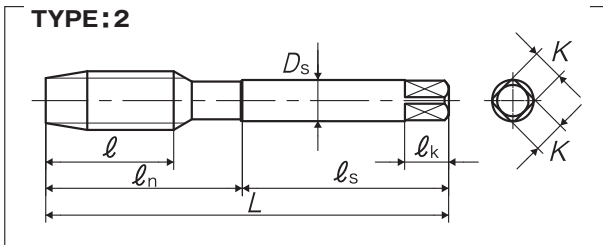
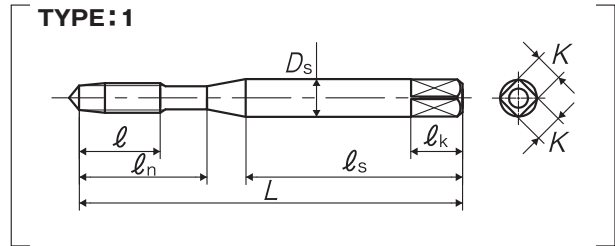


■ ZET-P, spiral fluted tap, through hole use (with LH spiral flutes), is suitable for titanium alloys which, having titanium as the main composition, are tough, light, and heat resistant.

Recommended Tapping Speeds depending on Materials

Titanium alloys
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1T

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P3	ZETPMR3.0G	5P	46	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P3	ZETPMR4.0I	5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P3	ZETPMR5.0K	5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P3	ZETPMR6.0M	5P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P4	ZETPMS8.0N	5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P4	ZETPMS0100	5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P4	ZETPMS010N	5P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P5	ZETPMT012P	5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P4	ZETPMS0120	5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P5	ZETPMT012N	5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P5	ZETPMT014Q	5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P4	ZETPMS0140	5P	88	26	-	45	10.5	8	11	3	2	△
M16 × 2	P5	ZETPMT016Q	5P	95	26	-	48	12.5	10	13	3	2	△
M16 × 1.5	P4	ZETPMS0160	5P	95	26	-	48	12.5	10	13	3	2	△
M18 × 2.5	P5	ZETPMT018R	5P	100	33	-	51	14	11	14	4	2	△
M18 × 1.5	P5	ZETPMT0180	5P	100	33	-	51	14	11	14	4	2	△
M20 × 2.5	P5	ZETPMT020R	5P	105	33	-	50	15	12	15	4	3	△
M20 × 1.5	P5	ZETPMT0200	5P	105	33	-	50	15	12	15	4	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

F-SL



Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)

Specification

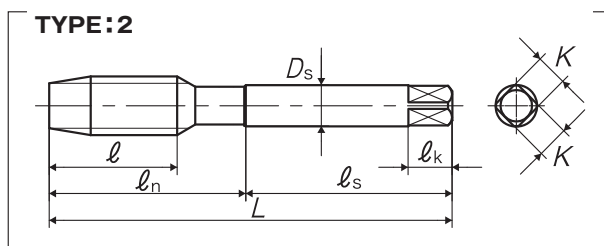
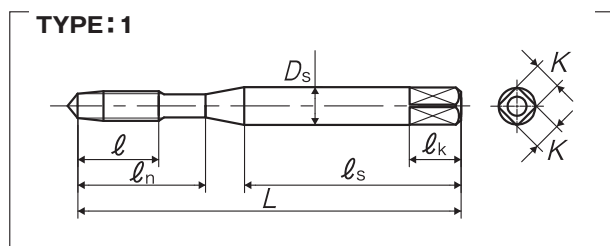


■ F-SL, spiral fluted tap, through hole use (with LH spiral flutes) is applicable for such high speed tapping as 15m/min to 25m/min. Under low tapping speed, chip shape and chip ejection may become poor and cause tapping troubles.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels
15~25 (m/min)	15~25 (m/min)

For icon explanation, refer to P.50



Segment : 1S

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	VFSHMQ3.0GL	5P	46	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P2	VFSHMQ4.0IL	5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P2	VFSHMQ5.0KL	5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P2	VFSHMQ6.0ML	5P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P3	VFSHMR8.0NL	5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P3	VFSHMR0100L	5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	VFSHMR010NL	5P	75	23	-	38	7	5.5	8	3	2	○
M12 × 1.75	P4	VFSHMS012PL	5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P3	VFSHMR0120L	5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.25	P4	VFSHMS012NL	5P	82	26	-	42	8.5	6.5	9	3	2	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HDISL

Spiral Fluted Taps for Steels, for Dry Tapping and for Ultra High Speed Tapping, Through Hole Use (with LH spiral flutes)

Specification

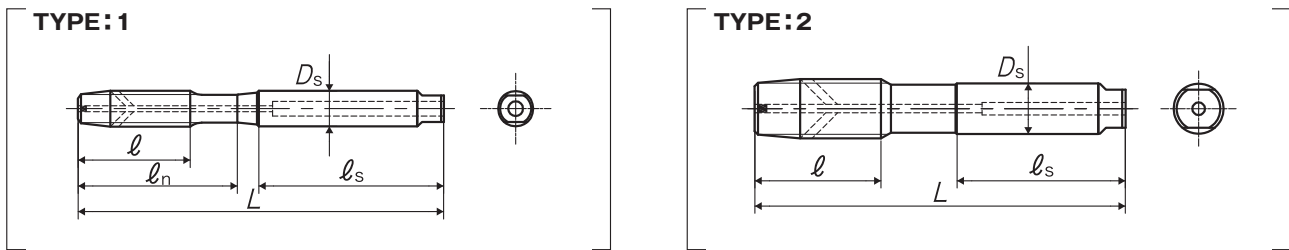


■ Tapping under ultra high speed and under mist and dry, is possible with HDISL. For through hole use (with LH spiral flutes) for both vertical and horizontal use.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels
20~50 (m/min)	20~50 (m/min)

For icon explanation, refer to P.50



Segment : 1T

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P4	HDISLS6.0M	5P	62	19	27	32	6	-	-	3	1	○
M8 × 1.25	P4	HDISLS8.0N	5P	70	22	-	36	8	-	-	3	2	○
M10 × 1.5	P4	HDISLS0100	5P	75	24	-	37	10	-	-	3	2	○
M10 × 1.25	P4	HDISLS010N	5P	75	24	-	37	10	-	-	3	2	○
M12 × 1.75	P4	HDISLS012P	5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.5	P4	HDISLS0120	5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.25	P4	HDISLS012N	5P	82	29	-	40	12	-	-	3	2	○
M14 × 1.5	P4	HDISLS0140	5P	88	30	-	40	12	-	-	3	2	○
M16 × 1.5	P4	HDISLS0160	5P	95	32	-	43	16	-	-	3	2	○
M18 × 1.5	P4	HDISLS0180	5P	100	37	-	45	16	-	-	4	2	○
M20 × 1.5	P5	HDISLT0200	5P	105	37	-	45	16	-	-	4	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Fluted Tap Series

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

MHSL

Spiral Fluted Taps for Carbon Steels of middle hardness, Through Hole Use (with LH spiral flutes)

Specification

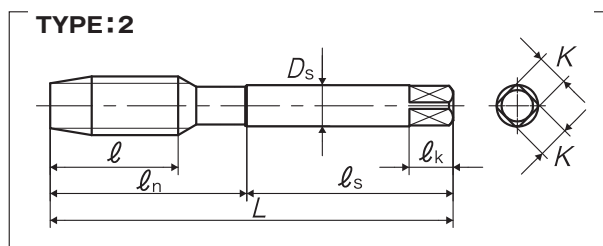
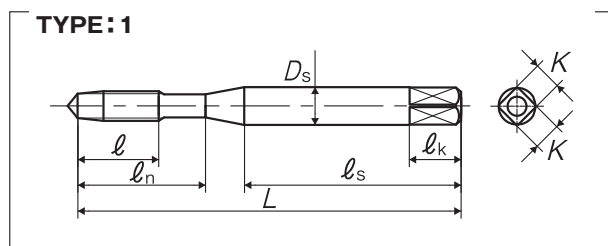


- Smooth chip ejection in middle speed tapping area. Most suitable for forgings of high carbon steels (S48C ~ S55C) and for thermal refined steels (20 ~ 30HRC).

Recommended Tapping Speeds depending on Materials

High carbon steels	Medium carbon steels	Alloy steels
10 ~ 20 (m/min)	10 ~ 20 (m/min)	10 ~ 20 (m/min)

For icon explanation, refer to P.50



Segment : 1T

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P3	MHSLR6.0M5	5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	P4	MHSLS8.0N5	5P	70	19	-	36	6.2	5	8	3	2	◎
M10 × 1.5	P4	MHSLS01005	5P	75	23	-	38	7	5.5	8	3	2	◎
M10 × 1.25	P4	MHSLS010N5	5P	75	23	-	38	7	5.5	8	3	2	◎
M12 × 1.75	P5	MHSLT012P5	5P	82	26	-	42	8.5	6.5	9	4	2	◎
M12 × 1.5	P5	MHSLT01205	5P	82	26	-	42	8.5	6.5	9	4	2	◎
M12 × 1.25	P5	MHSLT012N7	7P	82	26	-	42	8.5	6.5	9	4	2	◎
M14 × 1.5	P5	MHSLT01407	7P	88	26	-	45	10.5	8	11	4	2	◎
M16 × 1.5	P5	MHSLT01607	7P	95	26	-	48	12.5	10	13	4	2	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS LINE UP

SPIRAL POINTED TAP SERIES



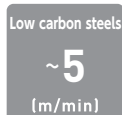
<u>IPO</u>	<u>JIS/PO-1</u>	<u>LS-PO V</u>	<u>JIS/PO-21</u>
<u>PO</u>	<u>JIS/PO-3</u>	<u>SU+PO/SU-PO</u>	<u>JIS/PO-22</u>
<u>+PO</u>	<u>JIS/PO-10</u>	<u>S-PO</u>	<u>JIS/PO-25</u>
<u>PO OX</u>	<u>JIS/PO-11</u>	<u>HC+PO/HC-PO</u>	<u>JIS/PO-27</u>
<u>+PO OX</u>	<u>JIS/PO-13</u>	<u>MC-PO</u>	<u>JIS/PO-29</u>
<u>PO LH</u>	<u>JIS/PO-14</u>	<u>EH-PO</u>	<u>JIS/PO-30</u>
<u>PO V</u>	<u>JIS/PO-16</u>	<u>ZEN-P</u>	<u>JIS/PO-31</u>
<u>LS-PO</u>	<u>JIS/PO-17</u>		

IPO

Spiral Pointed Taps for General Purpose Specification



Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50

Product features

- IPO is the best tap for through holes to be used with lower cutting speed on drilling machines.
- Use for threading of the iron (SPC or SS400) products used in our daily life.
- Surface treated. Oxidization, the most suitable surface treatment for iron products.
- Suitable for internal thread cutting in small quantity, such as tapping of test pieces.
- Having spiral points in the chamfer portion, IPO ejects chips forward in the tapping direction and is for through hole use.



Tapping for through holes

How to use IPO

- Start tapping after boring holes corresponding to the thread size by using drills.
- In the case of tapping with drilling machines, recommended tapping speed is slower than 5m/min.
- During tapping, please use tapping oil.



When hand tapping, always use tap wrench



Machine tapping with drilling machine

Table for bored and drilled hole sizes

unit: mm

Size	Minor diameter of internal thread size		Drill size	Thread engagement
	Minimum tolerance	Maximum tolerance		
M3 × 0.5	2.459	2.599	2.6 (2.5)	74% (92%)
M4 × 0.7	3.242	3.422	3.4 (3.3)	79% (92%)
M5 × 0.8	4.134	4.344	4.3 (4.2)	81% (92%)
M6 × 1	4.917	5.153	5.1 (5.0)	83% (92%)
M8 × 1.25	6.647	6.912	6.9 (6.8)	91% (89%)
M10 × 1.5	8.376	8.676	8.6 (8.5)	86% (92%)

note1) Recommended drill sizes shown in this table are for internal threads of 7H class (3rd class), and are selected from the standard drills available in the market.

note2) Drill sizes shown in brackets in this table are for such case as the drilling has oversize cutting tendency or for internal threads of 6H class (2nd class).

[Related products]

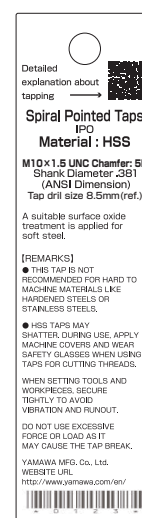
Shank adjuster

- For deep hole tapplings, please use shank adjusters.
- There is only a one touch motion required to detach and attach the I series taps (IHT/ISP/IPO) from or to the shank adjuster.

*For details of shank adjuster, refer to P.545

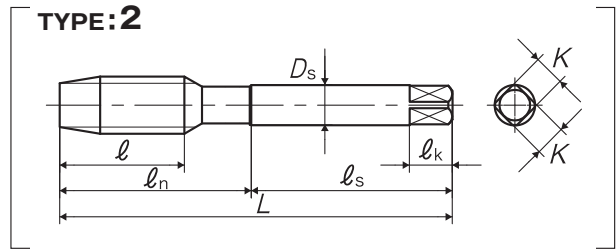
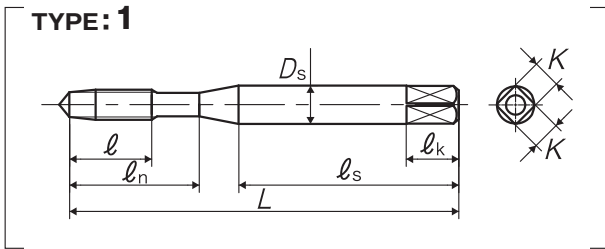


Blister Pack



Obtainable from Video site shown in right

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Segment : 1E

Size	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads												
M3 × 0.5	PI73.0G	5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	PI74.0I	5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	PI75.0K	5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	PI76.0M	5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	PI78.0N	5P	70	19	-	36	6.2	5	8	3	2	◎
M10 × 1.5	PI70100	5P	75	23	-	38	7	5.5	8	3	2	◎

Blister Pack

Size	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads												
M3 × 0.5	PI73.0GBP	5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	PI74.0IBP	5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	PI75.0KBP	5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	PI76.0MBP	5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	PI78.0NBP	5P	70	19	-	36	6.2	5	8	3	2	◎
M10 × 1.5	PI70100BP	5P	75	23	-	38	7	5.5	8	3	2	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PO

Spiral Pointed Taps

Specification



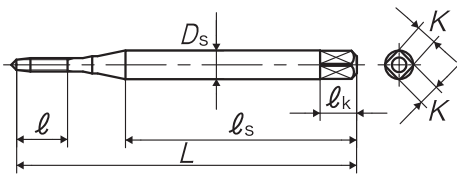
■ Suitable for through hole tapping of middle carbon steels in low and middle speed tapping area.

Recommended Tapping Speeds depending on Materials

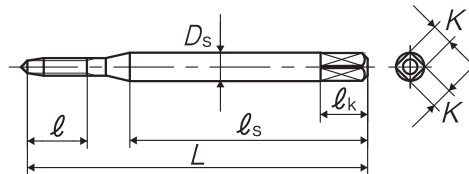
Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

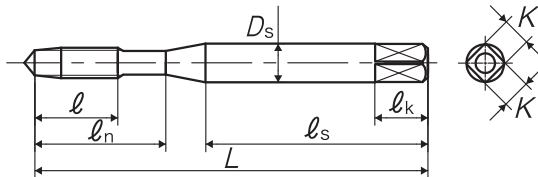
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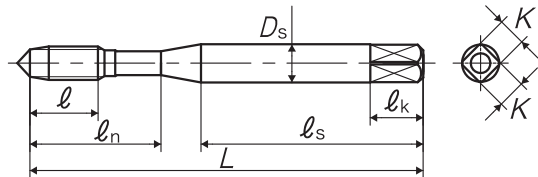
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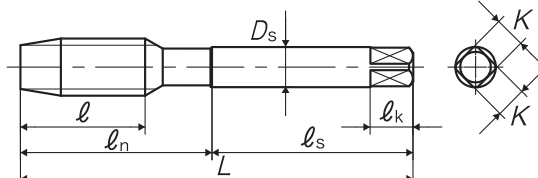
TYPE:3



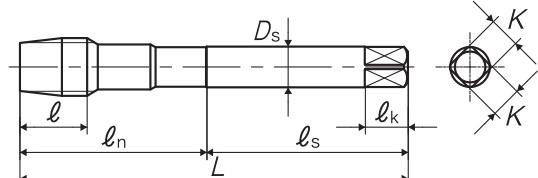
TYPE:4



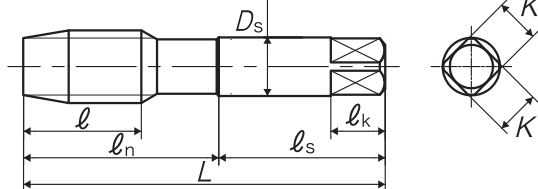
TYPE:5



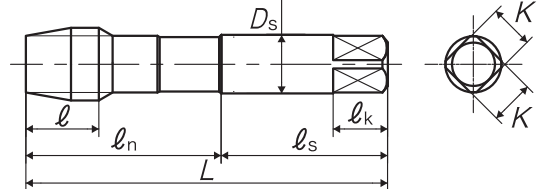
TYPE:6



TYPE:7



TYPE:8



Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

○ Oversize
Segment : 1E

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.2 × 0.25	P1	POP1.2B	5P	36	4.5	-	24	3	2.5	5	2	1	○
M1.4 × 0.3	P1	POP1.4C	5P	36	5.4	-	24	3	2.5	5	2	1	◎
	P2	POQ1.4C											○
M1.6 × 0.35	P3	POR1.4C	5P	36	6.3	-	24	3	2.5	5	2	2	△
	P2	POQ1.6D											◎
M1.7 × 0.35	P3	POR1.6D	5P	36	6.3	-	24	3	2.5	5	2	2	△
	P2	POQ1.7D											◎
M1.8 × 0.35	P3	POR1.7D	5P	36	6.3	-	24	3	2.5	5	2	2	○
	P4	POS1.7D											△
M2 × 0.4	P2	POQ1.8D	5P	42	6.3	-	27	3	2.5	5	2	2	△
M2 × 0.25	P2	POQ2.0E	5P	42	7.2	12	27	3	2.5	5	3	3	◎
	P3	POR2.0E											○
M2.2 × 0.45	P4	POS2.0E	5P	42	7.2	12	27	3	2.5	5	3	3	○
	P1	POP2.0B											5P
M2.2 × 0.25	P2	POQ2.2F	5P	42	8.1	12	27	3	2.5	5	3	3	○
M2.3 × 0.4	P2	POQ2.2B	5P	42	4.5	12	27	3	2.5	5	3	4	△
	P3	POQ2.3E											○
M2.5 × 0.45	P4	POS2.3E	5P	42	7.2	12	27	3	2.5	5	3	3	△
	P2	POQ2.5F											◎
M2.5 × 0.35	P3	POR2.5F	5P	46	8.1	14	29	3	2.5	5	3	3	○
	P4	POS2.5F											△
M2.6 × 0.45	P2	POQ2.5D	5P	46	6.3	14	29	3	2.5	5	3	4	△
M2.6 × 0.35	P2	POQ2.6F	5P	46	8.1	14	29	3	2.5	5	3	3	◎
	P3	POR2.6F											○
M3 × 0.5	P4	POS2.6F	5P	46	6.3	14	29	3	2.5	5	3	4	△
	P2	POQ2.6D											△
3M0.6	P2	POQ3.0G	5P	46	9	14	26	4	3.2	6	3	3	◎
	P3	POR3.0G											○
M3 × 0.35	P4	POS3.0G	5P	46	9	14	26	4	3.2	6	3	3	○
M3.5 × 0.6	P2	POQ3.0H	5P	46	9	14	26	4	3.2	6	3	4	△
	P2	POQ3.0D											△
M3.5 × 0.35	P2	POQ3.5H	5P	52	11	16	29	5	4	7	3	3	○
	P3	POR3.5H											△
M4 × 0.7	P4	POS3.5H	5P	52	6.5	16	29	5	4	7	3	4	△
	P2	POQ3.5D											△
4M0.75	P2	POQ4.0I	5P	52	11	17	29	5	4	7	3	3	◎
	P3	POR4.0I											○
M4 × 0.5	P4	POS4.0I	5P	52	11	17	29	5	4	7	3	3	○
M4.5 × 0.75	P2	POQ4.0J	5P	52	11	17	29	5	4	7	3	3	△
M4.5 × 0.5	P2	POQ4.0G	5P	52	9	17	29	5	4	7	3	4	○
	P2	POQ4.5J											5P
M5 × 0.8	P2	POQ4.5G	5P	60	9	21	33	5.5	4.5	7	3	4	△
	P2	POQ5.0K											◎
5M0.9	P3	POR5.0K	5P	60	13	22	33	5.5	4.5	7	3	3	○
	P4	POS5.0K											○
5M0.9	P2	POQ5.0L	5P	60	13	22	33	5.5	4.5	7	3	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Taps Series

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M5 × 0.5	P2	POQ5.0G	5P	60	9	22	33	5.5	4.5	7	3	4	○
M5.5 × 0.9	P2	POQ5.5L	5P	62	15	26	33	6	4.5	7	3	3	△
M5.5 × 0.5	P2	POQ5.5G	5P	62	9	26	33	6	4.5	7	3	4	△
M6 × 1	P2	POQ6.0M	5P	62	15	26	33	6	4.5	7	3	3	◎
	P3	POR6.0M											○
	P4	POS6.0M											○
M6 × 0.75	P2	POQ6.0J	5P	62	15	26	33	6	4.5	7	3	3	○
	P3	POR6.0J											△
M6 × 0.5	P2	POQ6.0G	5P	62	9	26	33	6	4.5	7	3	4	△
M7 × 1	P2	POQ7.0M	5P	70	19	-	36	6.2	5	8	3	5	○
	P3	POR7.0M											△
M7 × 0.75	P2	POQ7.0J	5P	70	19	-	36	6.2	5	8	3	5	△
	P3	POR7.0J											△
M7 × 0.5	P2	POQ7.0G	5P	70	10	-	36	6.2	5	8	3	6	△
M8 × 1.25	P3	POR8.0N	5P	70	19	-	36	6.2	5	8	3	5	◎
	P4	POS8.0N											○
M8 × 1	P3	POR8.0M	5P	70	19	-	36	6.2	5	8	3	5	○
	P4	POS8.0M											△
M8 × 0.75	P3	POR8.0J	5P	70	19	-	36	6.2	5	8	3	5	○
M8 × 0.5	P2	POQ8.0G	5P	70	10	-	36	6.2	5	8	3	6	△
M9 × 1.25	P3	POR9.0N	5P	75	23	-	38	7	5.5	8	3	5	△
M9 × 1	P3	POR9.0M	5P	75	23	-	38	7	5.5	8	3	5	△
M9 × 0.75	P3	POR9.0J	5P	75	13	-	38	7	5.5	8	3	6	△
M9 × 0.5	P2	POQ9.0G	5P	75	11	-	38	7	5.5	8	3	6	△
M10 × 1.5	P3	POR0100	5P	75	23	-	38	7	5.5	8	3	5	◎
	P4	POS0100											○
M10 × 1.25	P3	POR010N	5P	75	23	-	38	7	5.5	8	3	5	◎
	P4	POS010N											△
M10 × 1	P3	POR010M	5P	75	23	-	38	7	5.5	8	3	5	○
	P4	POS010M											△
M10 × 0.75	P3	POR010J	5P	75	13	-	38	7	5.5	8	3	6	△
M10 × 0.5	P2	POQ010G	5P	75	11	-	38	7	5.5	8	3	6	△
M11 × 1.5	P4	POS0110	5P	82	26	-	42	8.5	6.5	9	3	5	△
M11 × 1.25	P3	POR011N	5P	82	26	-	42	8.5	6.5	9	3	5	△
M11 × 1	P3	POR011M	5P	82	26	-	42	8.5	6.5	9	3	5	△
M11 × 0.75	P3	POR011J	5P	82	14	-	42	8.5	6.5	9	3	6	△
M11 × 0.5	P2	POQ011G	5P	82	12	-	42	8.5	6.5	9	3	6	△
M12 × 1.75	P4	POS012P	5P	82	26	-	42	8.5	6.5	9	3	5	◎
	P5	POT012P											△
M12 × 1.5	P3	POR0120	5P	82	26	-	42	8.5	6.5	9	3	5	○
	P4	POS0120											△
	P5	POT0120											△
M12 × 1.25	P4	POS012N	5P	82	26	-	42	8.5	6.5	9	3	5	○
	P5	POT012N											△
M12 × 1	P3	POR012M	5P	82	26	-	42	8.5	6.5	9	3	5	○
	P4	POS012M											△
M12 × 0.75	P3	POR012J	5P	82	14	-	42	8.5	6.5	9	3	6	△
M12 × 0.5	P2	POQ012G	5P	82	12	-	42	8.5	6.5	9	3	6	△
M13 × 1.5	P3	POR0130	5P	88	26	-	45	10.5	8	11	3	5	△
M13 × 1	P3	POR013M	5P	88	26	-	45	10.5	8	11	3	5	△

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M14 × 2	P4	POS014Q	5P	88	26	-	45	10.5	8	11	3	5	○
	P5	POT014Q											△
M14 × 1.5	P3	POR014O	5P	88	26	-	45	10.5	8	11	3	5	○
	P4	POS014O											△
	P5	POT014O											△
M14 × 1.25	P3	POR014N	5P	88	26	-	45	10.5	8	11	3	5	△
M14 × 1	P3	POR014M	5P	88	26	-	45	10.5	8	11	3	5	○
M14 × 0.75	P3	POR014J	5P	88	15	-	45	10.5	8	11	3	6	△
M15 × 2	P4	POS015Q	5P	95	26	-	48	12.5	10	13	3	5	△
M15 × 1.5	P3	POR015O	5P	95	26	-	48	12.5	10	13	3	5	△
M15 × 1	P3	POR015M	5P	95	26	-	48	12.5	10	13	3	5	△
M16 × 2	P4	POS016Q	5P	95	26	-	48	12.5	10	13	3	5	◎
	P5	POT016Q											△
M16 × 1.5	P3	POR016O	5P	95	26	-	48	12.5	10	13	3	5	○
	P4	POS016O											△
	P5	POT016O											△
M16 × 1	P3	POR016M	5P	95	26	-	48	12.5	10	13	3	5	○
M18 × 2.5	P4	POS018R	5P	100	33	-	51	14	11	14	3	5	○
	P5	POT018R											△
M18 × 2	P4	POS018Q	5P	100	33	-	51	14	11	14	3	5	△
M18 × 1.5	P4	POS018O	5P	100	33	-	51	14	11	14	3	5	○
	P5	POT018O											△
M18 × 1	P3	POR018M	5P	100	18	-	51	14	11	14	3	6	○
M20 × 2.5	P4	POS020R	5P	105	33	-	50	15	12	15	3	7	◎
	P5	POT020R											△
M20 × 2	P4	POS020Q	5P	105	33	-	50	15	12	15	3	7	△
M20 × 1.5	P4	POS020O	5P	105	33	-	50	15	12	15	3	7	○
	P5	POT020O											△
M20 × 1	P3	POR020M	5P	105	18	-	50	15	12	15	3	8	○
M22 × 2.5	P4	POS022R	5P	115	33	-	55	17	13	16	3	7	○
	P5	POT022R											△
M22 × 2	P4	POS022Q	5P	115	33	-	55	17	13	16	3	7	△
M22 × 1.5	P4	POS022O	5P	115	33	-	55	17	13	16	3	7	○
	P5	POT022O											△
M22 × 1	P3	POR022M	5P	115	19	-	55	17	13	16	3	8	△
M24 × 3	P4	POS024S	5P	120	39	-	55	19	15	18	3	7	◎
	P5	POT024S											△
M24 × 2	P4	POS024Q	5P	120	39	-	55	19	15	18	3	7	○
M24 × 1.5	P4	POS024O	5P	120	39	-	55	19	15	18	3	7	○
	P5	POT024O											△
M24 × 1	P3	POR024M	5P	120	19	-	55	19	15	18	3	8	△
M25 × 2	P4	POS025Q	5P	125	39	-	58	19	15	18	3	7	△
M25 × 1.5	P4	POS025O	5P	125	39	-	58	19	15	18	3	7	○
M26 × 2	P4	POS026Q	5P	130	39	-	60	20	15	18	4	7	△
M26 × 1.5	P4	POS026O	5P	130	39	-	60	20	15	18	4	7	○
M26 × 1	P3	POR026M	5P	130	20	-	60	20	15	18	4	8	△
M27 × 3	P4	POS027S	5P	130	39	-	60	20	15	18	4	7	○
M27 × 1.5	P4	POS027O	5P	130	39	-	60	20	15	18	4	7	○
M27 × 1	P3	POR027M	5P	130	20	-	60	20	15	18	4	8	△
M28 × 2	P4	POS028Q	5P	135	46	-	62	23	17	20	4	7	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Taps Series

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M28 × 1.5	P4	POS0280	5P	135	46	-	62	23	17	20	4	7	△
M30 × 3.5	P5	POT030T	5P	135	46	-	62	23	17	20	4	7	○
M30 × 3	P4	POS030S	5P	135	46	-	62	23	17	20	4	7	△
M30 × 2	P4	POS030Q	5P	135	46	-	62	23	17	20	4	7	○
M30 × 1.5	P4	POS0300	5P	135	46	-	62	23	17	20	4	7	○
M30 × 1	P3	POR030M	5P	135	21	-	62	23	17	20	4	8	△
M32 × 3	P4	POMS032S	5P	145	46	-	67	24	19	22	4	7	△
M32 × 2	P4	POMS032Q	5P	145	46	-	67	24	19	22	4	7	△
M32 × 1.5	P4	POMS0320	5P	145	46	-	67	24	19	22	4	7	△
M33 × 3.5	P5	POMT033T	5P	145	46	-	67	25	19	22	4	7	○
M33 × 3	P4	POMS033S	5P	145	46	-	67	25	19	22	4	7	△
M33 × 2	P4	POMS033Q	5P	145	46	-	67	25	19	22	4	7	△
M33 × 1.5	P4	POMS0330	5P	145	46	-	67	25	19	22	4	7	△
M35 × 2	P4	POMS035Q	5P	155	52	-	71	28	21	24	4	7	△
M35 × 1.5	P4	POMS0350	5P	155	26	-	71	28	21	24	4	8	△
M36 × 4	P5	POMT036U	5P	155	52	-	71	28	21	24	4	7	○
M36 × 3	P4	POMS036S	5P	155	52	-	71	28	21	24	4	7	△
M36 × 2	P4	POMS036Q	5P	155	52	-	71	28	21	24	4	7	△
M36 × 1.5	P4	POMS0360	5P	155	26	-	71	28	21	24	4	8	△
M38 × 2	P4	POMS038Q	5P	165	52	-	76	30	23	26	4	7	△
M38 × 1.5	P4	POMS0380	5P	165	26	-	76	30	23	26	4	8	△
M39 × 4	P5	POMT039U	5P	165	52	-	76	30	23	26	4	7	△
M39 × 2	P4	POMS039Q	5P	165	52	-	76	30	23	26	4	7	△
M39 × 1.5	P4	POMS0390	5P	165	26	-	76	30	23	26	4	8	△
M40 × 3	P4	POMS040S	5P	175	59	-	81	32	26	30	4	7	△
M40 × 2	P4	POMS040Q	5P	175	59	-	81	32	26	30	4	7	△
M40 × 1.5	P4	POMS0400	5P	175	27	-	81	32	26	30	4	8	△
M42 × 4.5	P5	POMT042V	5P	175	59	-	81	32	26	30	4	7	△
M42 × 2	P4	POMS042Q	5P	175	59	-	81	32	26	30	4	7	△
M42 × 1.5	P4	POMS0420	5P	175	27	-	81	32	26	30	4	8	△
M45 × 4.5	P5	POMT045V	5P	180	59	-	83	35	26	30	4	7	△
M45 × 2	P4	POMS045Q	5P	180	59	-	83	35	26	30	4	7	△
M45 × 1.5	P4	POMS0450	5P	180	27	-	83	35	26	30	4	8	△
M48 × 5	P5	POMT048W	5P	185	65	-	85	38	29	32	4	7	△
M48 × 3	P4	POMS048S	5P	185	65	-	85	38	29	32	4	7	△
M48 × 1.5	P4	POMS0480	5P	185	28	-	85	38	29	32	4	8	△
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
No.0-80UNF	P1	POPUN0B	5P	36	6.3	-	24	3	2.5	5	2	2	△
No.1-64UNC	P1	POPUN1D	5P	42	7.2	-	27	3	2.5	5	2	2	△
No.1-72UNF	P1	POPUN1C	5P	42	7.2	-	27	3	2.5	5	2	2	△
No.2-56UNC	P1	POPUN2E	5P	42	8.1	12	27	3	2.5	5	3	3	○
No.2-64UNF	P1	POPUN2D	5P	42	8.1	12	27	3	2.5	5	3	3	△
No.3-48UNC	P1	POPUN3F	5P	46	8.1	14	29	3	2.5	5	3	3	△
No.3-56UNF	P1	POPUN3E	5P	46	8.1	14	29	3	2.5	5	3	3	△
No.4-40UNC	P2	POQUN4H	5P	46	9	14	26	4	3.2	6	3	3	○
No.4-48UNF	P1	POPUN4F	5P	46	9	14	26	4	3.2	6	3	3	△
No.5-40UNC	P2	POQUN5H	5P	52	11	16	29	5	4	7	3	3	△
No.5-44UNF	P1	POPUN5G	5P	52	11	16	29	5	4	7	3	3	△
No.6-32UNC	P2	POQUN6J	5P	52	11	16	29	5	4	7	3	3	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools



◎=Standard ○=Semi standard △=Made to order
 For improvement, spec may change without advance notice.

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
No.6-40UNF	P2	POQUN6H	5P	52	11	16	29	5	4	7	3	3	△
No.8-32UNC	P2	POQUN8J	5P	60	13	21	33	5.5	4.5	7	3	3	○
No.8-36UNF	P2	POQUN8I	5P	60	13	21	33	5.5	4.5	7	3	3	△
No.10-24UNC	P2	POQUNAM	5P	60	13	22	33	5.5	4.5	7	3	3	○
No.10-32UNF	P2	POQUNAJ	5P	60	13	22	33	5.5	4.5	7	3	3	○
No.12-24UNC	P2	POQUNCM	5P	62	15	26	33	6	4.5	7	3	3	△
No.12-28UNF	P2	POQUNCK	5P	62	15	26	33	6	4.5	7	3	3	△
1/4-20UNC	P2	POQU04N	5P	62	15	26	33	6	4.5	7	3	3	○
1/4-28UNF	P2	POQU04K	5P	62	15	26	33	6	4.5	7	3	3	○
1/4-32UNEF	P2	POQU04J	5P	62	15	26	33	6	4.5	7	3	3	△
5/16-18UNC	P3	PORU05O	5P	70	19	-	36	6.2	5	8	3	5	○
5/16-24UNF	P2	POQU05M	5P	70	19	-	36	6.2	5	8	3	5	○
5/16-32UNEF	P2	POQU05J	5P	70	19	-	36	6.2	5	8	3	5	△
3/8-16UNC	P3	PORU06P	5P	75	23	-	38	7	5.5	8	3	5	○
3/8-24UNF	P2	POQU06M	5P	75	23	-	38	7	5.5	8	3	5	○
3/8-32UNEF	P2	POQU06J	5P	75	13	-	38	7	5.5	8	3	6	△
7/16-14UNC	P3	PORU07Q	5P	82	26	-	42	8.5	6.5	9	3	5	△
7/16-20UNF	P3	PORU07N	5P	82	26	-	42	8.5	6.5	9	3	5	○
7/16-28UNEF	P2	POQU07K	5P	82	26	-	42	8.5	6.5	9	3	5	△
1/2-13UNC	P3	PORU08R	5P	88	26	-	45	10.5	8	11	3	5	○
1/2-20UNF	P3	PORU08N	5P	88	26	-	45	10.5	8	11	3	5	○
1/2-28UNEF	P2	POQU08K	5P	88	26	-	45	10.5	8	11	3	5	△
9/16-12UNC	P3	PORU09S	5P	95	26	-	48	12.5	10	13	3	5	△
9/16-18UNF	P3	PORU09O	5P	95	26	-	48	12.5	10	13	3	5	○
5/8-11UNC	P3	PORU10U	5P	95	26	-	48	12.5	10	13	3	5	△
5/8-18UNF	P3	PORU10O	5P	95	26	-	48	12.5	10	13	3	5	△
3/4-10UNC	P4	POSU12V	5P	105	33	-	50	15	12	15	3	7	△
3/4-16UNF	P3	PORU12P	5P	105	33	-	50	15	12	15	3	7	○
3/4-20UNEF	P3	PORU12N	5P	105	33	-	50	15	12	15	3	7	△
7/8-9UNC	P4	POSU14W	5P	115	33	-	55	17	13	16	3	7	△
7/8-14UNF	P3	PORU14Q	5P	115	33	-	55	17	13	16	3	7	△
1 -8UNC	P4	POSU16X	5P	125	39	-	58	19	15	18	3	7	△
1 -12UNF	P4	POSU16S	5P	125	39	-	58	19	15	18	3	7	△
1 -14UNS	P4	POSU16Q	5P	125	39	-	58	19	15	18	3	7	△
1 1/8-7UNC	P4	POSU18Y	5P	135	46	-	62	23	17	20	4	7	△
1 1/4-7UNC	P4	POMSU20Y	5P	145	46	-	67	24	19	22	4	7	△
1 3/8-6UNC	P5	POMTU22Z	5P	155	52	-	71	28	21	24	4	7	△
1 1/2-6UNC	P5	POMTU24Z	5P	165	52	-	76	30	23	26	4	7	△
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/8W40	P2	POQW02H	5P	52	11	17	29	5	4	7	3	3	△
5/32W32	P2	POQW2HJ	5P	52	11	17	29	5	4	7	3	3	△
3/16W24	P2	POQW03M	5P	60	13	21	33	5.5	4.5	7	3	3	○
7/32W24	P2	POQW3HM	5P	62	15	26	33	6	4.5	7	3	3	△
1/4W20	P3	PORW04N	5P	62	15	26	33	6	4.5	7	3	3	○
5/16W18	P3	PORW05O	5P	70	19	-	36	6.2	5	8	3	5	○
3/8W16	P3	PORW06P	5P	75	23	-	38	7	5.5	8	3	5	○
7/16W14	P3	PORW07Q	5P	82	26	-	42	8.5	6.5	9	3	5	△
1/2W12	P3	PORW08S	5P	88	26	-	45	10.5	8	11	3	5	○
9/16W12	P3	PORW09S	5P	95	26	-	48	12.5	10	13	3	5	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Taps Series

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
5/8W11	P3	PORW10U	5P	95	26	-	48	12.5	10	13	3	5	○
3/4W10	P4	POSW12V	5P	105	33	-	50	15	12	15	3	7	○
7/8W9	P4	POSW14W	5P	115	33	-	55	17	13	16	3	7	△
1 W8	P4	POSW16X	5P	125	39	-	58	19	15	18	3	7	△
1 1/8W7	P4	POSW18Y	5P	135	46	-	62	23	17	20	4	7	△
1 1/4W7	P4	POMSW20Y	5P	145	46	-	67	24	19	22	4	7	△
1 3/8W6	P5	POMTW22Z	5P	155	52	-	71	28	21	24	4	7	△
1 1/2W6	P5	POMTW24Z	5P	165	52	-	76	30	23	26	4	7	△
For Screw Threads used on Sewing Machines													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
3/32SM56	P1	POPS06E	5P	46	8.1	14	29	3	2.5	5	3	3	△
1/8SM40	P2	POQS08H	5P	52	11	16	29	5	4	7	3	3	△
1/8SM44	P2	POQS08G	5P	52	11	16	29	5	4	7	3	3	△
9/64SM40	P2	POQS09H	5P	52	11	17	29	5	4	7	3	3	△
11/64SM40	P2	POQS11H	5P	60	13	21	33	5.5	4.5	7	3	3	△
3/16SM28	P2	POQS12K	5P	60	13	21	33	5.5	4.5	7	3	3	△
3/16SM32	P2	POQS12J	5P	60	13	21	33	5.5	4.5	7	3	3	△
7/32SM32	P2	POQS14J	5P	62	15	26	33	6	4.5	7	3	3	△
15/64SM28	P2	POQS15K	5P	62	15	26	33	6	4.5	7	3	3	△
1/4SM24	P2	POQS16M	5P	62	15	26	33	6	4.5	7	3	3	△
1/4SM40	P2	POQS16H	5P	62	8.6	26	33	6	4.5	7	3	4	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

+PO

Plus Series Spiral Pointed Taps Specification



Recommended Tapping Speeds depending on Materials

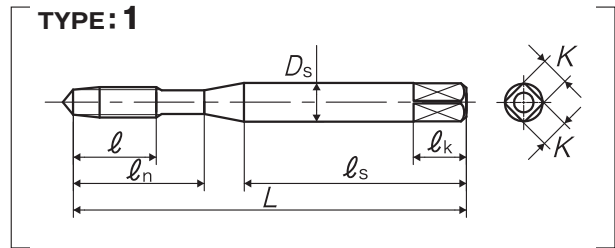
Medium carbon steels
10~15
(m/min)

For icon explanation, refer to P.50

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



■ More suitable than PO for through hole tapping of middle carbon steels in middle speed tapping area.



Segment : 1E

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	PNPQ3.0G	5P	46	9	14	26	4	3.2	6	3	1	◎
M3.5 × 0.6	P2	PNPQ3.5H	5P	52	11	16	29	5	4	7	3	1	○
M4 × 0.7	P2	PNPQ4.0I	5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	P2	PNPQ5.0K	5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	P2	PNPQ6.0M	5P	62	15	26	33	6	4.5	7	3	1	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PO OX

Spiral Pointed Taps, Oxidized

Specification

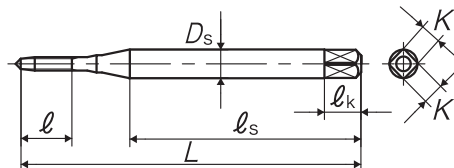


Recommended Tapping Speeds depending on Materials

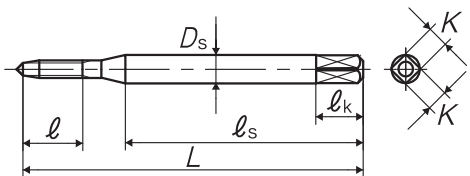
Low carbon steels	Medium carbon steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50

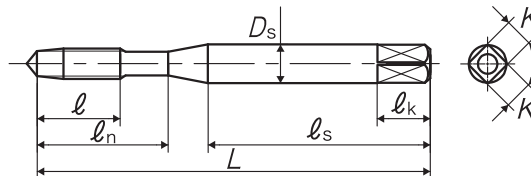
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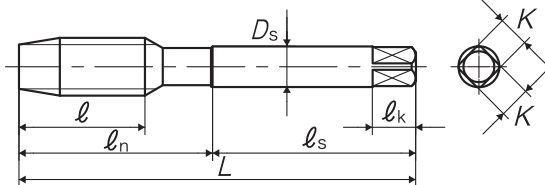
TYPE: 2



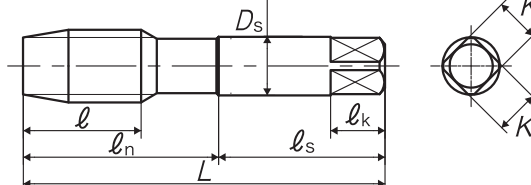
TYPE: 3



TYPE: 4



TYPE: 5



Segment : 1E

Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.4 × 0.3	P1	POP1.4CX	5P	36	5.4	-	24	3	2.5	5	2	1	△
	P2	POQ1.4CX											
M1.6 × 0.35	P2	POQ1.6DX	5P	36	6.3	-	24	3	2.5	5	2	2	△
	P2	POQ1.7DX											
M2 × 0.4	P2	POQ2.0EX	5P	42	7.2	12	27	3	2.5	5	3	3	○
	P3	POR2.0EX											
M2.3 × 0.4	P2	POQ2.3EX	5P	42	7.2	12	27	3	2.5	5	3	3	△
	P2	POQ2.5FX											
M2.5 × 0.45	P2	POQ2.5FX	5P	46	8.1	14	29	3	2.5	5	3	3	△
	P3	POR2.5FX											
M2.6 × 0.45	P2	POQ2.6FX	5P	46	8.1	14	29	3	2.5	5	3	3	△
	P3	POR2.6FX											
M3 × 0.5	P2	POQ3.0GX	5P	46	9	14	26	4	3.2	6	3	3	◎
	P3	POR3.0GX											
	P4	POS3.0GX											

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
3M0.6	P2	POQ3.0HX	5P	46	9	14	26	4	3.2	6	3	3	△
M3.5 × 0.6	P2	POQ3.5HX	5P	52	11	16	29	5	4	7	3	3	△
M4 × 0.7	P2	POQ4.0IX	5P	52	11	17	29	5	4	7	3	3	◎
	P3	POR4.0IX											△
4M0.75	P2	POQ4.0JX	5P	52	11	17	29	5	4	7	3	3	△
M5 × 0.8	P2	POQ5.0KX	5P	60	13	22	33	5.5	4.5	7	3	3	◎
	P3	POR5.0KX											△
5M0.9	P2	POQ5.0LX	5P	60	13	22	33	5.5	4.5	7	3	3	△
M6 × 1	P2	POQ6.0MX	5P	62	15	26	33	6	4.5	7	3	3	◎
	P3	POR6.0MX											△
M8 × 1.25	P3	POR8.0NX	5P	70	19	-	36	6.2	5	8	3	4	◎
	P4	POS8.0NX											△
M8 × 1	P3	POR8.0MX	5P	70	19	-	36	6.2	5	8	3	4	△
M10 × 1.5	P3	POR0100X	5P	75	23	-	38	7	5.5	8	3	4	○
	P4	POS0100X											△
M10 × 1.25	P3	POR010NX	5P	75	23	-	38	7	5.5	8	3	4	△
M10 × 1	P3	POR010MX	5P	75	23	-	38	7	5.5	8	3	4	△
	P4	POS010MX											△
M12 × 1.75	P4	POS012PX	5P	82	26	-	42	8.5	6.5	9	3	4	○
M12 × 1.5	P3	POR0120X	5P	82	26	-	42	8.5	6.5	9	3	4	△
M12 × 1.25	P4	POS012NX	5P	82	26	-	42	8.5	6.5	9	3	4	△
M14 × 2	P4	POS014QX	5P	88	26	-	45	10.5	8	11	3	4	△
M14 × 1.5	P3	POR0140X	5P	88	26	-	45	10.5	8	11	3	4	△
M14 × 1	P3	POR014MX	5P	88	26	-	45	10.5	8	11	3	4	△
M16 × 2	P4	POS016QX	5P	95	26	-	48	12.5	10	13	3	4	○
M16 × 1.5	P3	POR0160X	5P	95	26	-	48	12.5	10	13	3	4	△
M18 × 2.5	P4	POS018RX	5P	100	33	-	51	14	11	14	3	4	△
M18 × 1.5	P4	POS0180X	5P	100	33	-	51	14	11	14	3	4	△
M20 × 2.5	P4	POS020RX	5P	105	33	-	50	15	12	15	3	5	○
M20 × 1.5	P4	POS0200X	5P	105	33	-	50	15	12	15	3	5	△
M22 × 2.5	P4	POS022RX	5P	115	33	-	55	17	13	16	3	5	△
M22 × 1.5	P4	POS0220X	5P	115	33	-	55	17	13	16	3	5	△
M24 × 3	P4	POS024SX	5P	120	39	-	55	19	15	18	3	5	△
M27 × 3	P4	POS027SX	5P	130	39	-	60	20	15	18	4	5	△
M30 × 3.5	P5	POT030TX	5P	135	46	-	62	23	17	20	4	5	△
M33 × 3.5	P5	POMT033TX	5P	145	46	-	67	25	19	22	4	5	△
M36 × 4	P5	POMT036UX	5P	155	52	-	71	28	21	24	4	5	△
M42 × 4.5	P5	POMT042VX	5P	175	59	-	81	32	26	30	4	5	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

+PO OX

Plus Series Spiral Pointed Taps, Oxidized

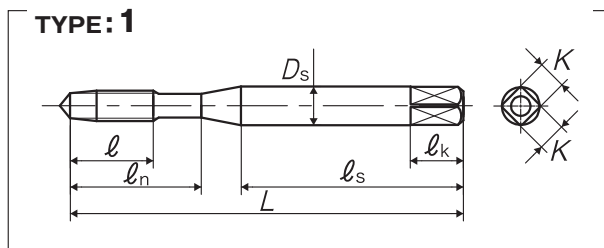
Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels
10~15 (m/min)	10~15 (m/min)

For icon explanation, refer to P.50



 Oversize
Segment : 1E

Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	PNPQ3.0GX	5P	46	9	14	26	4	3.2	6	3	1	◎
	P3	PNPR3.0GX											△
	P4	PNPS3.0GX											△
M3.5 × 0.6	P2	PNPQ3.5HX	5P	52	11	16	29	5	4	7	3	1	△
	P3	PNPR4.0IX											◎
	P4	PNPS4.0IX											△
M4 × 0.7	P2	PNPQ4.0IX	5P	52	11	17	29	5	4	7	3	1	◎
	P3	PNPR4.0IX											△
	P4	PNPS4.0IX											△
M5 × 0.8	P2	PNPQ5.0KX	5P	60	13	22	33	5.5	4.5	7	3	1	◎
	P3	PNPR5.0KX											△
	P4	PNPS5.0KX											△
M6 × 1	P2	PNPQ6.0MX	5P	62	15	26	33	6	4.5	7	3	1	◎
	P3	PNPR6.0MX											△
	P4	PNPS6.0MX											△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

PO LH

Spiral Pointed Taps for Left Hand Threads

Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

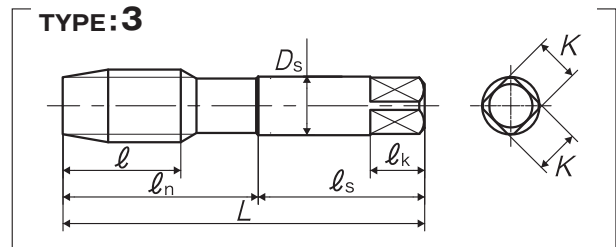
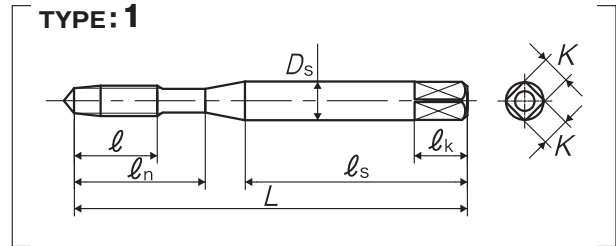
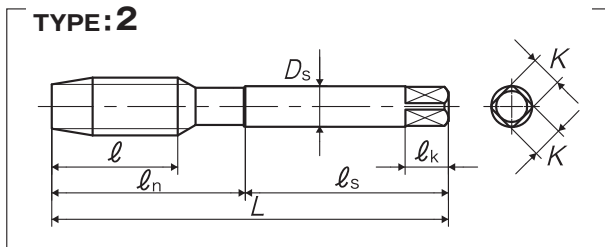
Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



Segment : 1E

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	POQ3.0G--L	5P	46	9	14	26	4	3.2	6	3	1	△
M4 × 0.7	P2	POQ4.0I--L	5P	52	11	17	29	5	4	7	3	1	△
M5 × 0.8	P2	POQ5.0K--L	5P	60	13	22	33	5.5	4.5	7	3	1	△
M6 × 1	P2	POQ6.0M--L	5P	62	15	26	33	6	4.5	7	3	1	△
M8 × 1.25	P3	POR8.0N--L	5P	70	19	-	36	6.2	5	8	3	2	△
M8 × 1	P3	POR8.0M--L	5P	70	19	-	36	6.2	5	8	3	2	△
M10 × 1.5	P3	POR0100--L	5P	75	23	-	38	7	5.5	8	3	2	△
M10 × 1.25	P3	POR010N--L	5P	75	23	-	38	7	5.5	8	3	2	△
M10 × 1	P3	POR010M--L	5P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P4	POS012P--L	5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.5	P3	POR0120--L	5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P4	POS012N--L	5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P4	POS014Q--L	5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P3	POR0140--L	5P	88	26	-	45	10.5	8	11	3	2	△
M16 × 2	P4	POS016Q--L	5P	95	26	-	48	12.5	10	13	3	2	△
M16 × 1.5	P3	POR0160--L	5P	95	26	-	48	12.5	10	13	3	2	△
M18 × 2.5	P4	POS018R--L	5P	100	33	-	51	14	11	14	3	2	△
M18 × 1.5	P4	POS0180--L	5P	100	33	-	51	14	11	14	3	2	△
M20 × 2.5	P4	POS020R--L	5P	105	33	-	50	15	12	15	3	3	△
M20 × 1.5	P4	POS0200--L	5P	105	33	-	50	15	12	15	3	3	△
M22 × 2.5	P4	POS022R--L	5P	115	33	-	55	17	13	16	3	3	△
M22 × 1.5	P4	POS0220--L	5P	115	33	-	55	17	13	16	3	3	△
M24 × 3	P4	POS024S--L	5P	120	39	-	55	19	15	18	3	3	△

Spiral Pointed Taps Series

PO LH Spiral Pointed Taps for Left Hand Threads

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M24 × 1.5	P4	POS0240--L	5P	120	39	-	55	19	15	18	3	3	△
M27 × 3	P4	POS027S--L	5P	130	39	-	60	20	15	18	4	3	△
M27 × 1.5	P4	POS0270--L	5P	130	39	-	60	20	15	18	4	3	△
M30 × 3.5	P5	POT030T--L	5P	135	46	-	62	23	17	20	4	3	△
M30 × 1.5	P4	POS0300--L	5P	135	46	-	62	23	17	20	4	3	△
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4-20UNC	P2	POQU04N--L	5P	62	15	26	33	6	4.5	7	3	1	△
1/4-28UNF	P2	POQU04K--L	5P	62	15	26	33	6	4.5	7	3	1	△
5/16-18UNC	P3	PORU050--L	5P	70	19	-	36	6.2	5	8	3	2	△
5/16-24UNF	P2	POQU05M--L	5P	70	19	-	36	6.2	5	8	3	2	△
3/8-16UNC	P3	PORU06P--L	5P	75	23	-	38	7	5.5	8	3	2	△
3/8-24UNF	P2	POQU06M--L	5P	75	23	-	38	7	5.5	8	3	2	△
7/16-14UNC	P3	PORU07Q--L	5P	82	26	-	42	8.5	6.5	9	3	2	△
7/16-20UNF	P3	PORU07N--L	5P	82	26	-	42	8.5	6.5	9	3	2	△
1/2-13UNC	P3	PORU08R--L	5P	88	26	-	45	10.5	8	11	3	2	△
1/2-20UNF	P3	PORU08N--L	5P	88	26	-	45	10.5	8	11	3	2	△
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4W20	P3	PORW04N--L	5P	62	15	26	33	6	4.5	7	3	1	△
5/16W18	P3	PORW050--L	5P	70	19	-	36	6.2	5	8	3	2	△
3/8W16	P3	PORW06P--L	5P	75	23	-	38	7	5.5	8	3	2	△
1/2W12	P3	PORW08S--L	5P	88	26	-	45	10.5	8	11	3	2	△
5/8W11	P3	PORW10U--L	5P	95	26	-	48	12.5	10	13	3	2	△
3/4W10	P4	POSW12V--L	5P	105	33	-	50	15	12	15	3	3	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO V

Spiral Pointed Taps, Coated Specification

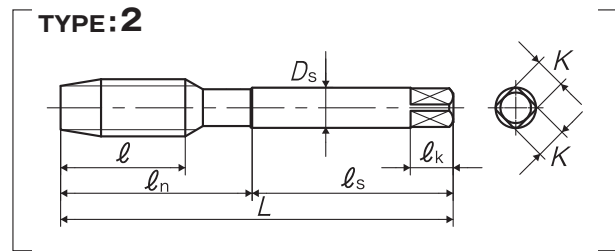
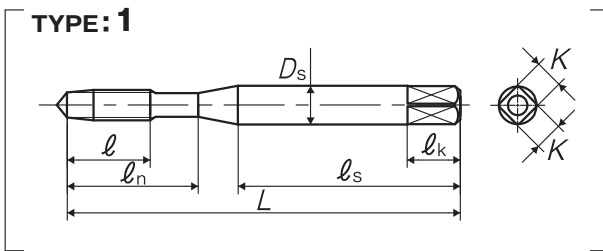


■ Adopting the optimum coating for the tapping condition.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50



Segment : 1E

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	VPOQ3.0G	5P	46	9	14	26	4	3.2	6	3	1	◎
M4 × 0.7	P2	VPOQ4.0I	5P	52	11	17	29	5	4	7	3	1	◎
M5 × 0.8	P2	VPOQ5.0K	5P	60	13	22	33	5.5	4.5	7	3	1	◎
M6 × 1	P2	VPOQ6.0M	5P	62	15	26	33	6	4.5	7	3	1	◎
M8 × 1.25	P3	VPOR8.0N	5P	70	19	-	36	6.2	5	8	3	2	◎
M10 × 1.5	P3	VPOR0100	5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	VPOR010N	5P	75	23	-	38	7	5.5	8	3	2	○
M12 × 1.75	P4	VPOS012P	5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P3	VPOR0120	5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.25	P4	VPOS012N	5P	82	26	-	42	8.5	6.5	9	3	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-PO

Long Shank Spiral Pointed Taps

Specification

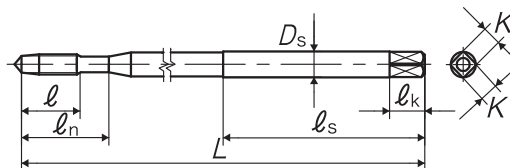


Recommended Tapping Speeds depending on Materials

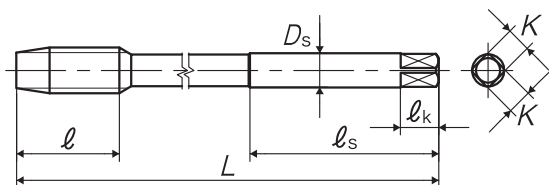
Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

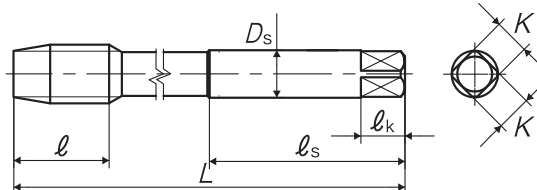
TYPE: 1



TYPE: 2



TYPE: 3



Oversize

Segment : 1E

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P2	POQ2.0EL07	5P	70	7.2	12	55	3	2.5	5	3	1	△
M2.3 × 0.4	P2	POQ2.3EL07	5P	70	7.2	12	55	3	2.5	5	3	1	△
M2.5 × 0.45	P2	POQ2.5FL07	5P	70	8.1	14	53	3	2.5	5	3	1	△
M2.6 × 0.45	P2	POQ2.6FL07	5P	70	8.1	14	53	3	2.5	5	3	1	△
M3 × 0.5	P2	POQ3.0GL07	5P	70	9	14	40	4	3.2	6	3	1	△
		POQ3.0GL10		100									◎
		POQ3.0GL12		120									△
		POQ3.0GL15		150									○
	P3	POR3.0GL10	100	△									
		POR3.0GL15	150	△									
M4 × 0.7	P2	POQ4.0IL07	5P	70	11	17	40	5	4	7	3	1	△
		POQ4.0IL10		100									◎
		POQ4.0IL12		120									△
		POQ4.0IL15		150									○
	P3	POR4.0IL10	100	△									
		POR4.0IL15	150	△									

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-PO Long Shank Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M5 × 0.8	P2	POQ5.0KL10	5P	100	13	22	40	5.5	4.5	7	3	1	◎
		POQ5.0KL12		120									△
		POQ5.0KL15		150									○
	P3	POR5.0KL10		100									△
		POR5.0KL15		150									
		P4		POS5.0KL15									150
M6 × 1	P2	POQ6.0ML10	5P	100	15	26	40	6	4.5	7	3	1	◎
		POQ6.0ML12		120									△
		POQ6.0ML15		150									○
		POQ6.0ML20		200									
	P3	POR6.0ML10		100									△
		POR6.0ML15		150									
P4	POS6.0ML15	150											
M8 × 1.25	P3	POR8.0NL10	5P	100	19	-	50	6.2	5	8	3	2	◎
		POR8.0NL12		120									△
		POR8.0NL15		150									◎
		POR8.0NL20		200									
	P4	POS8.0NL15		150									△
M8 × 1	P3	POR8.0ML10	5P	100	19	-	50	6.2	5	8	3	2	△
		POR8.0ML15		150									
M10 × 1.5	P3	POR0100L10	5P	100	23	-	50	7	5.5	8	3	2	◎
		POR0100L12		120									△
		POR0100L15		150									◎
		POR0100L20		200									
	P4	POS0100L15		150									△
M10 × 1.25	P3	POR010NL10	5P	100	23	-	50	7	5.5	8	3	2	○
		POR010NL15		150									
		POR010NL20		200									△
M10 × 1	P3	POR010ML10	5P	100	23	-	50	7	5.5	8	3	2	△
		POR010ML15		150									
M12 × 1.75	P4	POS012PL10	5P	100	26	-	50	8.5	6.5	9	3	2	△
		POS012PL12		120									
		POS012PL15		150									◎
		POS012PL20		200									○
	P5	POT012PL15		150									△
M12 × 1.5	P3	POR0120L10	5P	100	26	-	50	8.5	6.5	9	3	2	△
		POR0120L15		150									
		POR0120L20		200									
M12 × 1.25	P4	POS012NL10	5P	100	26	-	50	8.5	6.5	9	3	2	△
		POS012NL15		150									
		POS012NL20		200									
M12 × 1	P3	POR012ML10	5P	100	26	-	50	8.5	6.5	9	3	2	△
		POR012ML15		150									
M14 × 2	P4	POS014QL12	5P	120	26	-	60	10.5	8	11	3	2	△
		POS014QL15		150									○
		POS014QL20		200									
	P5	POT014QL15		150									△
M14 × 1.5	P3	POR0140L15	5P	150	26	-	60	10.5	8	11	3	2	△
		POR0140L20		200									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Spiral Pointed Taps Series

LS-PO Long Shank Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M16 × 2	P4	POS016QL15	5P	150	26	-	60	12.5	10	13	3	2	◎
		POS016QL20		200									○
		POS016QL25		250									△
	P5	POT016QL15	150	△									
M16 × 1.5	P3	POR016OL15	5P	150	26	-	60	12.5	10	13	3	2	○
		POR016OL20		200									△
M18 × 2.5	P4	POS018RL15	5P	150	33	-	70	14	11	14	3	2	○
		POS018RL20		200									△
	P5	POT018RL15	150	△									
M18 × 1.5	P4	POS018OL15	5P	150	33	-	70	14	11	14	3	2	△
		POS018OL20		200									△
M20 × 2.5	P4	POS020RL15	5P	150	33	-	70	15	12	15	3	3	◎
		POS020RL20		200									○
		POS020RL25		250									△
	P5	POT020RL15	150	△									
M20 × 1.5	P4	POS020OL15	5P	150	33	-	70	15	12	15	3	3	○
		POS020OL20		200									△
M22 × 2.5	P4	POS022RL15	5P	150	33	-	70	17	13	16	3	3	△
		POS022RL20		200									△
M22 × 1.5	P4	POS022OL15	5P	150	33	-	70	17	13	16	3	3	○
		POS022OL20		200									△
M24 × 3	P4	POS024SL15	5P	150	39	-	80	19	15	18	3	3	○
		POS024SL20		200									△
		POS024SL25		250									△
M24 × 1.5	P4	POS024OL15	5P	150	39	-	80	19	15	18	3	3	△
		POS024OL20		200									△
M27 × 3	P4	POS027SL20	5P	200	39	-	80	20	15	18	4	3	△
M27 × 1.5	P4	POS027OL20	5P	200	39	-	80	20	15	18	4	3	△
		POS027OL25		250									△
M30 × 3.5	P5	POT030TL20	5P	200	46	-	80	23	17	20	4	3	△
		POT030TL25		250									△
		POT030TL30		300									△
M30 × 1.5	P4	POS030OL20	5P	200	46	-	80	23	17	20	4	3	△
		POS030OL25		250									△
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4-20UNC	P2	POQU04NL10	5P	100	15	26	40	6	4.5	7	3	1	△
		POQU04NL15		150									△
1/4-28UNF	P2	POQU04KL10	5P	100	15	26	40	6	4.5	7	3	1	△
		POQU04KL15		150									△
5/16-18UNC	P3	PORU05OL10	5P	100	19	-	50	6.2	5	8	3	2	△
		PORU05OL15		150									△
5/16-24UNF	P2	POQU05ML10	5P	100	19	-	50	6.2	5	8	3	2	△
		POQU05ML15		150									△
3/8-16UNC	P3	PORU06PL10	5P	100	23	-	50	7	5.5	8	3	2	△
		PORU06PL15		150									△
3/8-24UNF	P2	POQU06ML10	5P	100	23	-	50	7	5.5	8	3	2	△
		POQU06ML15		150									△
7/16-14UNC	P3	PORU07QL15	5P	150	26	-	50	8.5	6.5	9	3	2	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-PO Long Shank Spiral Pointed Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
7/16-20UNF	P3	PORU07NL15	5P	150	26	-	50	8.5	6.5	9	3	2	△
1/2-13UNC	P3	PORU08RL15	5P	150	26	-	60	10.5	8	11	3	2	△
		PORU08RL20		200									
1/2-20UNF	P3	PORU08NL15	5P	150	26	-	60	10.5	8	11	3	2	△
		PORU08NL20		200									
5/8-11UNC	P3	PORU10UL15	5P	150	26	-	60	12.5	10	13	3	2	△
		PORU10UL20		200									
5/8-18UNF	P3	PORU100L15	5P	150	26	-	60	12.5	10	13	3	2	△
		PORU100L20		200									
3/4-10UNC	P4	POSU12VL15	5P	150	33	-	70	15	12	15	3	3	△
		POSU12VL20		200									
3/4-16UNF	P3	PORU12PL15	5P	150	33	-	70	15	12	15	3	3	△
		PORU12PL20		200									
7/8-9UNC	P4	POSU14WL20	5P	200	33	-	70	17	13	16	3	3	△
7/8-14UNF	P3	PORU14QL20	5P	200	33	-	70	17	13	16	3	3	△
1-8UNC	P4	POSU16XL20	5P	200	39	-	80	19	15	18	3	3	△
1-12UNF	P4	POSU16SL20	5P	200	39	-	80	19	15	18	3	3	△
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4W20	P3	PORW04NL10	5P	100	15	26	40	6	4.5	7	3	1	△
		PORW04NL15		150									
5/16W18	P3	PORW05OL10	5P	100	19	-	50	6.2	5	8	3	2	△
		PORW05OL15		150									
3/8W16	P3	PORW06PL10	5P	100	23	-	50	7	5.5	8	3	2	△
		PORW06PL15		150									
7/16W14	P3	PORW07QL15	5P	150	26	-	50	8.5	6.5	9	3	2	△
1/2W12	P3	PORW08SL15	5P	150	26	-	60	10.5	8	11	3	2	△
		PORW08SL20		200									
5/8W11	P3	PORW10UL15	5P	150	26	-	60	12.5	10	13	3	2	△
		PORW10UL20		200									
3/4W10	P4	POSW12VL15	5P	150	33	-	70	15	12	15	3	3	△
		POSW12VL20		200									
7/8W9	P4	POSW14WL15	5P	150	33	-	70	17	13	16	3	3	△
		POSW14WL20		200									
1 W8	P4	POSW16XL15	5P	150	39	-	80	19	15	18	3	3	△
		POSW16XL20		200									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-PO V

Long Shank Spiral Pointed Taps, Coated
Specification

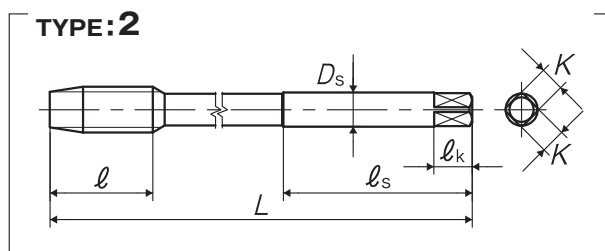
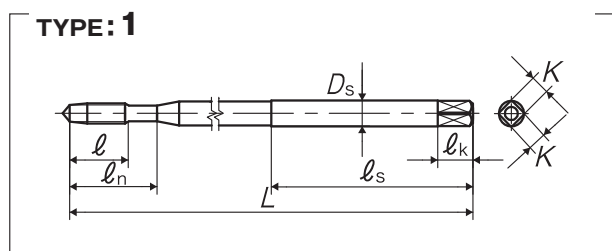


■ Adopting the optimum coating for the tapping condition.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50



Segment : 1E

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P2	VPOQ3.0GL10	5P	100	9	14	40	4	3.2	6	3	1	○
M4 × 0.7	P2	VPOQ4.0IL10	5P	100	11	17	40	5	4	7	3	1	○
M5 × 0.8	P2	VPOQ5.0KL10	5P	100	13	22	40	5.5	4.5	7	3	1	○
M6 × 1	P2	VPOQ6.0ML10	5P	100	15	26	40	6	4.5	7	3	1	○
		VPOQ6.0ML15		150									△
M8 × 1.25	P3	VPOR8.0NL10	5P	100	19	-	50	6.2	5	8	3	2	○
		VPOR8.0NL15		150									○
M10 × 1.5	P3	VPOR0100L15	5P	150	23	-	50	7	5.5	8	3	2	○
M10 × 1.25	P3	VPOR010NL15	5P	150	23	-	50	7	5.5	8	3	2	△
M12 × 1.75	P4	VPOS012PL15	5P	150	26	-	50	8.5	6.5	9	3	2	○
M12 × 1.5	P3	VPOR0120L15	5P	150	26	-	50	8.5	6.5	9	3	2	△
M12 × 1.25	P4	VPOS012NL15	5P	150	26	-	50	8.5	6.5	9	3	2	△



Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

SU+PO/SU-PO

Spiral Pointed Taps for Stainless Steels Specification



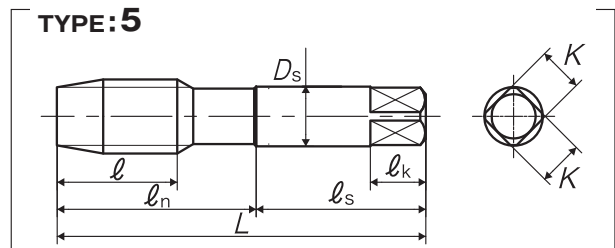
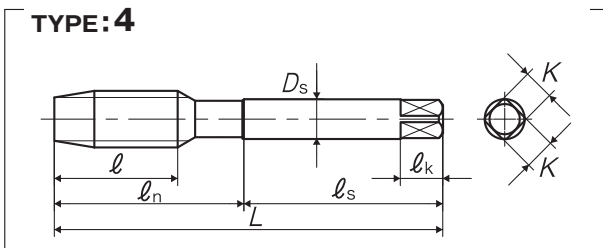
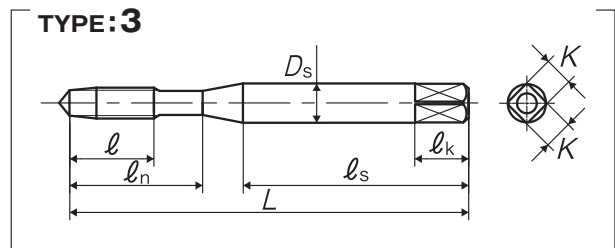
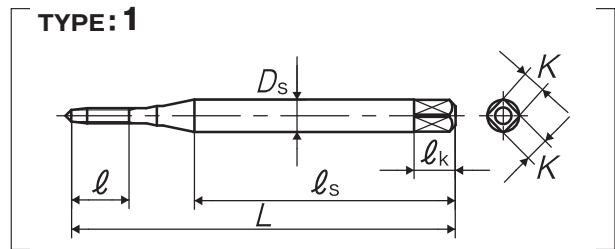
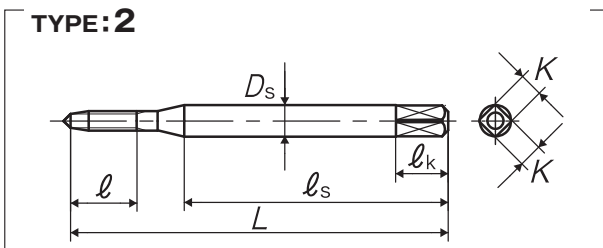
Recommended Tapping Speeds depending on Materials

Low carbon steels ~10 (m/min)	Medium carbon steels ~10 (m/min)	Stainless steels ~10 (m/min)
-------------------------------------	--	------------------------------------

For icon explanation, refer to P.50

■ Suitable for stainless steels tending to work harden and sticky, as well as chrome steels and molybdenum steels. Through hole use.

SU+PO	~M2.6
SU-PO	M3~, all U, all W



■ Oversize
Segment : 1E

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.4 × 0.3	P1	PUPP1.4C	5P	36	5.4	-	24	3	2.5	5	2	1	△
M1.6 × 0.35	P2	PUPQ1.6D	5P	36	6.3	-	24	3	2.5	5	2	2	△
M1.7 × 0.35	P2	PUPQ1.7D	5P	36	6.3	-	24	3	2.5	5	2	2	△
M2 × 0.4	P2	PUPQ2.0E	5P	42	7.2	12	27	3	2.5	5	2	3	◎
	P3	PUPR2.0E											△
M2.3 × 0.4	P2	PUPQ2.3E	5P	42	7.2	12	27	3	2.5	5	2	3	○
	P3	PUPR2.3E											△
M2.5 × 0.45	P2	PUPQ2.5F	5P	46	8.1	14	29	3	2.5	5	2	3	○
	P3	PUPR2.5F											△
M2.6 × 0.45	P2	PUPQ2.6F	5P	46	8.1	14	29	3	2.5	5	2	3	○
	P3	PUPR2.6F											△
M3 × 0.5	P2	PUMQ3.0G	5P	46	9	14	26	4	3.2	6	3	3	◎
	P3	PUMR3.0G											△
	P4	PUMS3.0G											△
3M0.6	P2	PUMQ3.0H	5P	46	9	14	26	4	3.2	6	3	3	△

◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Think threads with
YAMAWA

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
PO-22

Spiral Pointed Taps Series

SU+PO/SU-PO Spiral Pointed Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M3.5 × 0.6	P2	PUMQ3.5H	5P	52	11	16	29	5	4	7	3	3	○
	P2	PUMQ4.0I											◎
M4 × 0.7	P3	PUMR4.0I	5P	52	11	17	29	5	4	7	3	3	△
	P4	PUMS4.0I											△
4M0.75	P2	PUMQ4.0J	5P	52	11	17	29	5	4	7	3	3	△
M5 × 0.8	P2	PUMQ5.0K	5P	60	13	22	33	5.5	4.5	7	3	3	◎
	P3	PUMR5.0K											△
	P4	PUMS5.0K											△
5M0.9	P2	PUMQ5.0L	5P	60	13	22	33	5.5	4.5	7	3	3	△
M6 × 1	P2	PUMQ6.0M	5P	62	15	26	33	6	4.5	7	3	3	◎
	P3	PUMR6.0M											△
	P4	PUMS6.0M											△
M6 × 0.75	P2	PUMQ6.0J	5P	62	15	26	33	6	4.5	7	3	3	△
M7 × 1	P2	PUMQ7.0M	5P	70	19	-	36	6.2	5	8	3	4	△
M8 × 1.25	P3	PUMR8.0N	5P	70	19	-	36	6.2	5	8	3	4	◎
	P4	PUMS8.0N											△
	P5	PUMT8.0N											△
M8 × 1	P3	PUMR8.0M	5P	70	19	-	36	6.2	5	8	3	4	○
M10 × 1.5	P3	PUMR0100	5P	75	23	-	38	7	5.5	8	3	4	◎
	P4	PUMS0100											△
M10 × 1.25	P3	PUMR010N	5P	75	23	-	38	7	5.5	8	3	4	○
	P4	PUMS010N											△
M10 × 1	P3	PUMR010M	5P	75	23	-	38	7	5.5	8	3	4	△
M12 × 1.75	P4	PUMS012P	5P	82	26	-	42	8.5	6.5	9	3	4	◎
	P5	PUMT012P											△
M12 × 1.5	P3	PUMR0120	5P	82	26	-	42	8.5	6.5	9	3	4	△
	P5	PUMT0120											
M12 × 1.25	P4	PUMS012N	5P	82	26	-	42	8.5	6.5	9	3	4	○
	P5	PUMT012N											△
M12 × 1	P3	PUMR012M	5P	82	26	-	42	8.5	6.5	9	3	4	△
M14 × 2	P4	PUMS014Q	5P	88	26	-	45	10.5	8	11	3	4	○
	P5	PUMT014Q											△
M14 × 1.5	P3	PUMR0140	5P	88	26	-	45	10.5	8	11	3	4	○
M16 × 2	P4	PUMS016Q	5P	95	26	-	48	12.5	10	13	3	4	○
	P5	PUMT016Q											△
	P6	PUMU016Q											△
M16 × 1.5	P3	PUMR0160	5P	95	26	-	48	12.5	10	13	3	4	○
M16 × 1	P3	PUMR016M	5P	95	26	-	48	12.5	10	13	3	4	△
M18 × 2.5	P4	PUMS018R	5P	100	33	-	51	14	11	14	3	4	△
	P5	PUMT018R											
	P6	PUMU018R											△
M18 × 1.5	P4	PUMS0180	5P	100	33	-	51	14	11	14	3	4	△
M20 × 2.5	P4	PUMS020R	5P	105	33	-	50	15	12	15	3	5	○
	P5	PUMT020R											△
	P6	PUMU020R											△
M20 × 1.5	P4	PUMS0200	5P	105	33	-	50	15	12	15	3	5	△
M22 × 2.5	P4	PUMS022R	5P	115	33	-	55	17	13	16	3	5	△
	P5	PUMT022R											
	P6	PUMU022R											△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	lt	l	ln	ls	Ds	K	lk

SU+PO/SU-PO Spiral Pointed Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
M22 × 1.5	P4	PUMS0220	5P	115	33	-	55	17	13	16	3	5	△
M24 × 3	P4	PUMS024S	5P	120	39	-	55	19	15	18	3	5	○
	P5	PUMT024S											△
	P6	PUMU024S											
M24 × 1.5	P4	PUMS0240	5P	120	39	-	55	19	15	18	3	5	△
M27 × 3	P4	PUMS027S	5P	130	39	-	60	20	15	18	4	5	△
M27 × 1.5	P4	PUMS0270	5P	130	39	-	60	20	15	18	4	5	△
M30 × 3.5	P5	PUMT030T	5P	135	46	-	62	23	17	20	4	5	△
M30 × 1.5	P4	PUMS0300	5P	135	46	-	62	23	17	20	4	5	△
M33 × 3.5	P5	PUMT033T	5P	145	46	-	67	25	19	22	4	5	△
M36 × 4	P5	PUMT036U	5P	155	52	-	71	28	21	24	4	5	△
M39 × 4	P5	PUMT039U	5P	165	52	-	76	30	23	26	4	5	△
M42 × 4.5	P5	PUMT042V	5P	175	59	-	81	32	26	30	4	5	△
For Unified Threads													
No.2-56UNC	P1	PUMPUN2E	5P	42	8.1	12	27	3	2.5	5	2	3	△
No.4-40UNC	P2	PUMQUN4H	5P	46	9	14	26	4	3.2	6	2	3	△
No.4-48UNF	P1	PUMPUN4F	5P	46	9	14	26	4	3.2	6	2	3	△
No.5-40UNC	P2	PUMQUN5H	5P	52	11	16	29	5	4	7	3	3	△
No.5-44UNF	P1	PUMPUN5G	5P	52	11	16	29	5	4	7	3	3	△
No.6-32UNC	P2	PUMQUN6J	5P	52	11	16	29	5	4	7	3	3	△
No.6-40UNF	P2	PUMQUN6H	5P	52	11	16	29	5	4	7	3	3	△
No.8-32UNC	P2	PUMQUN8J	5P	60	13	21	33	5.5	4.5	7	3	3	△
No.8-36UNF	P2	PUMQUN8I	5P	60	13	21	33	5.5	4.5	7	3	3	△
No.10-24UNC	P2	PUMQUNAM	5P	60	13	22	33	5.5	4.5	7	3	3	△
No.10-32UNF	P2	PUMQUNAJ	5P	60	13	22	33	5.5	4.5	7	3	3	△
1/4-20UNC	P2	PUMQU04N	5P	62	15	26	33	6	4.5	7	3	3	△
1/4-28UNF	P2	PUMQU04K	5P	62	15	26	33	6	4.5	7	3	3	△
5/16-18UNC	P3	PUMRU050	5P	70	19	-	36	6.2	5	8	3	4	△
5/16-24UNF	P2	PUMQU05M	5P	70	19	-	36	6.2	5	8	3	4	△
3/8-16UNC	P3	PUMRU06P	5P	75	23	-	38	7	5.5	8	3	4	△
3/8-24UNF	P2	PUMQU06M	5P	75	23	-	38	7	5.5	8	3	4	△
7/16-14UNC	P3	PUMRU07Q	5P	82	26	-	42	8.5	6.5	9	3	4	△
7/16-20UNF	P3	PUMRU07N	5P	82	26	-	42	8.5	6.5	9	3	4	△
1/2-13UNC	P3	PUMRU08R	5P	88	26	-	45	10.5	8	11	3	4	△
1/2-20UNF	P3	PUMRU08N	5P	88	26	-	45	10.5	8	11	3	4	△
9/16-18UNF	P3	PUMRU090	5P	95	26	-	48	12.5	10	13	3	4	△
5/8-11UNC	P3	PUMRU10U	5P	95	26	-	48	12.5	10	13	3	4	△
For Whitworth Threads													
3/16W24	P2	PUMQW03M	5P	60	13	21	33	5.5	4.5	7	3	3	△
1/4W20	P3	PUMRW04N	5P	62	15	26	33	6	4.5	7	3	3	△
5/16W18	P3	PUMRW050	5P	70	19	-	36	6.2	5	8	3	4	△
3/8W16	P3	PUMRW06P	5P	75	23	-	38	7	5.5	8	3	4	△
7/16W14	P3	PUMRW07Q	5P	82	26	-	42	8.5	6.5	9	3	4	△
1/2W12	P3	PUMRW08S	5P	88	26	-	45	10.5	8	11	3	4	△
5/8W11	P3	PUMRW10U	5P	95	26	-	48	12.5	10	13	3	4	△
3/4W10	P4	PUMSW12V	5P	105	33	-	50	15	12	15	3	5	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

S-PO

Short Spiral Pointed Taps for Deep Hole Use

Specification

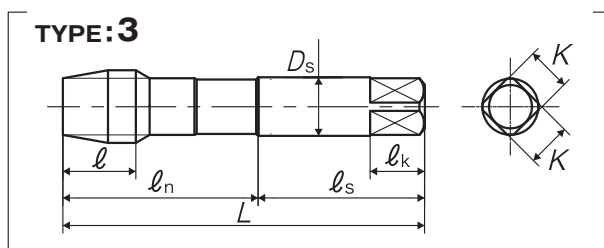
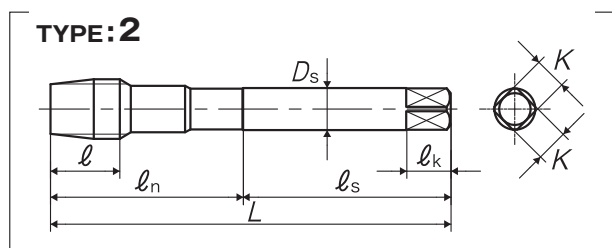
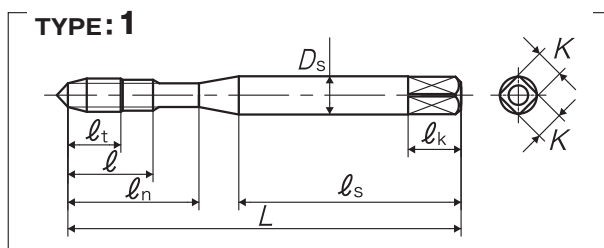


■S-PO is the spiral pointed tap having short thread portion which reduces friction and makes smooth the coolant supply, and is suitable for such deep holes as are deeper than 2.5 times of the nominal dia.

Recommended Tapping Speeds depending on Materials

Medium carbon steels	High carbon steels
5~10 (m/min)	5~10 (m/min)

For icon explanation, refer to P.50



Segment : 1E

Size	Class	Code	Chamfer	L (mm)	lt (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads														
M2 × 0.4	P2	PSMQ2.0E	5P	42	4	7.2	12	27	3	2.5	5	2	1	○
M2.3 × 0.4	P2	PSMQ2.3E	5P	42	4	7.2	12	27	3	2.5	5	2	1	△
M2.5 × 0.45	P2	PSMQ2.5F	5P	46	4	8.1	14	29	3	2.5	5	2	1	△
M2.6 × 0.45	P2	PSMQ2.6F	5P	46	4	8.1	14	29	3	2.5	5	2	1	△
M3 × 0.5	P2	PSMQ3.0G	5P	46	5	9	14	26	4	3.2	6	3	1	○
M3.5 × 0.6	P2	PSMQ3.5H	5P	52	7	11	16	29	5	4	7	3	1	△
M4 × 0.7	P2	PSMQ4.0I	5P	52	7	11	17	29	5	4	7	3	1	○
M5 × 0.8	P2	PSMQ5.0K	5P	60	9	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P2	PSMQ6.0M	5P	62	11	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P3	PSMR8.0N	5P	70	-	12	-	36	6.2	5	8	3	2	○
M8 × 1	P3	PSMR8.0M	5P	70	-	12	-	36	6.2	5	8	3	2	△
M10 × 1.5	P3	PSMR0100	5P	75	-	13	-	38	7	5.5	8	3	2	○
M10 × 1.25	P3	PSMR010N	5P	75	-	13	-	38	7	5.5	8	3	2	△
M10 × 1	P3	PSMR010M	5P	75	-	13	-	38	7	5.5	8	3	2	○
M12 × 1.75	P4	PSMS012P	5P	82	-	15	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P3	PSMR0120	5P	82	-	15	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P4	PSMS012N	5P	82	-	15	-	42	8.5	6.5	9	3	2	○
M12 × 1	P3	PSMR012M	5P	82	-	15	-	42	8.5	6.5	9	3	2	△
M14 × 2	P4	PSMS014Q	5P	88	-	18	-	45	10.5	8	11	3	2	○
M14 × 1.5	P3	PSMR0140	5P	88	-	14	-	45	10.5	8	11	3	2	○
M16 × 2	P4	PSMS016Q	5P	95	-	18	-	48	12.5	10	13	3	2	○
M16 × 1.5	P3	PSMR0160	5P	95	-	14	-	48	12.5	10	13	3	2	△
M18 × 2.5	P4	PSMS018R	5P	100	-	20	-	51	14	11	14	3	2	△

Overall length	Chamfer + full thread	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓt	ℓ	ℓn	ℓs	Ds	K	ℓk

S-PO Short Spiral Pointed Taps for Deep Hole Use

Size	Class	Code	Chamfer	L (mm)	ℓt (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M18 × 1.5	P4	PSMS0180	5P	100	-	14	-	51	14	11	14	3	2	△
M20 × 2.5	P4	PSMS020R	5P	105	-	20	-	50	15	12	15	3	3	○
M20 × 1.5	P4	PSMS0200	5P	105	-	14	-	50	15	12	15	3	3	△
M22 × 2.5	P4	PSMS022R	5P	115	-	20	-	55	17	13	16	3	3	△
M22 × 1.5	P4	PSMS0220	5P	115	-	14	-	55	17	13	16	3	3	△
M24 × 3	P4	PSMS024S	5P	120	-	25	-	55	19	15	18	3	3	△
M24 × 1.5	P4	PSMS0240	5P	120	-	18	-	55	19	15	18	3	3	△
M27 × 3	P4	PSMS027S	5P	130	-	25	-	60	20	15	18	4	3	△
M27 × 1.5	P4	PSMS0270	5P	130	-	20	-	60	20	15	18	4	3	△
M30 × 3.5	P5	PSMT030T	5P	135	-	30	-	62	23	17	20	4	3	△
M30 × 1.5	P4	PSMS0300	5P	135	-	20	-	62	23	17	20	4	3	△
M33 × 3.5	P5	PSMT033T	5P	145	-	30	-	67	25	19	22	4	3	△
M36 × 4	P5	PSMT036U	5P	155	-	40	-	71	28	21	24	4	3	△
M39 × 4	P5	PSMT039U	5P	165	-	40	-	76	30	23	26	4	3	△
M42 × 4.5	P5	PSMT042V	5P	175	-	40	-	81	32	26	30	4	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HC+PO/HC-PO

Spiral Pointed Taps for High Carbon Steels

Specification



~M2.6

■ Spiral pointed tap suitable for high carbon steels such as S55C and the like.

HC+PO	~ M2.6
HC-PO	M3~

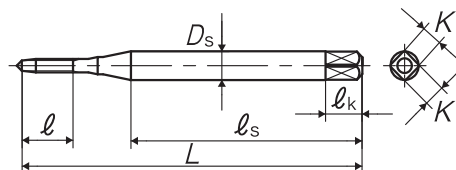
Recommended Tapping Speeds depending on Materials

High carbon steels
5~10
(m/min)

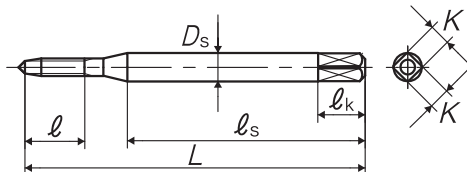
For icon explanation, refer to P.50



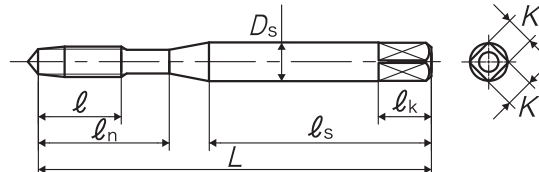
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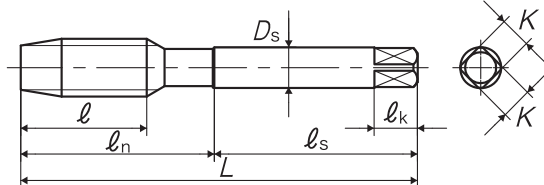
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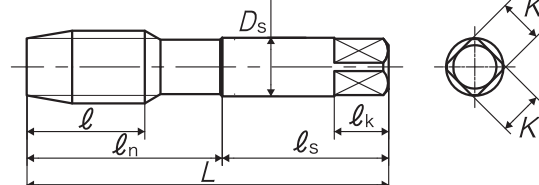
TYPE: 3



TYPE: 4



TYPE: 5



Segment : 1E

Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.4 × 0.3	P1	PCPP1.4C	5P	36	5.4	-	24	3	2.5	5	2	1	○
M1.6 × 0.35	P2	PCPQ1.6D	5P	36	6.3	-	24	3	2.5	5	2	2	○
M1.7 × 0.35	P2	PCPQ1.7D	5P	36	6.3	-	24	3	2.5	5	2	2	○
M2 × 0.4	P2	PCPQ2.0E	5P	42	7.2	12	27	3	2.5	5	2	3	○
M2.5 × 0.45	P2	PCPQ2.5F	5P	46	8.1	14	29	3	2.5	5	2	3	○
M2.6 × 0.45	P2	PCPQ2.6F	5P	46	8.1	14	29	3	2.5	5	2	3	○
M3 × 0.5	P2	PCMQ3.0G	5P	46	9	14	26	4	3.2	6	3	3	○
M4 × 0.7	P2	PCMQ4.0I	5P	52	11	17	29	5	4	7	3	3	○
M5 × 0.8	P2	PCMQ5.0K	5P	60	13	22	33	5.5	4.5	7	3	3	○
M6 × 1	P2	PCMQ6.0M	5P	62	15	26	33	6	4.5	7	3	3	○
M8 × 1.25	P3	PCMR8.0N	5P	70	19	-	36	6.2	5	8	3	4	○
M10 × 1.5	P3	PCMR0100	5P	75	23	-	38	7	5.5	8	3	4	○
M10 × 1.25	P3	PCMR010N	5P	75	23	-	38	7	5.5	8	3	4	△
M12 × 1.75	P4	PCMS012P	5P	82	26	-	42	8.5	6.5	9	3	4	○
M12 × 1.5	P3	PCMR0120	5P	82	26	-	42	8.5	6.5	9	3	4	△

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HC+PO/HC-PO Spiral Pointed Taps for High Carbon Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.25	P4	PCMS012N	5P	82	26	-	42	8.5	6.5	9	3	4	△
M14 × 2	P4	PCMS014Q	5P	88	26	-	45	10.5	8	11	3	4	△
M14 × 1.5	P3	PCMR014O	5P	88	26	-	45	10.5	8	11	3	4	△
M16 × 2	P4	PCMS016Q	5P	95	26	-	48	12.5	10	13	3	4	△
M16 × 1.5	P3	PCMR016O	5P	95	26	-	48	12.5	10	13	3	4	△
M18 × 2.5	P4	PCMS018R	5P	100	33	-	51	14	11	14	3	4	△
M18 × 1.5	P4	PCMS018O	5P	100	33	-	51	14	11	14	3	4	△
M20 × 2.5	P4	PCMS020R	5P	105	33	-	50	15	12	15	3	5	△
M20 × 1.5	P4	PCMS020O	5P	105	33	-	50	15	12	15	3	5	△
M22 × 2.5	P4	PCMS022R	5P	115	33	-	55	17	13	16	3	5	△
M24 × 3	P4	PCMS024S	5P	120	39	-	55	19	15	18	3	5	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

MC-PO

Spiral Pointed Taps with Internal Coolant

Specification

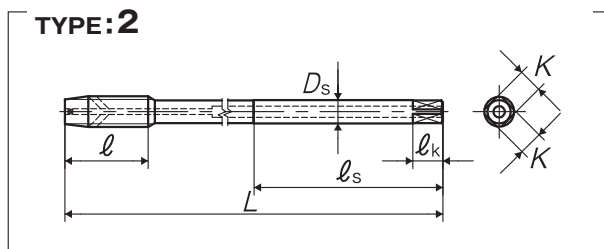
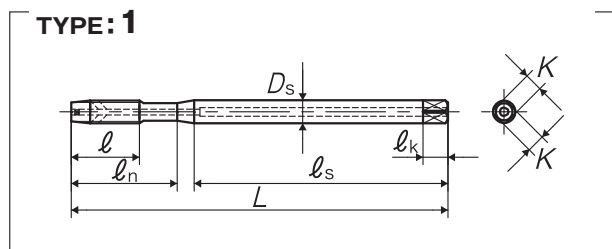


■ Adopting internal coolant (radial through type) realizing sufficient coolant supply to the cutting area, MC-PO spiral pointed tap ensures a long tool life and internal threads with good surface finish.

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1E

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	MPHQ6.0ML10	5P	100	19	28	40	6	4.5	7	3	1	△
		MPHQ6.0ML15		150									
M8 × 1.25	P3	MPHR8.0NL10	5P	100	22	-	50	6.2	5	8	3	2	△
		MPHR8.0NL15		150									
M10 × 1.5	P3	MPHR010OL10	5P	100	24	-	50	7	5.5	8	3	2	△
		MPHR010OL15		150									
M10 × 1.25	P3	MPHR010NL15	5P	150	24	-	50	7	5.5	8	3	2	△
M12 × 1.75	P4	MPHS012PL10	5P	100	29	-	50	8.5	6.5	9	3	2	△
		MPHS012PL15		150									
M12 × 1.5	P3	MPHR012OL10	5P	100	29	-	50	8.5	6.5	9	3	2	△
		MPHR012OL15		150									
M12 × 1.25	P4	MPHS012NL10	5P	100	29	-	50	8.5	6.5	9	3	2	△
		MPHS012NL15		150									
M14 × 2	P4	MPHS014QL15	5P	150	30	-	60	10.5	8	11	3	2	△
M14 × 1.5	P3	MPHR014OL15	5P	150	30	-	60	10.5	8	11	3	2	△
M16 × 2	P4	MPHS016QL15	5P	150	32	-	60	12.5	10	13	3	2	△
M16 × 1.5	P3	MPHR016OL15	5P	150	32	-	60	12.5	10	13	3	2	△
M18 × 2.5	P4	MPHS018RL15	5P	150	37	-	70	14	11	14	3	2	△
M18 × 1.5	P4	MPHS018OL15	5P	150	37	-	70	14	11	14	3	2	△
M20 × 2.5	P4	MPHS020RL15	5P	150	37	-	70	15	12	15	3	2	△
M20 × 1.5	P4	MPHS020OL15	5P	150	37	-	70	15	12	15	3	2	△
M22 × 2.5	P4	MPHS022RL15	5P	150	38	-	70	17	13	16	3	2	△
M24 × 3	P4	MPHS024SL15	5P	150	45	-	80	19	15	18	3	2	△

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

EH-PO

Spiral Pointed Taps for Hard-to-Machine Materials

Specification

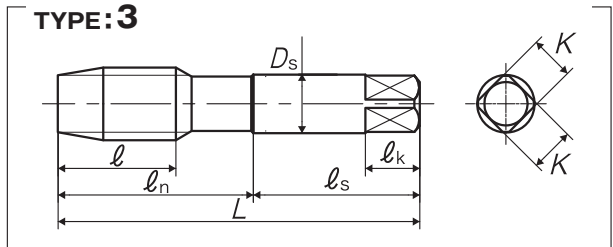
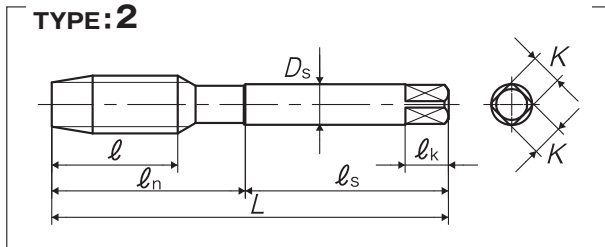
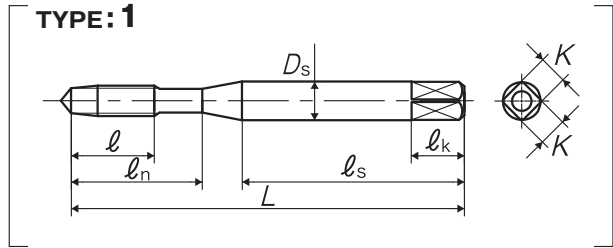


■ Spiral pointed tap suitable for high hardness steels of 35~45HRC such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels. Through hole use.

Recommended Tapping Speeds depending on Materials

Thermal refined steels
~5
(m/min)
35~45HRC

For icon explanation, refer to P.50



Segment : 1F

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P3	EPHMR3.0G	4.5P	46	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P3	EPHMR4.0I	4.5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P3	EPHMR5.0K	4.5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P3	EPHMR6.0M	4.5P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P4	EPHMS8.0N	4.5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P4	EPHMS0100	4.5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P4	EPHMS010N	4.5P	75	23	-	38	7	5.5	8	3	2	○
M12 × 1.75	P4	EPHMS012P	4.5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P4	EPHMS0120	4.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P4	EPHMS012N	4.5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P5	EPHMT014Q	4.5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P4	EPHMS0140	4.5P	88	26	-	45	10.5	8	11	3	2	○
M16 × 2	P5	EPHMT016Q	4.5P	95	26	-	48	12.5	10	13	3	2	○
M16 × 1.5	P4	EPHMS0160	4.5P	95	26	-	48	12.5	10	13	3	2	△
M18 × 2.5	P5	EPHMT018R	4.5P	100	33	-	51	14	11	14	3	2	△
M18 × 1.5	P4	EPHMS0180	4.5P	100	33	-	51	14	11	14	3	2	△
M20 × 2.5	P5	EPHMT020R	4.5P	105	33	-	50	15	12	15	3	3	△
M20 × 1.5	P4	EPHMS0200	4.5P	105	33	-	50	15	12	15	3	3	△
M22 × 2.5	P5	EPHMT022R	4.5P	115	33	-	55	17	13	16	3	3	△
M22 × 1.5	P4	EPHMS0220	4.5P	115	33	-	55	17	13	16	3	3	△
M24 × 3	P5	EPHMT024S	4.5P	120	39	-	55	19	15	18	3	3	△
M24 × 1.5	P4	EPHMS0240	4.5P	120	39	-	55	19	15	18	3	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

ZEN-P

Spiral Pointed Taps for Nickel Base Alloys

Specification



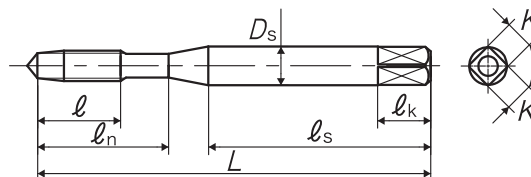
■ ZEN-P is the spiral point tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels.

Recommended Tapping Speeds depending on Materials

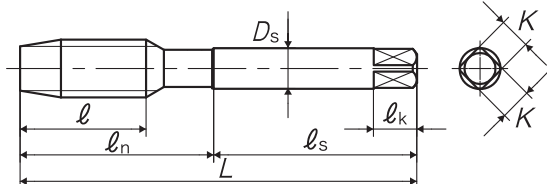
Nickel base alloys
5~10
(m/min)

For icon explanation, refer to P.50

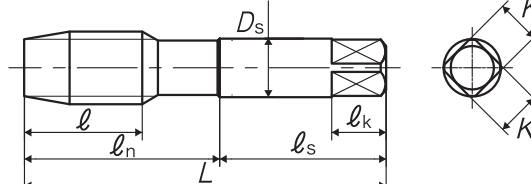
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1F

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P3	ZENPMR3.0G	4.5P	46	9	14	26	4	3.2	6	3	1	○
M4 × 0.7	P3	ZENPMR4.0I	4.5P	52	11	17	29	5	4	7	3	1	○
M5 × 0.8	P3	ZENPMR5.0K	4.5P	60	13	22	33	5.5	4.5	7	3	1	○
M6 × 1	P3	ZENPMR6.0M	4.5P	62	15	26	33	6	4.5	7	3	1	○
M8 × 1.25	P4	ZENPMS8.0N	4.5P	70	19	-	36	6.2	5	8	3	2	○
M10 × 1.5	P4	ZENPMS0100	4.5P	75	23	-	38	7	5.5	8	3	2	○
M10 × 1.25	P4	ZENPMS010N	4.5P	75	23	-	38	7	5.5	8	3	2	△
M12 × 1.75	P5	ZENPMT012P	4.5P	82	26	-	42	8.5	6.5	9	3	2	○
M12 × 1.5	P4	ZENPMS0120	4.5P	82	26	-	42	8.5	6.5	9	3	2	△
M12 × 1.25	P5	ZENPMT012N	4.5P	82	26	-	42	8.5	6.5	9	3	2	△
M14 × 2	P5	ZENPMT014Q	4.5P	88	26	-	45	10.5	8	11	3	2	△
M14 × 1.5	P4	ZENPMS0140	4.5P	88	26	-	45	10.5	8	11	3	2	△
M16 × 2	P5	ZENPMT016Q	4.5P	95	26	-	48	12.5	10	13	3	2	△
M16 × 1.5	P4	ZENPMS0160	4.5P	95	26	-	48	12.5	10	13	3	2	△
M18 × 2.5	P5	ZENPMT018R	4.5P	100	33	-	51	14	11	14	3	2	△
M20 × 2.5	P5	ZENPMT020R	4.5P	105	33	-	50	15	12	15	3	3	△
M20 × 1.5	P5	ZENPMT0200	4.5P	105	33	-	50	15	12	15	3	3	△

JIS LINE UP

HAND TAP SERIES



IHT	JIS/HT-1
HT	JIS/HT-3
HT LH	JIS/HT-18
LS-HT	JIS/HT-21
LS-HT LH	JIS/HT-29
LS-HT V	JIS/HT-31
SU-HT	JIS/HT-33
FC-HT	JIS/HT-36

LA-HT	JIS/HT-38
AXE-HT	JIS/HT-40
MG-HT	JIS/HT-41
AL-HT	JIS/HT-42
PL1	JIS/HT-45
MC-HT	JIS/HT-46
EH-HT	JIS/HT-49



IHT

Hand Taps for General Purpose Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50

Product features

- IHT is for hand tapping and for re-threading, and is used for both through hole and blind hole.
- Use for threading of the iron (SPC or SS400) products used in our daily life.
- Surface treated. Oxidization, the most suitable surface treatment for iron products.
- Suitable for internal thread cutting in small quantity, such as tapping of test pieces.
- The 5 thread chamfer is recommended for through holes and 2 thread chamfer is recommended for blind holes.



Through hole = 5 thread type



Blind hole = 2 thread type



How to use IHT

- Start tapping after boring holes corresponding to the thread size by using drills (note: For drill sizes, refer to drill sizes shown in the bored hole size table.)
- On Hand Tapping, operate tapping in an upright position parallel to bored holes by using tap wrenches.
- During tapping, please use tapping oil.



When hand tapping, always use tap wrench



Machine tapping with drilling machine

Table for bored and drilled hole sizes

unit: mm

Size	Minor diameter of internal thread size			Drill size	Thread engagement
	Minimum tolerance	Maximum tolerance			
		6H (2nd class)	7H (3rd class)		
M3 × 0.5	2.459	2.599	2.639	2.6 (2.5)	74% (92%)
M4 × 0.7	3.242	3.422	3.466	3.4 (3.3)	79% (92%)
M5 × 0.8	4.134	4.344	4.384	4.3 (4.2)	81% (92%)
M6 × 1	4.917	5.153	5.217	5.1 (5.0)	83% (92%)
M8 × 1.25	6.647	6.912	6.982	6.9 (6.8)	91% (89%)
M10 × 1.5	8.376	8.676	8.751	8.6 (8.5)	86% (92%)

note1) Recommended drill sizes shown in this table are for internal threads of 7H class (3rd class), and are selected from the standard drills available in the market.

note2) Drill sizes shown in brackets in this table are for such case as the drilling has oversize cutting tendency or for internal threads of 6H class (2nd class).

[Related products]

Shank adjuster

- For deep hole tappings, please use shank adjusters.
- There is only a one touch motion required to detach and attach the I series taps (IHT/ISP/IPO) from or to the shank adjuster.

*For details of shank adjuster, refer to P.545



Obtainable from Video site shown in right

Blister Pack



Detailed explanation about tapping

Straight Fluted Taps
Material: HSS
M10x1.5 UNC Chamfer: SP
(ANSI Dimension)
Tap drill size: 8.5mm(ref.)

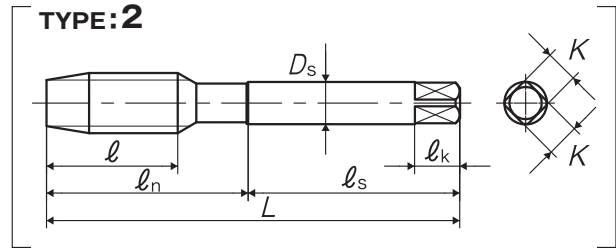
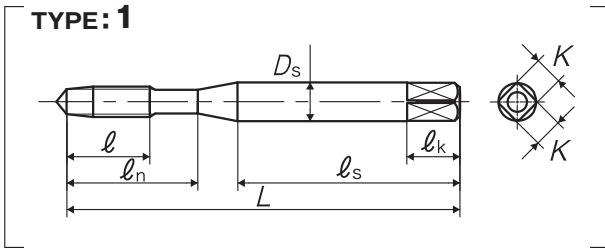
A suitable surface oxide treatment is applied for soft steel.

[REMARKS]
● THIS TAP IS NOT RECOMMENDED FOR HARD TO MACHINE MATERIALS LIKE HARDENED STEELS OR STAINLESS STEELS.
● HSS TAPS MAY SHATTER DURING USE. APPLY MACHINE COVERS AND WEAR SAFETY GLASSES WHEN USING TAPS FOR CUTTING THREADS.
WHEN SETTING TOOLS AND WORKPIECES, SECURE TIGHTLY TO AVOID VIBRATION AND RINDOUT.
DO NOT USE EXCESSIVE FORCE OR LOAD AS IT MAY CAUSE THE TAP BREAK.
YAMAWA MFG. Co., Ltd.
WEBSITE URL:
<http://www.yamawa.com/en/>



Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Segment : 1A

Size	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads												
M3 × 0.5	HI73.0G5	5P	46	9	14	26	4	3.2	6	3	1	◎
	HI73.0G2	2P										
M4 × 0.7	HI74.0I5	5P	52	11	17	29	5	4	7	3	1	◎
	HI74.0I2	2P										
M5 × 0.8	HI75.0K5	5P	60	13	22	33	5.5	4.5	7	3	1	◎
	HI75.0K2	2P										
M6 × 1	HI76.0M5	5P	62	15	26	33	6	4.5	7	3	1	◎
	HI76.0M2	2P										
M8 × 1.25	HI78.0N5	5P	70	19	-	36	6.2	5	8	3	2	◎
	HI78.0N2	2P										
M10 × 1.5	HI701005	5P	75	23	-	38	7	5.5	8	3	2	◎
	HI701002	2P										

Blister Pack

Size	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads												
M3 × 0.5	HI73.0G5BP	5P	46	9	14	26	4	3.2	6	3	1	◎
	HI73.0G2BP	2P										
M4 × 0.7	HI74.0I5BP	5P	52	11	17	29	5	4	7	3	1	◎
	HI74.0I2BP	2P										
M5 × 0.8	HI75.0K5BP	5P	60	13	22	33	5.5	4.5	7	3	1	◎
	HI75.0K2BP	2P										
M6 × 1	HI76.0M5BP	5P	62	15	26	33	6	4.5	7	3	1	◎
	HI76.0M2BP	2P										
M8 × 1.25	HI78.0N5BP	5P	70	19	-	36	6.2	5	8	3	2	◎
	HI78.0N2BP	2P										
M10 × 1.5	HI701005BP	5P	75	23	-	38	7	5.5	8	3	2	◎
	HI701002BP	2P										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HT

Hand Taps Specification

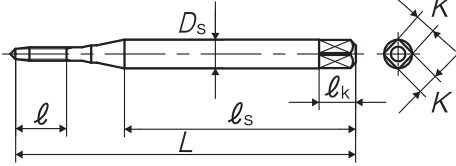


Recommended Tapping Speeds depending on Materials

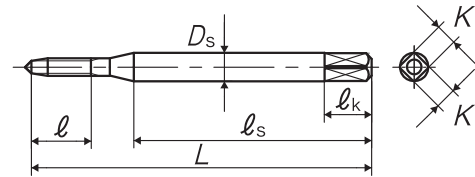
Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

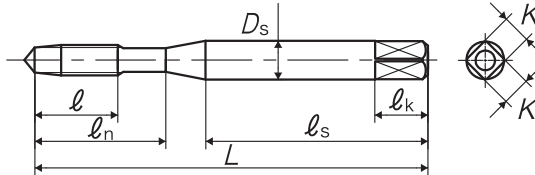
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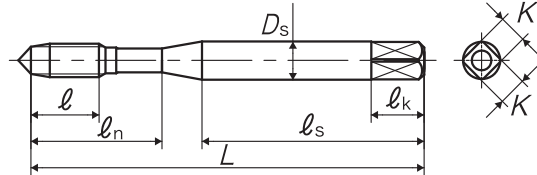
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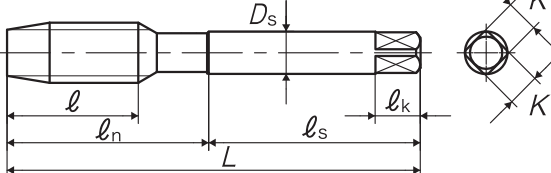
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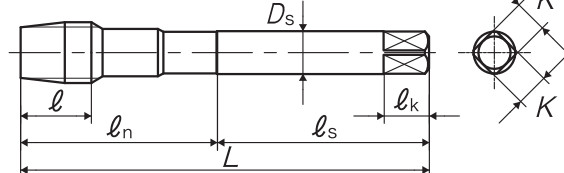
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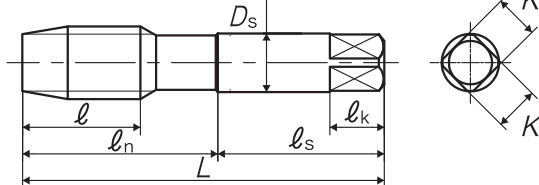
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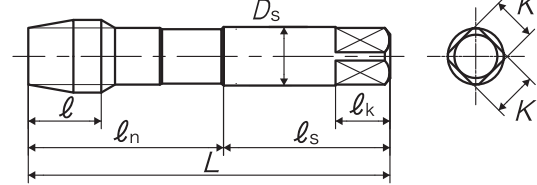
TYPE: 6



TYPE: 7



TYPE: 8



Spiral Fluted Taps (for blind hole)
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 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

○ Oversize
Segment : 1A

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1 × 0.25	P1	TNMP1.0B5	5P	36	4.5	-	24	3	2.5	5	3	1	○
		TNMP1.0B1	1.5P										△
M1 × 0.2	P1	TNMP1.0A5	5P	36	3.6	-	24	3	2.5	5	3	1	△
		TNMP1.0A1	1.5P										△
M1.1 × 0.25	P1	TNMP1.1B5	5P	36	4.5	-	24	3	2.5	5	3	1	○
		TNMP1.1B1	1.5P										△
M1.1 × 0.2	P1	TNMP1.1A5	5P	36	3.6	-	24	3	2.5	5	3	1	△
		TNMP1.1A1	1.5P										△
M1.2 × 0.25	P1	TNMP1.2B5	5P	36	4.5	-	24	3	2.5	5	3	1	○
		TNMP1.2B1	1.5P										△
	P3	TNMR1.2B5	5P										△
		TNMR1.2B1	1.5P										△
M1.2 × 0.2	P1	TNMP1.2A5	5P	36	3.6	-	24	3	2.5	5	3	1	△
		TNMP1.2A1	1.5P										△
M1.4 × 0.3	P1	TNMP1.4C5	5P	36	5.4	-	24	3	2.5	5	3	1	◎
		TNMP1.4C1	1.5P										△
	P3	TNMR1.4C5	5P										△
		TNMR1.4C1	1.5P										△
M1.4 × 0.2	P1	TNMP1.4A5	5P	36	3.6	-	24	3	2.5	5	3	1	△
		TNMP1.4A1	1.5P										△
M1.6 × 0.35	P2	TNMQ1.6D5	5P	36	6.3	-	24	3	2.5	5	3	2	◎
		TNMQ1.6D1	1.5P										△
M1.6 × 0.2	P1	TNMP1.6A5	5P	36	3.6	-	24	3	2.5	5	3	2	△
		TNMP1.6A1	1.5P										△
M1.7 × 0.35	P1	TNMP1.7D5	5P	36	6.3	-	24	3	2.5	5	3	2	◎
		TNMP1.7D1	1.5P										△
	P3	TNMR1.7D5	5P										△
		TNMR1.7D1	1.5P										△
M1.7 × 0.2	P1	TNMP1.7A5	5P	36	3.6	-	24	3	2.5	5	3	2	△
		TNMP1.7A1	1.5P										△
M1.8 × 0.35	P2	TNMQ1.8D5	5P	42	6.3	-	27	3	2.5	5	3	2	△
		TNMQ1.8D1	1.5P										△
M1.8 × 0.2	P1	TNMP1.8A5	5P	42	3.6	-	27	3	2.5	5	3	2	△
		TNMP1.8A1	1.5P										△
M2 × 0.4	P1	TNMP2.0E5	5P	42	7.2	12	27	3	2.5	5	3	3	◎
		TNMP2.0E1	1.5P										△
	P3	TNMR2.0E5	5P										△
		TNMR2.0E1	1.5P										△
	P4	TNMS2.0E5	5P										△
		TNMS2.0E1	1.5P										△
M2 × 0.25	P1	TNMP2.0B5	5P	42	4.5	12	27	3	2.5	5	3	4	○
		TNMP2.0B1	1.5P										△
M2.2 × 0.45	P2	TNMQ2.2F5	5P	42	8.1	12	27	3	2.5	5	3	3	○
		TNMQ2.2F1	1.5P										△
M2.2 × 0.25	P1	TNMP2.2B5	5P	42	4.5	12	27	3	2.5	5	3	4	△
		TNMP2.2B1	1.5P										△
M2.3 × 0.4	P1	TNMP2.3E5	5P	42	7.2	12	27	3	2.5	5	3	3	○
		TNMP2.3E1	1.5P										△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
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 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Hand Tap Series

HT Hand Taps

	Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
Spiral Fluted Taps (for blind hole)	M2.3 × 0.4	P3	TNMR2.3E5	5P	42	7.2	12	27	3	2.5	5	3	3	△
			TNMR2.3E1	1.5P										
Spiral Fluted Taps (for through hole)	M2.3 × 0.25	P1	TNMP2.3B5	5P	42	4.5	12	27	3	2.5	5	3	4	△
			TNMP2.3B1	1.5P										
Spiral Pointed Taps (for through hole)	M2.5 × 0.45	P2	TNMQ2.5F5	5P	46	8.1	14	29	3	2.5	5	3	3	◎
			TNMQ2.5F1	1.5P										○
		P3	TNMR2.5F5	5P										○
			TNMR2.5F1	1.5P										△
P4	TNMS2.5F5	5P	△											
	TNMS2.5F1	1.5P	△											
Hand Taps	M2.5 × 0.35	P2	TNMQ2.5D5	5P	46	6.3	14	29	3	2.5	5	3	4	△
			TNMQ2.5D1	1.5P										
Cemented Carbide Taps	M2.6 × 0.45	P1	TNMP2.6F5	5P	46	8.1	14	29	3	2.5	5	3	3	◎
			TNMP2.6F1	1.5P										○
		P3	TNMR2.6F5	5P										○
			TNMR2.6F1	1.5P										△
P4	TNMS2.6F5	5P	△											
	TNMS2.6F1	1.5P	△											
Roll Taps	M2.6 × 0.35	P2	TNMQ2.6D5	5P	46	6.3	14	29	3	2.5	5	3	4	△
			TNMQ2.6D1	1.5P										
Special Thread Taps Simple inspection tools	M3 × 0.5	P2	TNMQ3.0G5	5P	46	9	14	26	4	3.2	6	3	3	◎
			TNMQ3.0G1	1.5P										○
		P3	TNMR3.0G5	5P										○
			TNMR3.0G1	1.5P										△
		P4	TNMS3.0G5	5P										△
			TNMS3.0G1	1.5P										△
Pipe Taps	3M0.6	P2	TNMQ3.0H5	5P	46	9	14	26	4	3.2	6	3	3	○
			TNMQ3.0H1	1.5P										
Thread Mills	M3 × 0.35	P2	TNMQ3.0D5	5P	46	6.5	14	26	4	3.2	6	3	4	○
			TNMQ3.0D1	1.5P										
Dies	M3.5 × 0.6	P2	TNMQ3.5H5	5P	52	11	16	29	5	4	7	3	3	○
			TNMQ3.5H1	1.5P										△
		P3	TNMR3.5H5	5P										△
			TNMR3.5H1	1.5P										△
P4	TNMS3.5H5	5P	△											
	TNMS3.5H1	1.5P	△											
Center Drills	M3.5 × 0.35	P2	TNMQ3.5D5	5P	52	6.5	16	29	5	4	7	3	4	○
			TNMQ3.5D1	1.5P										
Centering Tools	M4 × 0.7	P2	TNMQ4.0I5	5P	52	11	17	29	5	4	7	3	3	◎
			TNMQ4.0I1	1.5P										○
		P3	TNMR4.0I53	5P										○
			TNMR4.0I13	1.5P										△
		P4	TNMS4.0I53	5P										△
			TNMS4.0I13	1.5P										△
		P5	TNMT4.0I53	5P										△
			TNMT4.0I13	1.5P										△

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock								
M4 × 0.7	P5	TNMT4.0I5	5P	52	11	17	29	5	4	7	4	3	△								
		TNMT4.0I1	1.5P										△								
4M0.75	P2	TNMQ4.0J53	5P	52	11	17	29	5	4	7	3	3	△								
		TNMQ4.0J13	1.5P										△								
		TNMQ4.0J5	5P								4	4	○								
		TNMQ4.0J1	1.5P										○								
M4 × 0.5	P2	TNMQ4.0G5	5P	52	9	17	29	5	4	7	4	4	○								
		TNMQ4.0G1	1.5P										○								
M4.5 × 0.75	P2	TNMQ4.5J5	5P	60	13	21	33	5.5	4.5	7	4	3	○								
		TNMQ4.5J1	1.5P										○								
M4.5 × 0.5	P2	TNMQ4.5G5	5P	60	9	21	33	5.5	4.5	7	4	4	△								
		TNMQ4.5G1	1.5P										△								
M5 × 0.8	P3	TNMR5.0K5	5P	60	13	22	33	5.5	4.5	7	3	3	◎								
		TNMR5.0K1	1.5P										◎								
	P4	TNMS5.0K53	5P								60	13	22	33	5.5	4.5	7	4	3	△	
		TNMS5.0K13	1.5P																		
		TNMS5.0K5	5P																		
	P5	TNMS5.0K1	1.5P								60	13	22	33	5.5	4.5	7	4	4	4	△
		TNMT5.0K53	5P																		
		TNMT5.0K13	1.5P																		
		TNMT5.0K5	5P																		
5M0.9	P2	TNMQ5.0L53	5P	60	13	22	33	5.5	4.5	7	3	3	△								
		TNMQ5.0L13	1.5P										△								
		TNMQ5.0L5	5P								4	4	○								
		TNMQ5.0L1	1.5P										○								
M5 × 0.75	P2	TNMQ5.0J5	5P	60	13	22	33	5.5	4.5	7	4	3	△								
		TNMQ5.0J1	1.5P										△								
M5 × 0.5	P2	TNMQ5.0G5	5P	60	9	22	33	5.5	4.5	7	4	4	○								
		TNMQ5.0G1	1.5P										○								
	P3	TNMR5.0G5	5P								4	4	△								
		TNMR5.0G1	1.5P										△								
M5.5 × 0.9	P2	TNMQ5.5L5	5P	62	15	26	33	6	4.5	7	4	3	△								
		TNMQ5.5L1	1.5P										△								
M5.5 × 0.75	P2	TNMQ5.5J5	5P	62	15	26	33	6	4.5	7	4	3	△								
		TNMQ5.5J1	1.5P										△								
M5.5 × 0.5	P2	TNMQ5.5G5	5P	62	9	26	33	6	4.5	7	4	4	△								
		TNMQ5.5G1	1.5P										△								
M6 × 1	P2	TNMQ6.0M5	5P	62	15	26	33	6	4.5	7	3	3	◎								
		TNMQ6.0M1	1.5P										◎								
	P3	TNMR6.0M53	5P								62	15	26	33	6	4.5	7	4	4	○	
		TNMR6.0M13	1.5P																		
	P4	TNMS6.0M53	5P								62	15	26	33	6	4.5	7	4	4	○	
		TNMS6.0M13	1.5P																		
		TNMS6.0M5	5P																		
	P5	TNMS6.0M1	1.5P								62	15	26	33	6	4.5	7	4	4	4	△
		TNMT6.0M53	5P																		
		TNMT6.0M13	1.5P																		
TNMT6.0M5		5P																			
TNMT6.0M1		1.5P																			

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M6 × 0.75	P2	TNMQ6.0J5	5P	62	15	26	33	6	4.5	7	4	3	○
		TNMQ6.0J1	1.5P										△
	P3	TNMR6.0J5	5P										△
		TNMR6.0J1	1.5P										△
	P4	TNMS6.0J5	5P										△
		TNMS6.0J1	1.5P										△
M6 × 0.5	P2	TNMQ6.0G5	5P	62	9	26	33	6	4.5	7	4	4	○
		TNMQ6.0G1	1.5P										△
M7 × 1	P2	TNMQ7.0M5	5P	70	19	-	36	6.2	5	8	4	5	○
		TNMQ7.0M1	1.5P										△
	P4	TNMS7.0M5	5P										△
		TNMS7.0M1	1.5P										△
M7 × 0.75	P2	TNMQ7.0J5	5P	70	19	-	36	6.2	5	8	4	5	○
		TNMQ7.0J1	1.5P										△
M7 × 0.5	P2	TNMQ7.0G5	5P	70	10	-	36	6.2	5	8	4	6	△
		TNMQ7.0G1	1.5P										△
M8 × 1.25	P3	TNMR8.0N5	5P	70	19	-	36	6.2	5	8	3	5	◎
		TNMR8.0N1	1.5P										◎
		TNMR8.0N5F	5P										◎
		TNMR8.0N1F	1.5P										◎
	P4	TNMS8.0N5F	5P								4		○
		TNMS8.0N1F	1.5P								○		
M8 × 1	P2	TNMQ8.0M5	5P	70	19	-	36	6.2	5	8	4	5	○
		TNMQ8.0M1	1.5P										△
	P4	TNMS8.0M5	5P										△
		TNMS8.0M1	1.5P										△
M8 × 0.75	P2	TNMQ8.0J5	5P	70	19	-	36	6.2	5	8	4	5	○
		TNMQ8.0J1	1.5P										△
M8 × 0.5	P2	TNMQ8.0G5	5P	70	10	-	36	6.2	5	8	4	6	○
		TNMQ8.0G1	1.5P										△
M9 × 1.25	P3	TNMR9.0N5	5P	75	23	-	38	7	5.5	8	4	5	△
		TNMR9.0N1	1.5P										△
M9 × 1	P2	TNMQ9.0M5	5P	75	23	-	38	7	5.5	8	4	5	○
		TNMQ9.0M1	1.5P										△
M9 × 0.75	P2	TNMQ9.0J5	5P	75	13	-	38	7	5.5	8	4	6	○
		TNMQ9.0J1	1.5P										△
M9 × 0.5	P2	TNMQ9.0G5	5P	75	11	-	38	7	5.5	8	4	6	△
		TNMQ9.0G1	1.5P										△
M10 × 1.5	P3	TNMR01005T	5P	75	23	-	38	7	5.5	8	3	5	○
		TNMR01001T	1.5P										◎
		TNMR01005	5P										◎
		TNMR01001	1.5P										◎
	P4	TNMS01005	5P								4		△
		TNMS01001	1.5P								△		
M10 × 1.25	P3	TNMR010N5	5P	75	23	-	38	7	5.5	8	4	5	◎
		TNMR010N1	1.5P										◎
	P4	TNMS010N5	5P										△
		TNMS010N1	1.5P										△
M10 × 1	P3	TNMR010M5	5P	75	23	-	38	7	5.5	8	4	5	◎
		TNMR010M1	1.5P										◎

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M10 × 1	P4	TNMS010M5	5P	75	23	-	38	7	5.5	8	4	5	△
		TNMS010M1	1.5P										
M10 × 0.75	P3	TNMR010J5	5P	75	13	-	38	7	5.5	8	4	6	○
		TNMR010J1	1.5P										
M10 × 0.5	P2	TNMQ010G5	5P	75	11	-	38	7	5.5	8	4	6	○
		TNMQ010G1	1.5P										
M11 × 1.5	P4	TNMS01105	5P	82	26	-	42	8.5	6.5	9	4	5	△
		TNMS01101	1.5P										
M11 × 1.25	P3	TNMR011N5	5P	82	26	-	42	8.5	6.5	9	4	5	△
		TNMR011N1	1.5P										
M11 × 1	P3	TNMR011M5	5P	82	26	-	42	8.5	6.5	9	4	5	○
		TNMR011M1	1.5P										
M11 × 0.75	P3	TNMR011J5	5P	82	14	-	42	8.5	6.5	9	4	6	△
		TNMR011J1	1.5P										
M11 × 0.5	P2	TNMQ011G5	5P	82	12	-	42	8.5	6.5	9	4	6	△
		TNMQ011G1	1.5P										
M12 × 1.75	P3	TNMR012P5	5P	82	26	-	42	8.5	6.5	9	4	5	◎
		TNMR012P1	1.5P										◎
	P4	TNMS012P5	5P										△
		TNMS012P1	1.5P										△
M12 × 1.5	P3	TNMR01205	5P	82	26	-	42	8.5	6.5	9	4	5	◎
		TNMR01201	1.5P										◎
	P4	TNMS01205	5P										△
		TNMS01201	1.5P										△
M12 × 1.25	P4	TNMS012N5	5P	82	26	-	42	8.5	6.5	9	4	5	◎
		TNMS012N1	1.5P										◎
M12 × 1	P3	TNMR012M5	5P	82	26	-	42	8.5	6.5	9	4	5	◎
		TNMR012M1	1.5P										◎
M12 × 0.75	P3	TNMR012J5	5P	82	14	-	42	8.5	6.5	9	4	6	△
		TNMR012J1	1.5P										
M12 × 0.5	P2	TNMQ012G5	5P	82	12	-	42	8.5	6.5	9	4	6	○
		TNMQ012G1	1.5P										
M13 × 1.75	P3	TNMR013P5	5P	88	26	-	45	10.5	8	11	4	5	△
		TNMR013P1	1.5P										
M13 × 1.5	P3	TNMR01305	5P	88	26	-	45	10.5	8	11	4	5	△
		TNMR01301	1.5P										
M13 × 1.25	P4	TNMS013N5	5P	88	26	-	45	10.5	8	11	4	5	△
		TNMS013N1	1.5P										
M13 × 1	P3	TNMR013M5	5P	88	26	-	45	10.5	8	11	4	5	○
		TNMR013M1	1.5P										
M13 × 0.75	P3	TNMR013J5	5P	88	14	-	45	10.5	8	11	4	6	△
		TNMR013J1	1.5P										
M13 × 0.5	P2	TNMQ013G5	5P	88	12	-	45	10.5	8	11	4	6	△
		TNMQ013G1	1.5P										
M14 × 2	P3	TNMR014Q5	5P	88	26	-	45	10.5	8	11	4	5	◎
		TNMR014Q1	1.5P										◎
	P4	TNMS014Q5	5P										△
		TNMS014Q1	1.5P										△
M14 × 1.5	P3	TNMR01405	5P	88	26	-	45	10.5	8	11	4	5	◎
		TNMR01401	1.5P										◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M14 × 1.5	P4	TNMS01405	5P	88	26	-	45	10.5	8	11	4	5	△
		TNMS01401	1.5P										△
M14 × 1.25	P4	TNMS014N5	5P	88	26	-	45	10.5	8	11	4	5	○
		TNMS014N1	1.5P										○
M14 × 1	P3	TNMR014M5	5P	88	26	-	45	10.5	8	11	4	5	○
		TNMR014M1	1.5P										○
	P4	TNMS014M5	5P										△
		TNMS014M1	1.5P										△
M14 × 0.75	P3	TNMR014J5	5P	88	15	-	45	10.5	8	11	4	6	△
		TNMR014J1	1.5P										△
M14 × 0.5	P2	TNMQ014G5	5P	88	12	-	45	10.5	8	11	4	6	○
		TNMQ014G1	1.5P										○
M15 × 2	P3	TNMR015Q5	5P	95	26	-	48	12.5	10	13	4	5	△
		TNMR015Q1	1.5P										△
M15 × 1.5	P3	TNMR015O5	5P	95	26	-	48	12.5	10	13	4	5	○
		TNMR015O1	1.5P										○
M15 × 1.25	P4	TNMS015N5	5P	95	26	-	48	12.5	10	13	4	5	△
		TNMS015N1	1.5P										△
M15 × 1	P3	TNMR015M5	5P	95	26	-	48	12.5	10	13	4	5	○
		TNMR015M1	1.5P										○
M15 × 0.75	P3	TNMR015J5	5P	95	15	-	48	12.5	10	13	4	6	△
		TNMR015J1	1.5P										△
M15 × 0.5	P2	TNMQ015G5	5P	95	13	-	48	12.5	10	13	4	6	△
		TNMQ015G1	1.5P										△
M16 × 2	P3	TNMR016Q5	5P	95	26	-	48	12.5	10	13	4	5	◎
		TNMR016Q1	1.5P										◎
	P4	TNMS016Q5	5P										△
		TNMS016Q1	1.5P										△
M16 × 1.5	P3	TNMR016O5	5P	95	26	-	48	12.5	10	13	4	5	◎
		TNMR016O1	1.5P										◎
	P4	TNMS016O5	5P										△
		TNMS016O1	1.5P										△
M16 × 1.25	P4	TNMS016N5	5P	95	26	-	48	12.5	10	13	4	5	△
		TNMS016N1	1.5P										△
M16 × 1	P3	TNMR016M5	5P	95	26	-	48	12.5	10	13	4	5	○
		TNMR016M1	1.5P										○
	P4	TNMS016M5	5P										△
		TNMS016M1	1.5P										△
M16 × 0.5	P2	TNMQ016G5	5P	95	13	-	48	12.5	10	13	4	6	△
		TNMQ016G1	1.5P										△
M17 × 1.5	P4	TNMS017O5	5P	100	33	-	51	14	11	14	4	5	△
		TNMS017O1	1.5P										△
M17 × 1	P3	TNMR017M5	5P	100	18	-	51	14	11	14	4	6	○
		TNMR017M1	1.5P										○
M18 × 2.5	P4	TNMS018R5	5P	100	33	-	51	14	11	14	4	5	○
		TNMS018R1	1.5P										○
	P5	TNMT018R5	5P										△
		TNMT018R1	1.5P										△
M18 × 2	P4	TNMS018Q5	5P	100	33	-	51	14	11	14	4	5	○
		TNMS018Q1	1.5P										○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M18 × 1.5	P3	TNMR01805	5P	100	33	-	51	14	11	14	4	5	◎
		TNMR01801	1.5P										△
	P4	TNMS01805	5P										△
		TNMS01801	1.5P										△
M18 × 1	P3	TNMR018M5	5P	100	18	-	51	14	11	14	4	6	○
		TNMR018M1	1.5P										○
M18 × 0.5	P2	TNMQ018G5	5P	100	13	-	51	14	11	14	4	6	△
		TNMQ018G1	1.5P										△
M19 × 1.5	P3	TNMR01905	5P	105	33	-	50	15	12	15	4	7	△
		TNMR01901	1.5P										△
M19 × 1	P3	TNMR019M5	5P	105	18	-	50	15	12	15	4	8	△
		TNMR019M1	1.5P										△
M20 × 2.5	P4	TNMS020R5	5P	105	33	-	50	15	12	15	4	7	◎
		TNMS020R1	1.5P										△
	P5	TNMT020R5	5P										△
		TNMT020R1	1.5P										△
M20 × 2	P4	TNMS020Q5	5P	105	33	-	50	15	12	15	4	7	○
		TNMS020Q1	1.5P										○
M20 × 1.5	P3	TNMR02005	5P	105	33	-	50	15	12	15	4	7	◎
		TNMR02001	1.5P										△
	P4	TNMS02005	5P										△
		TNMS02001	1.5P										△
M20 × 1	P3	TNMR020M5	5P	105	18	-	50	15	12	15	4	8	○
		TNMR020M1	1.5P										○
M22 × 2.5	P4	TNMS022R5	5P	115	33	-	55	17	13	16	4	7	○
		TNMS022R1	1.5P										○
M22 × 2	P4	TNMS022Q5	5P	115	33	-	55	17	13	16	4	7	○
		TNMS022Q1	1.5P										○
M22 × 1.5	P3	TNMR02205	5P	115	33	-	55	17	13	16	4	7	◎
		TNMR02201	1.5P										◎
M22 × 1	P3	TNMR022M5	5P	115	19	-	55	17	13	16	4	8	○
		TNMR022M1	1.5P										○
M24 × 3	P4	TNMS024S5	5P	120	39	-	55	19	15	18	4	7	◎
		TNMS024S1	1.5P										◎
M24 × 2	P4	TNMS024Q5	5P	120	39	-	55	19	15	18	4	7	○
		TNMS024Q1	1.5P										○
M24 × 1.5	P3	TNMR02405	5P	120	39	-	55	19	15	18	4	7	◎
		TNMR02401	1.5P										◎
M24 × 1	P3	TNMR024M5	5P	120	19	-	55	19	15	18	4	8	○
		TNMR024M1	1.5P										○
M25 × 3	P4	TNMS025S5	5P	125	39	-	58	19	15	18	4	7	△
		TNMS025S1	1.5P										△
M25 × 2	P4	TNMS025Q5	5P	125	39	-	58	19	15	18	4	7	○
		TNMS025Q1	1.5P										○
M25 × 1.5	P3	TNMR02505	5P	125	39	-	58	19	15	18	4	7	○
		TNMR02501	1.5P										○
M25 × 1	P3	TNMR025M5	5P	125	20	-	58	19	15	18	4	8	○
		TNMR025M1	1.5P										○
M26 × 3	P4	TNMS026S5	5P	130	39	-	60	20	15	18	4	7	△
		TNMS026S1	1.5P										△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M26 × 2	P4	TNMS026Q5	5P	130	39	-	60	20	15	18	4	7	△
		TNMS026Q1	1.5P										
M26 × 1.5	P3	TNMR026O5	5P	130	39	-	60	20	15	18	4	7	○
		TNMR026O1	1.5P										
M27 × 3	P4	TNMS027S5	5P	130	39	-	60	20	15	18	4	7	○
		TNMS027S1	1.5P										
M27 × 2	P5	TNMT027Q5	5P	130	39	-	60	20	15	18	4	7	○
		TNMT027Q1	1.5P										
M27 × 1.5	P3	TNMR027O5	5P	130	39	-	60	20	15	18	4	7	○
		TNMR027O1	1.5P										
M27 × 1	P3	TNMR027M5	5P	130	20	-	60	20	15	18	4	8	○
		TNMR027M1	1.5P										
M28 × 3	P4	TNMS028S5	5P	135	46	-	62	23	17	20	4	7	△
		TNMS028S1	1.5P										
M28 × 2	P4	TNMS028Q5	5P	135	46	-	62	23	17	20	4	7	○
		TNMS028Q1	1.5P										
M28 × 1.5	P3	TNMR028O5	5P	135	46	-	62	23	17	20	4	7	○
		TNMR028O1	1.5P										
M28 × 1	P3	TNMR028M5	5P	135	20	-	62	23	17	20	4	8	○
		TNMR028M1	1.5P										
M30 × 3.5	P4	TNMS030T5	5P	135	46	-	62	23	17	20	4	7	◎
		TNMS030T1	1.5P										
M30 × 3	P5	TNMT030S5	5P	135	46	-	62	23	17	20	4	7	○
		TNMT030S1	1.5P										
M30 × 2	P4	TNMS030Q5	5P	135	46	-	62	23	17	20	4	7	◎
		TNMS030Q1	1.5P										
M30 × 1.5	P3	TNMR030O5	5P	135	46	-	62	23	17	20	4	7	◎
		TNMR030O1	1.5P										
M30 × 1	P3	TNMR030M5	5P	135	21	-	62	23	17	20	4	8	○
		TNMR030M1	1.5P										
M32 × 2	P4	TNMS032Q5	5P	145	46	-	67	24	19	22	4	7	△
		TNMS032Q1	1.5P										
M32 × 1.5	P4	TNMS032O5	5P	145	46	-	67	24	19	22	4	7	△
		TNMS032O1	1.5P										
M32 × 1	P3	TNMR032M5	5P	145	21	-	67	24	19	22	4	8	△
		TNMR032M1	1.5P										
M33 × 3.5	P4	TNMS033T5	5P	145	46	-	67	25	19	22	4	7	○
		TNMS033T1	1.5P										
M33 × 3	P5	TNMT033S5	5P	145	46	-	67	25	19	22	4	7	△
		TNMT033S1	1.5P										
M33 × 2	P4	TNMS033Q5	5P	145	46	-	67	25	19	22	4	7	△
		TNMS033Q1	1.5P										
M33 × 1.5	P4	TNMS033O5	5P	145	46	-	67	25	19	22	4	7	△
		TNMS033O1	1.5P										
M33 × 1	P3	TNMR033M5	5P	145	21	-	67	25	19	22	4	8	△
		TNMR033M1	1.5P										
M34 × 2	P4	TNMS034Q5	5P	155	52	-	71	28	21	24	4	7	△
		TNMS034Q1	1.5P										
M34 × 1.5	P4	TNMS034O5	5P	155	26	-	71	28	21	24	4	8	△
		TNMS034O1	1.5P										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M34 × 1	P3	TNMR034M5	5P	155	26	-	71	28	21	24	4	8	△
		TNMR034M1	1.5P										
M35 × 2	P5	TNMT035Q5	5P	155	52	-	71	28	21	24	4	7	△
		TNMT035Q1	1.5P										
M35 × 1.5	P4	TNMS035O5	5P	155	26	-	71	28	21	24	4	8	△
		TNMS035O1	1.5P										
M36 × 4	P5	TNMT036U5	5P	155	52	-	71	28	21	24	4	7	◎
		TNMT036U1	1.5P										
M36 × 3	P5	TNMT036S5	5P	155	52	-	71	28	21	24	4	7	△
		TNMT036S1	1.5P										
M36 × 2	P4	TNMS036Q5	5P	155	52	-	71	28	21	24	4	7	△
		TNMS036Q1	1.5P										
M36 × 1.5	P4	TNMS036O5	5P	155	26	-	71	28	21	24	4	8	△
		TNMS036O1	1.5P										
M36 × 1	P3	TNMR036M5	5P	155	26	-	71	28	21	24	4	8	△
		TNMR036M1	1.5P										
M37 × 1.5	P4	TNMS037O5	5P	165	26	-	76	30	23	26	4	8	△
		TNMS037O1	1.5P										
M38 × 2	P4	TNMS038Q5	5P	165	52	-	76	30	23	26	4	7	△
		TNMS038Q1	1.5P										
M38 × 1.5	P4	TNMS038O5	5P	165	26	-	76	30	23	26	4	8	△
		TNMS038O1	1.5P										
M38 × 1	P3	TNMR038M5	5P	165	26	-	76	30	23	26	4	8	△
		TNMR038M1	1.5P										
M39 × 4	P5	TNMT039U5	5P	165	52	-	76	30	23	26	4	7	○
		TNMT039U1	1.5P										
M39 × 3	P5	TNMT039S5	5P	165	52	-	76	30	23	26	4	7	△
		TNMT039S1	1.5P										
M39 × 2	P5	TNMT039Q5	5P	165	52	-	76	30	23	26	4	7	△
		TNMT039Q1	1.5P										
M39 × 1.5	P4	TNMS039O5	5P	165	26	-	76	30	23	26	4	8	△
		TNMS039O1	1.5P										
M39 × 1	P3	TNMR039M5	5P	165	26	-	76	30	23	26	4	8	△
		TNMR039M1	1.5P										
M40 × 4	P5	TNMT040U5	5P	175	59	-	81	32	26	30	4	7	△
		TNMT040U1	1.5P										
M40 × 3	P5	TNMT040S5	5P	175	59	-	81	32	26	30	4	7	△
		TNMT040S1	1.5P										
M40 × 2	P4	TNMS040Q5	5P	175	59	-	81	32	26	30	4	7	△
		TNMS040Q1	1.5P										
M40 × 1.5	P4	TNMS040O5	5P	175	27	-	81	32	26	30	4	8	△
		TNMS040O1	1.5P										
M42 × 4.5	P5	TNMT042V5	5P	175	59	-	81	32	26	30	4	7	○
		TNMT042V1	1.5P										
M42 × 4	P6	TNMT042U5	5P	175	59	-	81	32	26	30	4	7	△
		TNMT042U1	1.5P										
M42 × 3	P5	TNMT042S5	5P	175	59	-	81	32	26	30	4	7	△
		TNMT042S1	1.5P										
M42 × 2	P4	TNMS042Q5	5P	175	59	-	81	32	26	30	4	7	△
		TNMS042Q1	1.5P										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M42 × 1.5	P4	TNMS04205	5P	175	27	-	81	32	26	30	4	8	△
		TNMS04201	1.5P										
M44 × 4	P6	TNMT044U5	5P	180	59	-	83	35	26	30	4	7	△
		TNMT044U1	1.5P										
M44 × 3	P5	TNMT044S5	5P	180	59	-	83	35	26	30	4	7	△
		TNMT044S1	1.5P										
M44 × 2	P4	TNMS044Q5	5P	180	59	-	83	35	26	30	4	7	△
		TNMS044Q1	1.5P										
M44 × 1.5	P4	TNMS044O5	5P	180	27	-	83	35	26	30	4	8	△
		TNMS044O1	1.5P										
M45 × 4.5	P5	TNMT045V5	5P	180	59	-	83	35	26	30	4	7	○
		TNMT045V1	1.5P										
M45 × 4	P6	TNMT045U5	5P	180	59	-	83	35	26	30	4	7	△
		TNMT045U1	1.5P										
M45 × 3	P5	TNMT045S5	5P	180	59	-	83	35	26	30	4	7	△
		TNMT045S1	1.5P										
M45 × 2	P4	TNMS045Q5	5P	180	59	-	83	35	26	30	4	7	△
		TNMS045Q1	1.5P										
M45 × 1.5	P4	TNMS045O5	5P	180	27	-	83	35	26	30	4	8	△
		TNMS045O1	1.5P										
M45 × 1	P3	TNMR045M5	5P	180	27	-	83	35	26	30	4	8	△
		TNMR045M1	1.5P										
M46 × 1.5	P4	TNMS046O5	5P	185	28	-	85	38	29	32	4	8	△
		TNMS046O1	1.5P										
M48 × 5	P5	TNMT048W5	5P	185	65	-	85	38	29	32	4	7	○
		TNMT048W1	1.5P										
M48 × 4	P6	TNMT048U5	5P	185	65	-	85	38	29	32	4	7	△
		TNMT048U1	1.5P										
M48 × 3	P6	TNMT048S5	5P	185	65	-	85	38	29	32	4	7	△
		TNMT048S1	1.5P										
M48 × 2	P4	TNMS048Q5	5P	185	65	-	85	38	29	32	4	7	△
		TNMS048Q1	1.5P										
M48 × 1.5	P4	TNMS048O5	5P	185	28	-	85	38	29	32	4	8	△
		TNMS048O1	1.5P										
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
No.0-80UNF	P1	TNMPUN0B5	5P	36	6.3	-	24	3	2.5	5	3	2	○
		TNMPUN0B1	1.5P										
No.1-64UNC	P1	TNMPUN1D5	5P	42	7.2	-	27	3	2.5	5	3	2	△
		TNMPUN1D1	1.5P										
No.1-72UNF	P1	TNMPUN1C5	5P	42	7.2	-	27	3	2.5	5	3	2	○
		TNMPUN1C1	1.5P										
No.2-56UNC	P1	TNMPUN2E5	5P	42	8.1	12	27	3	2.5	5	3	3	○
		TNMPUN2E1	1.5P										
No.2-64UNF	P1	TNMPUN2D5	5P	42	8.1	12	27	3	2.5	5	3	3	△
		TNMPUN2D1	1.5P										
No.3-48UNC	P1	TNMPUN3F5	5P	46	8.1	14	29	3	2.5	5	3	3	△
		TNMPUN3F1	1.5P										
No.3-56UNF	P1	TNMPUN3E5	5P	46	8.1	14	29	3	2.5	5	3	3	△
		TNMPUN3E1	1.5P										

Spiral Fluted Taps (for blind hole)
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 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
No.4-40UNC	P2	TNMQUN4H5	5P	46	9	14	26	4	3.2	6	3	3	○
		TNMQUN4H1	1.5P										△
	P3	TNMRUN4H5	5P										△
		TNMRUN4H1	1.5P										△
No.4-48UNF	P1	TNMPUN4F5	5P	46	9	14	26	4	3.2	6	3	3	△
		TNMPUN4F1	1.5P										△
	P3	TNMRUN4F5	5P										△
		TNMRUN4F1	1.5P										△
No.5-40UNC	P2	TNMQUN5H5	5P	52	11	16	29	5	4	7	3	3	△
		TNMQUN5H1	1.5P										△
	P3	TNMRUN5H5	5P										△
		TNMRUN5H1	1.5P										△
No.5-44UNF	P1	TNMPUN5G5	5P	52	11	16	29	5	4	7	3	3	△
		TNMPUN5G1	1.5P										△
	P3	TNMRUN5G5	5P										△
		TNMRUN5G1	1.5P										△
No.6-32UNC	P2	TNMQUN6J5	5P	52	11	16	29	5	4	7	3	3	○
		TNMQUN6J1	1.5P										△
	P3	TNMRUN6J5	5P										△
		TNMRUN6J1	1.5P										△
No.6-40UNF	P2	TNMQUN6H5	5P	52	11	16	29	5	4	7	3	3	△
		TNMQUN6H1	1.5P										△
	P3	TNMRUN6H5	5P										△
		TNMRUN6H1	1.5P										△
No.8-32UNC	P2	TNMQUN8J5	5P	60	13	21	33	5.5	4.5	7	4	3	○
		TNMQUN8J1	1.5P										△
	P3	TNMRUN8J5	5P										△
		TNMRUN8J1	1.5P										△
No.8-36UNF	P2	TNMQUN8I5	5P	60	13	21	33	5.5	4.5	7	4	3	△
		TNMQUN8I1	1.5P										△
	P3	TNMRUN8I5	5P										△
		TNMRUN8I1	1.5P										△
No.10-24UNC	P2	TNMQUNAM5	5P	60	13	22	33	5.5	4.5	7	4	3	○
		TNMQUNAM1	1.5P										△
	P3	TNMRUNAM5	5P										△
		TNMRUNAM1	1.5P										△
No.10-32UNF	P2	TNMQUNAJ5	5P	60	13	22	33	5.5	4.5	7	4	3	○
		TNMQUNAJ1	1.5P										△
	P3	TNMRUNAJ5	5P										△
		TNMRUNAJ1	1.5P										△
No.12-24UNC	P2	TNMQUNCM5	5P	62	15	26	33	6	4.5	7	4	3	△
		TNMQUNCM1	1.5P										△
	P3	TNMRUNCM5	5P										△
No.12-28UNF	P2	TNMQUNCK5	5P	62	15	26	33	6	4.5	7	4	3	△
		TNMQUNCK1	1.5P										△
	P3	TNMRUNCK5	5P										△
		TNMRUNCK1	1.5P										△
No.12-32UNEF	P2	TNMQUNCJ5	5P	62	15	26	33	6	4.5	7	4	3	△
		TNMQUNCJ1	1.5P										△
1/4-20UNC	P2	TNMQU04N5	5P	62	15	26	33	6	4.5	7	4	3	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Hand Tap Series

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4-20UNC	P2	TNMQU04N1	1.5P	62	15	26	33	6	4.5	7	4	3	○
		TNMQU04K5	5P										
1/4-28UNF	P2	TNMQU04K1	1.5P	62	15	26	33	6	4.5	7	4	3	○
		TNMQU04J5	5P										
1/4-32UNEF	P2	TNMQU04J1	1.5P	62	15	26	33	6	4.5	7	4	3	△
		TNMRU05O5	5P										
5/16-18UNC	P3	TNMRU05O1	1.5P	70	19	-	36	6.2	5	8	4	5	○
		TNMQU05M5	5P										
5/16-24UNF	P2	TNMQU05M1	1.5P	70	19	-	36	6.2	5	8	4	5	○
		TNMQU05J5	5P										
5/16-32UNEF	P2	TNMQU05J1	1.5P	70	19	-	36	6.2	5	8	4	5	△
		TNMRU06P5	5P										
3/8-16UNC	P3	TNMRU06P1	1.5P	75	23	-	38	7	5.5	8	4	5	○
		TNMRU06M5	5P										
3/8-24UNF	P3	TNMRU06M1	1.5P	75	23	-	38	7	5.5	8	4	5	○
		TNMQU06J5	5P										
3/8-32UNEF	P2	TNMQU06J1	1.5P	75	13	-	38	7	5.5	8	4	6	△
		TNMRU07Q5	5P										
7/16-14UNC	P3	TNMRU07Q1	1.5P	82	26	-	42	8.5	6.5	9	4	5	○
		TNMRU07N5	5P										
7/16-20UNF	P3	TNMRU07N1	1.5P	82	26	-	42	8.5	6.5	9	4	5	○
		TNMQU07K5	5P										
7/16-28UNEF	P2	TNMQU07K1	1.5P	82	26	-	42	8.5	6.5	9	4	5	△
		TNMRU08R5	5P										
1/2-13UNC	P3	TNMRU08R1	1.5P	88	26	-	45	10.5	8	11	4	5	○
		TNMRU08N5	5P										
1/2-20UNF	P3	TNMRU08N1	1.5P	88	26	-	45	10.5	8	11	4	5	○
		TNMQU08K5	5P										
1/2-28UNEF	P2	TNMQU08K1	1.5P	88	26	-	45	10.5	8	11	4	5	△
		TNMRU09S5	5P										
9/16-12UNC	P3	TNMRU09S1	1.5P	95	26	-	48	12.5	10	13	4	5	△
		TNMRU09O5	5P										
9/16-18UNF	P3	TNMRU09O1	1.5P	95	26	-	48	12.5	10	13	4	5	○
		TNMSU10U5	5P										
5/8-11UNC	P4	TNMSU10U1	1.5P	95	26	-	48	12.5	10	13	4	5	○
		TNMRU10O5	5P										
5/8-18UNF	P3	TNMRU10O1	1.5P	95	26	-	48	12.5	10	13	4	5	○
		TNMRU10M5	5P										
5/8-24UNEF	P3	TNMRU10M1	1.5P	95	26	-	48	12.5	10	13	4	5	△
		TNMSU12V5	5P										
3/4-10UNC	P4	TNMSU12V1	1.5P	105	33	-	50	15	12	15	4	7	○
		TNMRU12P5	5P										
3/4-16UNF	P3	TNMRU12P1	1.5P	105	33	-	50	15	12	15	4	7	○
		TNMRU12N5	5P										
3/4-20UNEF	P3	TNMRU12N1	1.5P	105	33	-	50	15	12	15	4	7	△
		TNMSU14W5	5P										
7/8-9UNC	P4	TNMSU14W1	1.5P	115	33	-	55	17	13	16	4	7	○
		TNMRU14Q5	5P										
7/8-14UNF	P4	TNMRU14Q1	1.5P	115	33	-	55	17	13	16	4	7	○
		TNMRU14N5	5P										
7/8-20UNEF	P3	TNMRU14N5	5P	115	33	-	55	17	13	16	4	7	△

Spiral Fluted Taps (for blind hole)
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 Hand Taps
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 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
7/8-20UNEF	P3	TNMRU14N1	1.5P	115	33	-	55	17	13	16	4	7	△
1-8UNC	P4	TNMSU16X5	5P	125	39	-	58	19	15	18	4	7	○
		TNMSU16X1	1.5P										
1-12UNF	P4	TNMSU16S5	5P	125	39	-	58	19	15	18	4	7	○
		TNMSU16S1	1.5P										
1-14UNS	P4	TNMSU16Q5	5P	125	39	-	58	19	15	18	4	7	△
		TNMSU16Q1	1.5P										
1-20UNEF	P3	TNMRU16N5	5P	125	39	-	58	19	15	18	4	7	△
		TNMRU16N1	1.5P										
1 1/8-7UNC	P5	TNMTU18Y5	5P	135	46	-	62	23	17	20	4	7	△
		TNMTU18Y1	1.5P										
1 1/4-7UNC	P5	TNMTU20Y5	5P	145	46	-	67	24	19	22	4	7	△
		TNMTU20Y1	1.5P										
1 1/4-8UN	P5	TNMTU20X5	5P	145	46	-	67	24	19	22	4	7	△
		TNMTU20X1	1.5P										
1 1/4-12UNF	P4	TNMSU20S5	5P	145	46	-	67	24	19	22	4	7	△
		TNMSU20S1	1.5P										
1 3/8-6UNC	P5	TNMTU22Z5	5P	155	52	-	71	28	21	24	4	7	△
		TNMTU22Z1	1.5P										
1 3/8-8UN	P5	TNMTU22X5	5P	155	52	-	71	28	21	24	4	7	△
		TNMTU22X1	1.5P										
1 3/8-12UNF	P4	TNMSU22S5	5P	155	52	-	71	28	21	24	4	7	△
		TNMSU22S1	1.5P										
1 1/2-6UNC	P5	TNMTU24Z5	5P	165	52	-	76	30	23	26	4	7	△
		TNMTU24Z1	1.5P										
1 1/2-12UNF	P4	TNMSU24S5	5P	165	52	-	76	30	23	26	4	7	△
		TNMSU24S1	1.5P										
1 3/4-5UNC	P6	TNMTU28O5	5P	180	59	-	83	35	26	30	4	7	△
		TNMTU28O1	1.5P										
1 3/4-12UN	P4	TNMSU28S5	5P	180	59	-	83	35	26	30	4	7	△
		TNMSU28S1	1.5P										
For Screw Threads used on Sewing Machines													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/16SM80	P1	TNMP504B5	5P	36	6.3	-	24	3	2.5	5	3	2	△
		TNMP504B1	1.5P										
5/64SM64	P1	TNMP505D5	5P	42	7.2	12	27	3	2.5	5	3	3	△
		TNMP505D1	1.5P										
3/32SM56	P1	TNMP506E5	5P	46	8.1	14	29	3	2.5	5	3	3	△
		TNMP506E1	1.5P										
3/32SM100	P1	TNMP506A5	5P	46	3.4	14	29	3	2.5	5	3	4	△
		TNMP506A1	1.5P										
1/8SM40	P2	TNMQS08H5	5P	52	11	16	29	5	4	7	3	3	△
		TNMQS08H1	1.5P										
1/8SM44	P2	TNMQS08G5	5P	52	11	16	29	5	4	7	3	3	△
		TNMQS08G1	1.5P										
9/64SM40	P2	TNMQS09H5	5P	52	11	17	29	5	4	7	3	3	△
		TNMQS09H1	1.5P										
11/64SM40	P2	TNMQS11H5	5P	60	13	21	33	5.5	4.5	7	4	3	△
		TNMQS11H1	1.5P										
3/16SM24	P2	TNMQS12M5	5P	60	13	21	33	5.5	4.5	7	4	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

HT Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
3/16SM24	P2	TNMQS12M1	1.5P	60	13	21	33	5.5	4.5	7	4	3	△
3/16SM28	P2	TNMQS12K5	5P	60	13	21	33	5.5	4.5	7	4	3	△
		TNMQS12K1	1.5P										
3/16SM32	P2	TNMQS12J5	5P	60	13	21	33	5.5	4.5	7	4	3	△
		TNMQS12J1	1.5P										
3/16SM40	P2	TNMQS12H5	5P	60	13	21	33	5.5	4.5	7	4	3	△
		TNMQS12H1	1.5P										
15/64SM28	P2	TNMQS15K5	5P	62	15	26	33	6	4.5	7	4	3	△
		TNMQS15K1	1.5P										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HT LH

Hand Taps for Left Hand Threads Specification

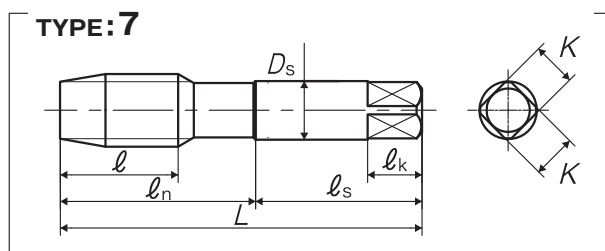
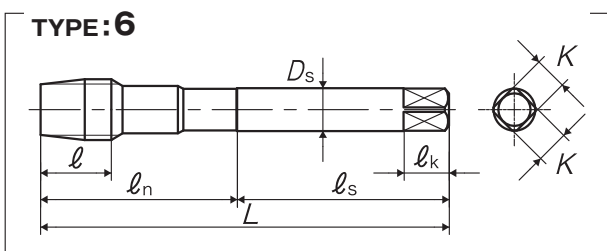
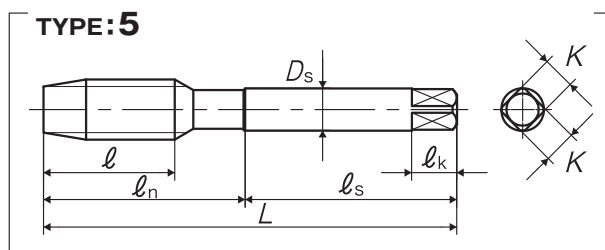
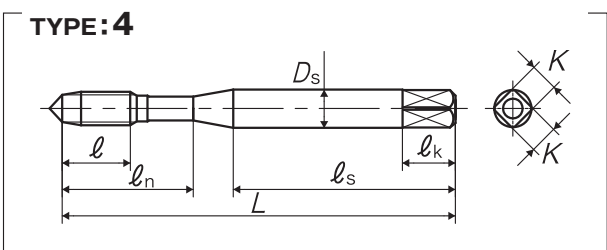
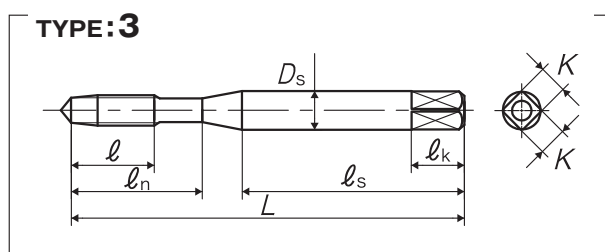
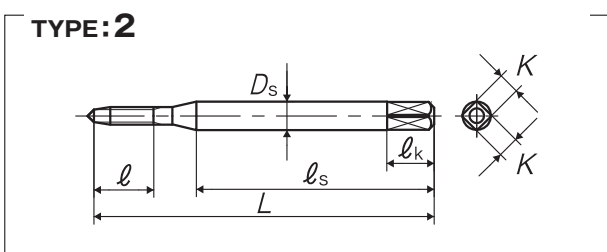


Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1 × 0.25	P1	TNMP1.0B5-L	5P	36	4.5	-	24	3	2.5	5	3	1	△
		TNMP1.0B1-L	1.5P										
M1.2 × 0.25	P1	TNMP1.2B5-L	5P	36	4.5	-	24	3	2.5	5	3	1	△
		TNMP1.2B1-L	1.5P										
M1.4 × 0.3	P1	TNMP1.4C5-L	5P	36	5.4	-	24	3	2.5	5	3	1	△
		TNMP1.4C1-L	1.5P										
M1.6 × 0.35	P2	TNMQ1.6D5-L	5P	36	6.3	-	24	3	2.5	5	3	2	△
		TNMQ1.6D1-L	1.5P										

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Hand Tap Series

HT LH Hand Taps for Left Hand Threads

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M1.7 × 0.35	P1	TNMP1.7D5-L	5P	36	6.3	-	24	3	2.5	5	3	2	△
		TNMP1.7D1-L	1.5P										
M2 × 0.4	P1	TNMP2.0E5-L	5P	42	7.2	12	27	3	2.5	5	3	3	△
		TNMP2.0E1-L	1.5P										
M2.3 × 0.4	P1	TNMP2.3E5-L	5P	42	7.2	12	27	3	2.5	5	3	3	△
		TNMP2.3E1-L	1.5P										
M2.5 × 0.45	P2	TNMQ2.5F5-L	5P	46	8.1	14	29	3	2.5	5	3	3	△
		TNMQ2.5F1-L	1.5P										
M2.6 × 0.45	P1	TNMP2.6F5-L	5P	46	8.1	14	29	3	2.5	5	3	3	△
		TNMP2.6F1-L	1.5P										
M3 × 0.5	P2	TNMQ3.0G5-L	5P	46	9	14	26	4	3.2	6	3	3	○
		TNMQ3.0G1-L	1.5P										
3M0.6	P2	TNMQ3.0H5-L	5P	46	9	14	26	4	3.2	6	3	3	△
		TNMQ3.0H1-L	1.5P										
M3 × 0.35	P2	TNMQ3.0D5-L	5P	46	6.5	14	26	4	3.2	6	3	4	△
		TNMQ3.0D1-L	1.5P										
M3.5 × 0.6	P2	TNMQ3.5H5-L	5P	52	11	16	29	5	4	7	3	3	△
		TNMQ3.5H1-L	1.5P										
M4 × 0.7	P2	TNMQ4.0I5-L	5P	52	11	17	29	5	4	7	4	3	○
		TNMQ4.0I1-L	1.5P										
4M0.75	P2	TNMQ4.0J5-L	5P	52	11	17	29	5	4	7	4	3	△
		TNMQ4.0J1-L	1.5P										
M4 × 0.5	P2	TNMQ4.0G5-L	5P	52	9	17	29	5	4	7	4	4	△
		TNMQ4.0G1-L	1.5P										
M5 × 0.8	P3	TNMR5.0K5-L	5P	60	13	22	33	5.5	4.5	7	4	3	○
		TNMR5.0K1-L	1.5P										
5M0.9	P2	TNMQ5.0L5-L	5P	60	13	22	33	5.5	4.5	7	4	3	△
		TNMQ5.0L1-L	1.5P										
M5 × 0.5	P2	TNMQ5.0G5-L	5P	60	9	22	33	5.5	4.5	7	4	4	△
		TNMQ5.0G1-L	1.5P										
M6 × 1	P2	TNMQ6.0M5-L	5P	62	15	26	33	6	4.5	7	4	3	○
		TNMQ6.0M1-L	1.5P										
M6 × 0.75	P2	TNMQ6.0J5-L	5P	62	15	26	33	6	4.5	7	4	3	△
		TNMQ6.0J1-L	1.5P										
M6 × 0.5	P2	TNMQ6.0G5-L	5P	62	9	26	33	6	4.5	7	4	4	△
		TNMQ6.0G1-L	1.5P										
M7 × 0.75	P2	TNMQ7.0J5-L	5P	70	19	-	36	6.2	5	8	4	5	△
		TNMQ7.0J1-L	1.5P										
M8 × 1.25	P3	TNMR8.0N5-L	5P	70	19	-	36	6.2	5	8	4	5	○
		TNMR8.0N1-L	1.5P										
M8 × 1	P2	TNMQ8.0M5-L	5P	70	19	-	36	6.2	5	8	4	5	△
		TNMQ8.0M1-L	1.5P										
M8 × 0.75	P2	TNMQ8.0J5-L	5P	70	19	-	36	6.2	5	8	4	5	△
		TNMQ8.0J1-L	1.5P										
M8 × 0.5	P2	TNMQ8.0G5-L	5P	70	10	-	36	6.2	5	8	4	6	△
		TNMQ8.0G1-L	1.5P										
M9 × 1	P2	TNMQ9.0M5-L	5P	75	23	-	38	7	5.5	8	4	5	△
		TNMQ9.0M1-L	1.5P										
M9 × 0.75	P2	TNMQ9.0J5-L	5P	75	13	-	38	7	5.5	8	4	6	△
		TNMQ9.0J1-L	1.5P										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT LH Hand Taps for Left Hand Threads

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M10 × 1.5	P3	TNMR01005-L	5P	75	23	-	38	7	5.5	8	4	5	○
		TNMR01001-L	1.5P										
M10 × 1.25	P3	TNMR010N5-L	5P	75	23	-	38	7	5.5	8	4	5	○
		TNMR010N1-L	1.5P										
M10 × 1	P3	TNMR010M5-L	5P	75	23	-	38	7	5.5	8	4	5	△
		TNMR010M1-L	1.5P										
M11 × 1.25	P3	TNMR011N5-L	5P	82	26	-	42	8.5	6.5	9	4	5	△
		TNMR011N1-L	1.5P										
M11 × 1	P3	TNMR011M5-L	5P	82	26	-	42	8.5	6.5	9	4	5	△
		TNMR011M1-L	1.5P										
M12 × 1.75	P3	TNMR012P5-L	5P	82	26	-	42	8.5	6.5	9	4	5	○
		TNMR012P1-L	1.5P										
M12 × 1.5	P3	TNMR01205-L	5P	82	26	-	42	8.5	6.5	9	4	5	○
		TNMR01201-L	1.5P										
M12 × 1.25	P4	TNMS012N5-L	5P	82	26	-	42	8.5	6.5	9	4	5	○
		TNMS012N1-L	1.5P										
M12 × 1	P3	TNMR012M5-L	5P	82	26	-	42	8.5	6.5	9	4	5	△
		TNMR012M1-L	1.5P										
M14 × 2	P3	TNMR014Q5-L	5P	88	26	-	45	10.5	8	11	4	5	○
		TNMR014Q1-L	1.5P										
M14 × 1.5	P3	TNMR01405-L	5P	88	26	-	45	10.5	8	11	4	5	○
		TNMR01401-L	1.5P										
M14 × 1	P3	TNMR014M5-L	5P	88	26	-	45	10.5	8	11	4	5	△
		TNMR014M1-L	1.5P										
M16 × 2	P3	TNMR016Q5-L	5P	95	26	-	48	12.5	10	13	4	5	○
		TNMR016Q1-L	1.5P										
M16 × 1.5	P3	TNMR01605-L	5P	95	26	-	48	12.5	10	13	4	5	○
		TNMR01601-L	1.5P										
M16 × 1	P3	TNMR016M5-L	5P	95	26	-	48	12.5	10	13	4	5	△
		TNMR016M1-L	1.5P										
M18 × 2.5	P4	TNMS018R5-L	5P	100	33	-	51	14	11	14	4	5	△
		TNMS018R1-L	1.5P										
M18 × 1.5	P3	TNMR01805-L	5P	100	33	-	51	14	11	14	4	5	○
		TNMR01801-L	1.5P										
M20 × 2.5	P4	TNMS020R5-L	5P	105	33	-	50	15	12	15	4	7	○
		TNMS020R1-L	1.5P										
M20 × 1.5	P3	TNMR02005-L	5P	105	33	-	50	15	12	15	4	7	○
		TNMR02001-L	1.5P										
M22 × 2.5	P4	TNMS022R5-L	5P	115	33	-	55	17	13	16	4	7	△
		TNMS022R1-L	1.5P										
M24 × 3	P4	TNMS024S5-L	5P	120	39	-	55	19	15	18	4	7	○
		TNMS024S1-L	1.5P										
M30 × 3.5	P4	TNMS030T5-L	5P	135	46	-	62	23	17	20	4	7	○
		TNMS030T1-L	1.5P										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-HT

Long Shank Hand Taps

Specification

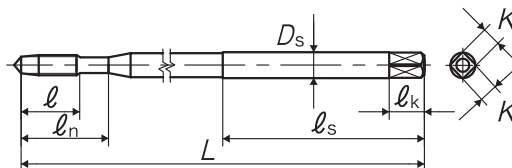


Recommended Tapping Speeds depending on Materials

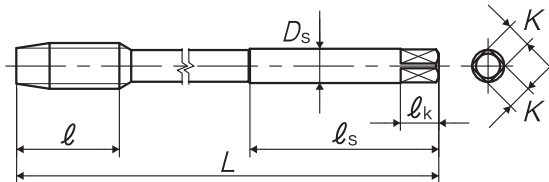
Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

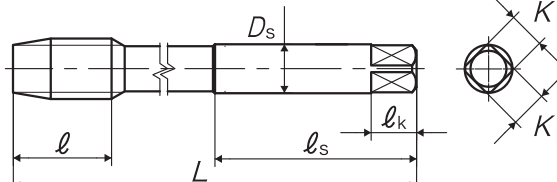
TYPE: 1



TYPE: 2



TYPE: 3



Oversize
Segment : 1A

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock		
For Metric Threads															
M2 × 0.4	P1	TNMP2.0E507	5P	70	7.2	12	55	3	2.5	5	3	1	△		
		TNMP2.0E107	1.5P										△		
M2.3 × 0.4	P1	TNMP2.3E507	5P	70	7.2	12	55	3	2.5	5	3	1	△		
		TNMP2.3E107	1.5P										△		
M2.5 × 0.45	P1	TNMP2.5F507	5P	70	8.1	14	53	3	2.5	5	3	1	△		
		TNMP2.5F107	1.5P										△		
M2.6 × 0.45	P1	TNMP2.6F507	5P	70	8.1	14	53	3	2.5	5	3	1	△		
		TNMP2.6F107	1.5P										△		
M3 × 0.5	P1	TNMP3.0G507	5P	70	9	14	50	4	3.2	6	3	1	△		
		TNMP3.0G510		100									◎		
		TNMP3.0G512		120									40	△	
		TNMP3.0G515		150									50	△	
		TNMP3.0G107		70									4	3.2	6
	P3	TNMP3.0G110	100	1.5P	120	40	5	4	7	3	3	1	1	◎	
		TNMP3.0G112	120		△										
		TNMP3.0G115	150		△										
		TNMR3.0G510	100		5P									150	△
		TNMR3.0G515	150		1.5P									100	150
M4 × 0.7	P2	TNMQ4.0I507	5P	70	11	17	47	5	4	7	3	1	△		
		TNMQ4.0I510		100			40						◎		
		TNMQ4.0I512		120			△								

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-HT Long Shank Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock				
M4 × 0.7	P2	TNMQ4.0I515	5P	150	11	17	40	5	4	7	3	1	⊙				
		TNMQ4.0I107	1.5P	70			47						△				
		TNMQ4.0I110		100			⊙										
		TNMQ4.0I112		120			△										
	P3	TNMQ4.0I115	5P	150			40						⊙				
		TNMR4.0I510		100			△										
		TNMR4.0I515		150			1.5P						100	150	△		
		TNMR4.0I110		100													
TNMR4.0I115	150																
M5 × 0.8	P2	TNMQ5.0K507	5P	70	13	22	43	5.5	4.5	7	3	1	△				
		TNMQ5.0K510		100			⊙										
		TNMQ5.0K512		120			40						△				
		TNMQ5.0K515		150			⊙										
		TNMQ5.0K107	1.5P	70			43						△				
		TNMQ5.0K110		100			⊙										
		TNMQ5.0K112		120			△										
		TNMQ5.0K115		150			⊙										
	P3	TNMR5.0K510	5P	100			40						△				
		TNMR5.0K515		150			1.5P						100	150	△		
		TNMR5.0K110		100													
		TNMR5.0K115		150													
M6 × 1	P2	TNMQ6.0M510	5P	100	15	26	40	6	4.5	7	3	1	⊙				
		TNMQ6.0M512		120									⊙				
		TNMQ6.0M515		150									⊙				
		TNMQ6.0M520		200									△				
		TNMQ6.0M110	1.5P	100									⊙				
		TNMQ6.0M112		120									⊙				
		TNMQ6.0M115		150									⊙				
		TNMQ6.0M120		200									P3	100	150	100	150
	TNMR6.0M510	5P															
	TNMR6.0M515	150															
	TNMR6.0M110	1.5P	100														
	TNMR6.0M115	150															
M8 × 1.25	P2	TNMQ8.0N510	5P	100	19	-	50	6.2	5	8	4	2	⊙				
		TNMQ8.0N512		120									⊙				
		TNMQ8.0N515		150									⊙				
		TNMQ8.0N520		200									⊙				
		TNMQ8.0N110	1.5P	100									⊙				
		TNMQ8.0N112		120									⊙				
		TNMQ8.0N115		150									⊙				
		TNMQ8.0N120		200									⊙				
	P3	TNMR8.0N510	5P	100									△				
		TNMR8.0N515		150									1.5P	100	150	200	△
		TNMR8.0N520		200													
		TNMR8.0N110		100													
TNMR8.0N115	150																
TNMR8.0N120	200																
M8 × 1	P2	TNMQ8.0M510	5P	100	19	-	50	6.2	5	8	4	2	△				
		TNMQ8.0M512		120													
		TNMQ8.0M515		150													

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

LS-HT Long Shank Hand Taps

	Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock	
Spiral Fluted Taps (for blind hole)	M8 × 1	P2	TNMQ8.0M110	1.5P	100	19	-	50	6.2	5	8	4	2	△	
			TNMQ8.0M112		120										
			TNMQ8.0M115		150										
Spiral Fluted Taps (for through hole)	M10 × 1.5	P2	TNMQ0100510	5P	100	23	-	50	7	5.5	8	4	2	○	
			TNMQ0100512		120										
			TNMQ0100515		150										
			TNMQ0100520		200										
			TNMQ0100525		250										
			TNMQ0100110		1.5P									100	○
		TNMQ0100112	120												
		TNMQ0100115	150												
		P3	TNMQ0100120	5P	200									○	
			TNMQ0100125		250										
			TNMR0100510		1.5P									100	△
			TNMR0100515											150	
TNMR0100110	100														
P4	TNMR0100115		5P		150										
	TNMS0100510	100													
	TNMS0100515	150													
TNMS0100110	1.5P	100	△												
TNMS0100115		150													
Spiral Pointed Taps (for through hole)	M10 × 1.25	P2	TNMQ010N510	5P	100	23	-	50	7	5.5	8	4	2	○	
			TNMQ010N512		120										
			TNMQ010N515		150										
			TNMQ010N520		200										
			TNMQ010N110		1.5P									100	△
			TNMQ010N112											120	
		TNMQ010N115	150												
		P3	TNMQ010N120	5P	200									○	
			TNMR010N510		1.5P									100	△
			TNMR010N110											100	
			TNMS010N510											5P	
			TNMS010N515		150										
TNMS010N110	1.5P		100												
TNMS010N115		150													
Cemented Carbide Taps	M10 × 1	P2	TNMQ010M510	5P	100	23	-	50	7	5.5	8	4	2	△	
			TNMQ010M512		120										
			TNMQ010M515		150										
			TNMQ010M110		1.5P										100
			TNMQ010M112												120
			TNMQ010M115												150
Roll Taps	M12 × 1.75	P2	TNMQ012P510	5P	100	26	-	50	8.5	6.5	9	4	2	○	
			TNMQ012P512		120										
			TNMQ012P515		150										
			TNMQ012P520		200										
			TNMQ012P525		250										
			TNMQ012P110		1.5P									100	○
			TNMQ012P112											120	
			TNMQ012P115											150	
TNMQ012P120	200														
Special Thread Taps Simple inspection tools	M10 × 1.25	P2	TNMQ010N510	5P	100	23	-	50	7	5.5	8	4	2	○	
			TNMQ010N512		120										
Pipe Taps	M10 × 1.25	P2	TNMQ010N515	5P	150	23	-	50	7	5.5	8	4	2	○	
			TNMQ010N520		200										
Thread Mills	M10 × 1.25	P2	TNMQ010N110	1.5P	100	23	-	50	7	5.5	8	4	2	○	
			TNMQ010N112		120										
Dies	M10 × 1	P2	TNMQ010M110	1.5P	100	23	-	50	7	5.5	8	4	2	△	
			TNMQ010M112		120										
Center Drills	M12 × 1.75	P2	TNMQ012P510	5P	100	26	-	50	8.5	6.5	9	4	2	○	
			TNMQ012P512		120										
Centering Tools	M12 × 1.75	P2	TNMQ012P515	5P	150	26	-	50	8.5	6.5	9	4	2	○	
			TNMQ012P520		200										

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-HT Long Shank Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.75	P2	TNMQ012P125	1.5P	250	26	-	50	8.5	6.5	9	4	2	△
	P3	TNMR012P515	5P	150									
		TNMR012P115	1.5P										
	P4	TNMS012P515	5P	200									
		TNMS012P520	1.5P	150									
		TNMS012P115		200									
TNMS012P120		200											
M12 × 1.5	P2	TNMQ0120510	5P	100	26	-	50	8.5	6.5	9	4	2	△
		TNMQ0120512		120									
		TNMQ0120515		150									
		TNMQ0120520		200									
		TNMQ0120110		100									
		TNMQ0120112		120									
	TNMQ0120115	150											
	P4	TNMS0120515	5P	150									
		TNMS0120520	200										
		TNMS0120115	150										
		TNMS0120120	200										
		P2	TNMQ012N510	5P									
TNMQ012N512			120										
P2	TNMQ012N515	5P	150										
	TNMQ012N520		200										
P4	TNMS012N110	1.5P	100										
	TNMS012N112		120										
	TNMS012N115		150										
	TNMS012N120		200										
	TNMS012N515		5P	150									
	TNMS012N520		200										
M12 × 1.25	P2	TNMQ012M510	5P	100	26	-	50	8.5	6.5	9	4	2	○
		TNMQ012M515		150									△
		TNMQ012M110		100									○
		TNMQ012M115		150									△
		TNMQ012N110		100									○
		TNMQ012N112		120									△
P4	TNMS012N115	1.5P	150	○									
	TNMS012N120		200	△									
	TNMS012N515		5P	150	△								
	TNMS012N520		200										
	TNMS012N115		150										
	TNMS012N120		200										
M12 × 1	P2	TNMQ012M510	5P	100	26	-	50	8.5	6.5	9	4	2	△
		TNMQ012M515		150									
		TNMQ012M110		100									
		TNMQ012M115		150									
M14 × 2	P2	TNMQ014Q512	5P	120	26	-	60	10.5	8	11	4	2	△
		TNMQ014Q515		150									○
		TNMQ014Q520		200									
		TNMQ014Q525		250									△
		TNMQ014Q112		120									
		TNMQ014Q115		150									○
	TNMQ014Q120	200											
	TNMQ014Q125	250											
	P3	TNMR014Q515	5P	150									△
		TNMR014Q115	1.5P	150									
M14 × 1.5	P2	TNMQ0140512	5P	120	26	-	60	10.5	8	11	4	2	△
		TNMQ0140515		150									○
		TNMQ0140520		200									△
		TNMQ0140112		120									
		TNMQ0140115		150									○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

LS-HT Long Shank Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock	
M14 × 1.5	P2	TNMQ0140120	1.5P	200	26	-	60	10.5	8	11	4	2	△	
M14 × 1	P2	TNMQ014M515	5P	150	26	-	60	10.5	8	11	4	2	△	
		TNMQ014M115	1.5P											
M16 × 2	P2	TNMQ016Q515		150									◎	
		TNMQ016Q520	5P	200									○	
		TNMQ016Q525		250										△
		TNMQ016Q115		150										◎
	P3	TNMQ016Q120	1.5P	200	26	-	60	12.5	10	13	4	2	2	○
		TNMQ016Q125		250										
		TNMR016Q515	5P	150										△
		TNMR016Q115	1.5P											
M16 × 1.5	P2	TNMQ016O515	5P	150									○	
		TNMQ016O520		200	26	-	60	12.5	10	13	4	2	△	
		TNMQ016O115		150										○
		TNMQ016O120	1.5P	200										△
M16 × 1	P2	TNMQ016M515	5P	150	26	-	60	12.5	10	13	4	2	△	
		TNMQ016M115	1.5P											
M18 × 2.5	P3	TNMR018R515		150										
		TNMR018R520	5P	200										
		TNMR018R525		250										
		TNMR018R115		150										
	P4	TNMR018R120	1.5P	200	33	-	70	14	11	14	4	2	2	△
		TNMR018R125		250										
		TNMS018R515	5P	150										
		TNMS018R115	1.5P											
M18 × 2	P3	TNMR018Q520	5P	200	33	-	70	14	11	14	4	2	△	
		TNMR018Q120	1.5P											
M18 × 1.5	P2	TNMQ018O515	5P	150									○	
		TNMQ018O520		200	33	-	70	14	11	14	4	2	△	
		TNMQ018O115		150										○
		TNMQ018O120	1.5P	200										△
M20 × 2.5	P3	TNMR020R515		150									○	
		TNMR020R520	5P	200										
		TNMR020R525		250										
		TNMR020R115		150										
	P4	TNMR020R120	1.5P	200	33	-	70	15	12	15	4	3	3	○
		TNMR020R125		250										
		TNMS020R515	5P	150										△
		TNMS020R115	1.5P											
M20 × 1.5	P3	TNMR020O515	5P	150									○	
		TNMR020O520		200										
		TNMR020O115	1.5P	150	33	-	70	15	12	15	4	3	3	○
	P4	TNMR020O120		200										
		TNMS020O515	5P	150										△
		TNMS020O115	1.5P											
M22 × 2.5	P3	TNMR022R515		150										
		TNMR022R520	5P	200										
		TNMR022R525		250										
		TNMR022R115		150										
		TNMR022R120	1.5P	200	33	-	70	17	13	16	4	3	3	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-HT Long Shank Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock	
M22 × 2.5	P3	TNMR022R125	1.5P	250										
	P4	TNMS022R515	5P	150	33	-	70	17	13	16	4	3	△	
		TNMS022R115	1.5P											
M22 × 1.5	P3	TNMR0220515	5P	150										
		TNMR0220520		200	33	-	70	17	13	16	4	3	△	
		TNMR0220115	1.5P	150										
		TNMR0220120		200										
M24 × 3	P3	TNMR024S515		150									○	
		TNMR024S520	5P	200									△	
		TNMR024S525		250										
		TNMR024S115		150	39	-	80	19	15	18	4	3	○	
		TNMR024S120	1.5P	200										
		TNMR024S125		250										
	P4	TNMS024S515	5P	150										△
		TNMS024S115	1.5P	150										
M24 × 2	P3	TNMR024Q520	5P	200	39	-	80	19	15	18	4	3	△	
		TNMR024Q120	1.5P											
M24 × 1.5	P3	TNMR0240515	5P	150									○	
		TNMR0240520		200	39	-	80	19	15	18	4	3	△	
		TNMR0240115	1.5P	150									○	
		TNMR0240120		200										△
M27 × 3	P3	TNMR027S520	5P	200										
		TNMR027S525		250	39	-	80	20	15	18	4	3	△	
		TNMR027S120	1.5P	200										
		TNMR027S125		250										
M27 × 2	P3	TNMR027Q525	5P	250	39	-	80	20	15	18	4	3	△	
		TNMR027Q125	1.5P											
M27 × 1.5	P3	TNMR0270520	5P	200										
		TNMR0270525		250	39	-	80	20	15	18	4	3	△	
		TNMR0270120	1.5P	200										
		TNMR0270125		250										
M30 × 3.5	P4	TNMS030T520		200										
		TNMS030T525	5P	250										
		TNMS030T530		300	46	-	80	23	17	20	4	3	△	
		TNMS030T120		200										
		TNMS030T125	1.5P	250										
		TNMS030T130		300										
M30 × 3	P3	TNMR030S525	5P	250	46	-	80	23	17	20	4	3	△	
		TNMR030S125	1.5P											
M30 × 2	P3	TNMR030Q520	5P	200										
		TNMR030Q525		250	46	-	80	23	17	20	4	3	△	
		TNMR030Q120	1.5P	200										
		TNMR030Q125		250										
M30 × 1.5	P3	TNMR0300520	5P	200										
		TNMR0300525		250	46	-	80	23	17	20	4	3	△	
		TNMR0300120	1.5P	200										
		TNMR0300125		250										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

LS-HT Long Shank Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads													
1/4-20UNC	P2	TNMQU04N515	5P	150	15	26	40	6	4.5	7	3	1	△
		TNMQU04N520		200									
		TNMQU04N115	1.5P	150									
		TNMQU04N120		200									
1/4-28UNF	P2	TNMQU04K515	5P	150	15	26	40	6	4.5	7	3	1	△
		TNMQU04K520		200									
		TNMQU04K115	1.5P	150									
		TNMQU04K120		200									
5/16-18UNC	P2	TNMQU05O515	5P	150	19	-	50	6.2	5	8	4	2	△
		TNMQU05O520		200									
		TNMQU05O115	1.5P	150									
		TNMQU05O120		200									
5/16-24UNF	P2	TNMQU05M515	5P	150	19	-	50	6.2	5	8	4	2	△
		TNMQU05M520		200									
		TNMQU05M115	1.5P	150									
		TNMQU05M120		200									
3/8-16UNC	P2	TNMQU06P515	5P	150	23	-	50	7	5.5	8	4	2	△
		TNMQU06P520		200									
		TNMQU06P115	1.5P	150									
		TNMQU06P120		200									
3/8-24UNF	P2	TNMQU06M515	5P	150	23	-	50	7	5.5	8	4	2	△
		TNMQU06M520		200									
		TNMQU06M115	1.5P	150									
		TNMQU06M120		200									
7/16-14UNC	P3	TNMRU07Q515	5P	150	26	-	50	8.5	6.5	9	4	2	△
		TNMRU07Q115	1.5P	150									
7/16-20UNF	P2	TNMQU07N515	5P	150	26	-	50	8.5	6.5	9	4	2	△
		TNMQU07N520		200									
		TNMQU07N115	1.5P	150									
		TNMQU07N120		200									
1/2-13UNC	P3	TNMRU08R515	5P	150	26	-	60	10.5	8	11	4	2	△
		TNMRU08R520		200									
		TNMRU08R115	1.5P	150									
		TNMRU08R120		200									
1/2-20UNF	P2	TNMQU08N515	5P	150	26	-	60	10.5	8	11	4	2	△
		TNMQU08N520		200									
		TNMQU08N115	1.5P	150									
		TNMQU08N120		200									
9/16-18UNF	P2	TNMQU09O515	5P	150	26	-	60	12.5	10	13	4	2	△
		TNMQU09O115	1.5P	150									
5/8-11UNC	P3	TNMRU10U515	5P	150	26	-	60	12.5	10	13	4	2	△
		TNMRU10U520		200									
		TNMRU10U115	1.5P	150									
		TNMRU10U120		200									
5/8-18UNF	P2	TNMQU10O515	5P	150	26	-	60	12.5	10	13	4	2	△
		TNMQU10O115	1.5P	150									
3/4-10UNC	P3	TNMRU12V515	5P	150	33	-	70	15	12	15	4	3	△
		TNMRU12V520		200									
		TNMRU12V115	1.5P	150									

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-HT Long Shank Hand Taps

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
3/4-10UNC	P3	TNMRU12V120	1.5P	200	33	-	70	15	12	15	4	3	△
		TNMRU12P515	5P	150	33	-	70	15	12	15	4	3	△
3/4-16UNF	P3	TNMRU12P115	1.5P										
		TNMRU14W520	5P	200	33	-	70	17	13	16	4	3	△
7/8-9UNC	P3	TNMRU14W120	1.5P										
		TNMRU16X515	5P	150									
1-8UNC	P3	TNMRU16X520	5P	200									
		TNMRU16X115	1.5P	150	39	-	80	19	15	18	4	3	△
		TNMRU16X120	1.5P	200									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-HT LH

Long Shank Hand Taps for Left Hand Threads

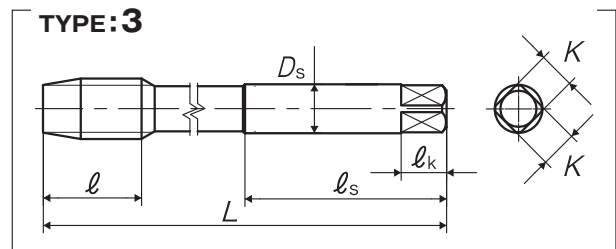
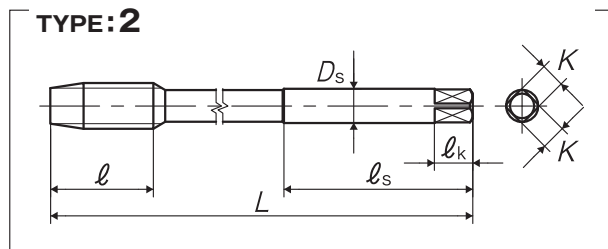
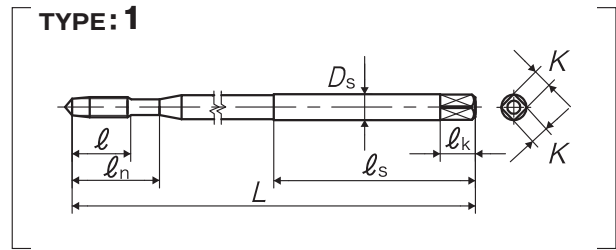
Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P1	TNMP3.0G510L	5P	100	9	14	40	4	3.2	6	3	1	△
		TNMP3.0G110L	1.5P										
M4 × 0.7	P2	TNMQ4.0I510L	5P	100	11	17	40	5	4	7	3	1	△
		TNMQ4.0I110L	1.5P										
M5 × 0.8	P2	TNMQ5.0K510L	5P	100	13	22	40	5.5	4.5	7	3	1	△
		TNMQ5.0K110L	1.5P										
M6 × 1	P2	TNMQ6.0M510L	5P	100	15	26	40	6	4.5	7	3	1	△
		TNMQ6.0M515L		150									
		TNMQ6.0M110L	1.5P	100									
		TNMQ6.0M115L		150									
M8 × 1.25	P2	TNMQ8.0N510L	5P	100	19	-	50	6.2	5	8	4	2	△
		TNMQ8.0N515L		150									
		TNMQ8.0N110L	1.5P	100									
		TNMQ8.0N115L		150									
M10 × 1.5	P2	TNMQ0100510L	5P	100	23	-	50	7	5.5	8	4	2	△
		TNMQ0100515L		150									
		TNMQ0100110L	1.5P	100									
		TNMQ0100115L		150									
M10 × 1.25	P2	TNMQ010N515L	5P	150	23	-	50	7	5.5	8	4	2	△
		TNMQ010N115L	1.5P										
M12 × 1.75	P2	TNMQ012P515L	5P	150	26	-	50	8.5	6.5	9	4	2	△
		TNMQ012P115L	1.5P										
M12 × 1.5	P2	TNMQ0120515L	5P	150	26	-	50	8.5	6.5	9	4	2	△

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-HT LH Long Shank Hand Taps for Left Hand Threads

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.5	P2	TNMQ0120115L	1.5P	150	26	-	50	8.5	6.5	9	4	2	△
		TNMQ012N515L	5P	150	26	-	50	8.5	6.5	9	4	2	△
M12 × 1.25	P2	TNMQ012N115L	1.5P	150	26	-	50	8.5	6.5	9	4	2	△
		TNMQ014Q515L	5P	150	26	-	60	10.5	8	11	4	2	△
M14 × 2	P2	TNMQ014Q115L	1.5P	150	26	-	60	10.5	8	11	4	2	△
		TNMQ014Q515L	5P	150	26	-	60	10.5	8	11	4	2	△
M14 × 1.5	P2	TNMQ014Q115L	1.5P	150	26	-	60	10.5	8	11	4	2	△
		TNMQ016Q515L	5P	150	26	-	60	12.5	10	13	4	2	△
M16 × 2	P2	TNMQ016Q520L	5P	200	26	-	60	12.5	10	13	4	2	△
		TNMQ016Q115L	1.5P	150	26	-	60	12.5	10	13	4	2	△
		TNMQ016Q120L	1.5P	200	26	-	60	12.5	10	13	4	2	△
M16 × 1.5	P2	TNMQ016Q515L	5P	150	26	-	60	12.5	10	13	4	2	△
		TNMQ016Q115L	1.5P	150	26	-	60	12.5	10	13	4	2	△
M18 × 2.5	P3	TNMR018R515L	5P	150	33	-	70	14	11	14	4	2	△
		TNMR018R115L	1.5P	150	33	-	70	14	11	14	4	2	△
M18 × 1.5	P2	TNMQ018Q515L	5P	150	33	-	70	14	11	14	4	2	△
		TNMQ018Q115L	1.5P	150	33	-	70	14	11	14	4	2	△
M20 × 2.5	P3	TNMR020R515L	5P	150	33	-	70	15	12	15	4	3	△
		TNMR020R520L	5P	200	33	-	70	15	12	15	4	3	△
		TNMR020R115L	1.5P	150	33	-	70	15	12	15	4	3	△
		TNMR020R120L	1.5P	200	33	-	70	15	12	15	4	3	△
M20 × 1.5	P3	TNMR020Q515L	5P	150	33	-	70	15	12	15	4	3	△
		TNMR020Q520L	5P	200	33	-	70	15	12	15	4	3	△
		TNMR020Q115L	1.5P	150	33	-	70	15	12	15	4	3	△
		TNMR020Q120L	1.5P	200	33	-	70	15	12	15	4	3	△
M22 × 2.5	P3	TNMR022R515L	5P	150	33	-	70	17	13	16	4	3	△
		TNMR022R520L	5P	200	33	-	70	17	13	16	4	3	△
		TNMR022R115L	1.5P	150	33	-	70	17	13	16	4	3	△
		TNMR022R120L	1.5P	200	33	-	70	17	13	16	4	3	△
M24 × 3	P3	TNMR024S515L	5P	150	39	-	80	19	15	18	4	3	△
		TNMR024S520L	5P	200	39	-	80	19	15	18	4	3	△
		TNMR024S115L	1.5P	150	39	-	80	19	15	18	4	3	△
		TNMR024S120L	1.5P	200	39	-	80	19	15	18	4	3	△
M27 × 3	P3	TNMR027S520L	5P	200	39	-	80	20	15	18	4	3	△
		TNMR027S120L	1.5P	200	39	-	80	20	15	18	4	3	△
M30 × 3.5	P4	TNMS030T520L	5P	200	46	-	80	23	17	20	4	3	△
		TNMS030T120L	1.5P	200	46	-	80	23	17	20	4	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-HT V

Long Shank Hand Taps, Coated
Specification

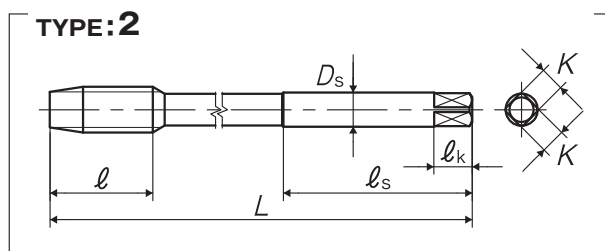
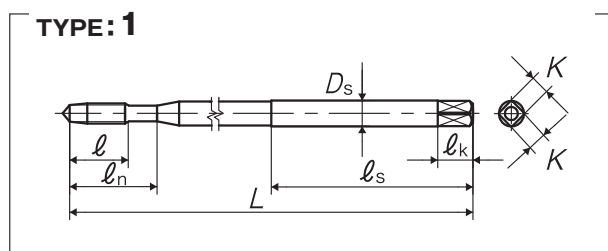


■ Adopting the optimum coating for the tapping condition.

Recommended Tapping Speeds depending on Materials

High carbon steels
10~20
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P1	TNMP3.0G510V	5P	100	9	14	40	4	3.2	6	3	1	△
		TNMP3.0G110V	1.5P										
M4 × 0.7	P2	TNMQ4.0I510V	5P	100	11	17	40	5	4	7	3	1	△
		TNMQ4.0I110V	1.5P										
M5 × 0.8	P2	TNMQ5.0K510V	5P	100	13	22	40	5.5	4.5	7	3	1	△
		TNMQ5.0K110V	1.5P										
M6 × 1	P2	TNMQ6.0M510V	5P	100	15	26	40	6	4.5	7	3	1	△
		TNMQ6.0M515V		150									
		TNMQ6.0M110V	100										
		TNMQ6.0M115V	150										
M8 × 1.25	P2	TNMQ8.0N510V	5P	100	19	-	50	6.2	5	8	4	2	△
		TNMQ8.0N515V		150									
		TNMQ8.0N110V	100										
		TNMQ8.0N115V	150										
M10 × 1.5	P2	TNMQ0100510V	5P	100	23	-	50	7	5.5	8	4	2	△
		TNMQ0100515V		150									
		TNMQ0100110V	100										
		TNMQ0100115V	150										
M10 × 1.25	P2	TNMQ010N510V	5P	100	23	-	50	7	5.5	8	4	2	△
		TNMQ010N515V		150									
		TNMQ010N110V	100										
		TNMQ010N115V	150										
M12 × 1.75	P2	TNMQ012P510V	5P	100	26	-	50	8.5	6.5	9	4	2	△
		TNMQ012P515V		150									
		TNMQ012P110V	100										
		TNMQ012P115V	150										
M12 × 1.5	P2	TNMQ0120510V	5P	100	26	-	50	8.5	6.5	9	4	2	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-HT V Long Shank Hand Taps, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.5	P2	TNMQ0120515V	5P	150	26	-	50	8.5	6.5	9	4	2	△
		TNMQ0120110V	1.5P	100									
		TNMQ0120115V		150									
M12 × 1.25	P2	TNMQ012N510V	5P	100	26	-	50	8.5	6.5	9	4	2	△
		TNMQ012N515V		150									
		TNMQ012N110V	1.5P	100									
		TNMQ012N115V		150									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SU-HT

Hand Taps for Stainless Steels
Specification

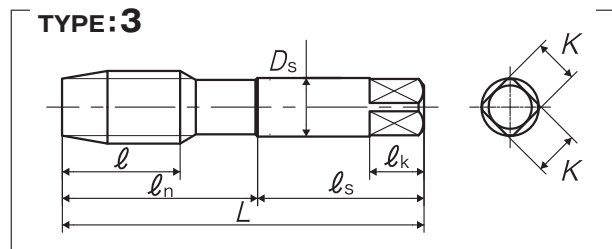
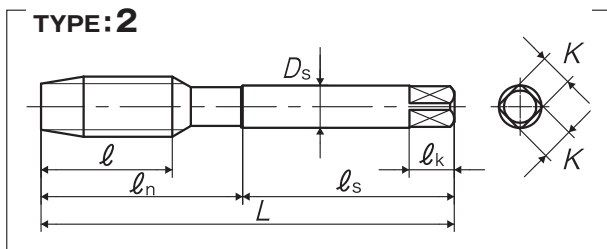
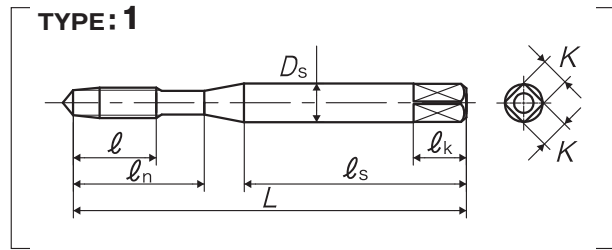


■SU-HT is the hand tap suitable for stainless steels which are sticky and tend to work-harden as well as chrome steel and molybdenum steels.

Recommended Tapping Speeds depending on Materials

Stainless steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P2	TUMQ2.0E4	4P	42	7.2	12	27	3	2.5	5	3	1	○
		TUMQ2.0E1	1.5P										
M2.3 × 0.4	P2	TUMQ2.3E4	4P	42	7.2	12	27	3	2.5	5	3	1	△
		TUMQ2.3E1	1.5P										
M2.5 × 0.45	P2	TUMQ2.5F4	4P	46	8.1	14	29	3	2.5	5	3	1	△
		TUMQ2.5F1	1.5P										
M2.6 × 0.45	P2	TUMQ2.6F4	4P	46	8.1	14	29	3	2.5	5	3	1	△
		TUMQ2.6F1	1.5P										
M3 × 0.5	P2	TUMQ3.0G4	4P	46	9	14	26	4	3.2	6	3	1	◎
		TUMQ3.0G1	1.5P										
M3.5 × 0.6	P2	TUMQ3.5H4	4P	52	11	16	29	5	4	7	3	1	△
		TUMQ3.5H1	1.5P										
M4 × 0.7	P2	TUMQ4.0I4	4P	52	11	17	29	5	4	7	3	1	◎
		TUMQ4.0I1	1.5P										
M5 × 0.8	P2	TUMQ5.0K4	4P	60	13	22	33	5.5	4.5	7	3	1	◎
		TUMQ5.0K1	1.5P										
M6 × 1	P2	TUMQ6.0M4	4P	62	15	26	33	6	4.5	7	3	1	◎
		TUMQ6.0M1	1.5P										
M6 × 0.75	P2	TUMQ6.0J4	4P	62	15	26	33	6	4.5	7	3	1	△
		TUMQ6.0J1	1.5P										
M8 × 1.25	P3	TUMR8.0N4	4P	70	19	-	36	6.2	5	8	3	2	◎
		TUMR8.0N1	1.5P								4		
M8 × 1	P3	TUMR8.0M4	4P	70	19	-	36	6.2	5	8	3	2	△
		TUMR8.0M1	1.5P								4		

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SU-HT Hand Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M10 × 1.5	P3	TUMR01004	4P	75	23	-	38	7	5.5	8	3	2	◎
		TUMR01001	1.5P								4		
M10 × 1.25	P3	TUMR010N4	4P	75	23	-	38	7	5.5	8	3	2	△
		TUMR010N1	1.5P								4		
M10 × 1	P3	TUMR010M4	4P	75	23	-	38	7	5.5	8	3	2	△
		TUMR010M1	1.5P								4		
M12 × 1.75	P4	TUMS012P4	4P	82	26	-	42	8.5	6.5	9	3	2	◎
		TUMS012P1	1.5P								4		
M12 × 1.5	P3	TUMR01204	4P	82	26	-	42	8.5	6.5	9	3	2	△
		TUMR01201	1.5P								4		
M12 × 1.25	P4	TUMS012N4	4P	82	26	-	42	8.5	6.5	9	3	2	△
		TUMS012N1	1.5P								4		
M12 × 1	P3	TUMR012M4	4P	82	26	-	42	8.5	6.5	9	3	2	△
		TUMR012M1	1.5P								4		
M14 × 2	P4	TUMS014Q4	4P	88	26	-	45	10.5	8	11	4	2	△
		TUMS014Q1	1.5P										
M14 × 1.5	P3	TUMR01404	4P	88	26	-	45	10.5	8	11	4	2	△
		TUMR01401	1.5P										
M14 × 1.25	P3	TUMR014N4	4P	88	26	-	45	10.5	8	11	4	2	△
		TUMR014N1	1.5P										
M14 × 1	P3	TUMR014M4	4P	88	26	-	45	10.5	8	11	4	2	△
		TUMR014M1	1.5P										
M16 × 2	P4	TUMS016Q4	4P	95	26	-	48	12.5	10	13	4	2	○
		TUMS016Q1	1.5P										
M16 × 1.5	P3	TUMR01604	4P	95	26	-	48	12.5	10	13	4	2	△
		TUMR01601	1.5P										
M16 × 1	P3	TUMR016M4	4P	95	26	-	48	12.5	10	13	4	2	△
		TUMR016M1	1.5P										
M18 × 2.5	P4	TUMS018R4	4P	100	33	-	51	14	11	14	4	2	△
		TUMS018R1	1.5P										
M18 × 1.5	P4	TUMS01804	4P	100	33	-	51	14	11	14	4	2	△
		TUMS01801	1.5P										
M20 × 2.5	P4	TUMS020R4	4P	105	33	-	50	15	12	15	4	3	○
		TUMS020R1	1.5P										
M20 × 1.5	P4	TUMS02004	4P	105	33	-	50	15	12	15	4	3	△
		TUMS02001	1.5P										
M22 × 2.5	P4	TUMS022R4	4P	115	33	-	55	17	13	16	4	3	△
		TUMS022R1	1.5P										
M22 × 1.5	P4	TUMS02204	4P	115	33	-	55	17	13	16	4	3	△
		TUMS02201	1.5P										
M24 × 3	P4	TUMS024S4	4P	120	39	-	55	19	15	18	4	3	△
		TUMS024S1	1.5P										
M24 × 1.5	P4	TUMS02404	4P	120	39	-	55	19	15	18	4	3	△
		TUMS02401	1.5P										
M27 × 3	P4	TUMS027S4	4P	130	39	-	60	20	15	18	4	3	△
		TUMS027S1	1.5P										
M27 × 1.5	P4	TUMS02704	4P	130	39	-	60	20	15	18	4	3	△
		TUMS02701	1.5P										
M30 × 3.5	P5	TUMT030T4	4P	135	46	-	62	23	17	20	4	3	△
		TUMT030T1	1.5P										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

SU-HT Hand Taps for Stainless Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M30 × 1.5	P4	TUMS03004	4P	135	46	-	62	23	17	20	4	3	△
		TUMS03001	1.5P										
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4-20UNC	P2	TUMQU04N4	4P	62	15	26	33	6	4.5	7	3	1	△
		TUMQU04N1	1.5P										
1/4-28UNF	P2	TUMQU04K4	4P	62	15	26	33	6	4.5	7	3	1	△
		TUMQU04K1	1.5P										
5/16-18UNC	P3	TUMRU05O4	4P	70	19	-	36	6.2	5	8	3	2	△
		TUMRU05O1	1.5P								4		
5/16-24UNF	P2	TUMQU05M4	4P	70	19	-	36	6.2	5	8	3	2	△
		TUMQU05M1	1.5P								4		
3/8-16UNC	P3	TUMRU06P4	4P	75	23	-	38	7	5.5	8	3	2	△
		TUMRU06P1	1.5P								4		
3/8-24UNF	P2	TUMQU06M4	4P	75	23	-	38	7	5.5	8	3	2	△
		TUMQU06M1	1.5P								4		
7/16-14UNC	P3	TUMRU07Q4	4P	82	26	-	42	8.5	6.5	9	3	2	△
		TUMRU07Q1	1.5P								4		
7/16-20UNF	P3	TUMRU07N4	4P	82	26	-	42	8.5	6.5	9	3	2	△
		TUMRU07N1	1.5P								4		
1/2-13UNC	P3	TUMRU08R4	4P	88	26	-	45	10.5	8	11	3	2	△
		TUMRU08R1	1.5P								4		
1/2-20UNF	P3	TUMRU08N4	4P	88	26	-	45	10.5	8	11	3	2	△
		TUMRU08N1	1.5P								4		
5/8-11UNC	P3	TUMRU10U4	4P	95	26	-	48	12.5	10	13	4	2	△
		TUMRU10U1	1.5P										
5/8-18UNF	P3	TUMRU10O4	4P	95	26	-	48	12.5	10	13	4	2	△
		TUMRU10O1	1.5P										
3/4-10UNC	P4	TUMSU12V4	4P	105	33	-	50	15	12	15	4	3	△
		TUMSU12V1	1.5P										
3/4-16UNF	P3	TUMRU12P4	4P	105	33	-	50	15	12	15	4	3	△
		TUMRU12P1	1.5P										
For Whitworth Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
1/4W20	P3	TUMRW04N4	4P	62	15	26	33	6	4.5	7	3	1	△
		TUMRW04N1	1.5P										
5/16W18	P3	TUMRW05O4	4P	70	19	-	36	6.2	5	8	3	2	△
		TUMRW05O1	1.5P								4		
3/8W16	P3	TUMRW06P4	4P	75	23	-	38	7	5.5	8	3	2	△
		TUMRW06P1	1.5P								4		
7/16W14	P3	TUMRW07Q4	4P	82	26	-	42	8.5	6.5	9	3	2	△
		TUMRW07Q1	1.5P								4		
1/2W12	P3	TUMRW08S4	4P	88	26	-	45	10.5	8	11	3	2	△
		TUMRW08S1	1.5P								4		
5/8W11	P3	TUMRW10U4	4P	95	26	-	48	12.5	10	13	4	2	△
		TUMRW10U1	1.5P										
3/4W10	P4	TUMSW12V4	4P	105	33	-	50	15	12	15	4	3	△
		TUMSW12V1	1.5P										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

FC-HT

Hand Taps for Cast Irons Specification



Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	l	l_n	l_s	Ds	K	l_k

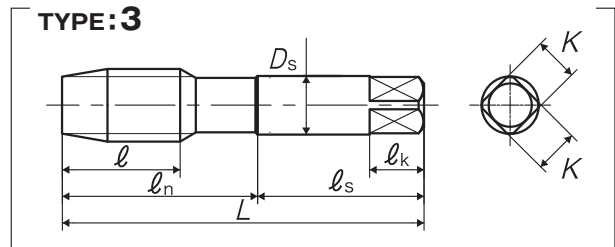
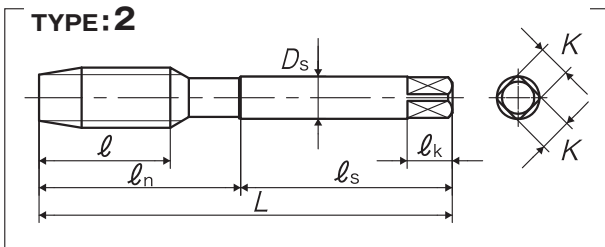
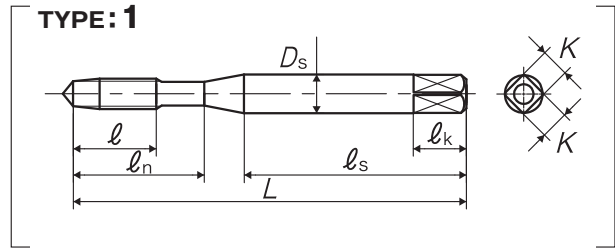


■ Suitable for hard and abrasive materials such as cast irons. Considering comparatively quick wear, FC-HT is properly oversized.

Recommended Tapping Speeds depending on Materials

Cast irons
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	l (mm)	l_n (mm)	l_s (mm)	Ds (mm)	K (mm)	l_k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P3	TY3.0GRAEN5	5P	46	9	14	26	4	3.2	6	3	1	○
		TY3.0GRAENA	1.5P										
M3.5 × 0.6	P3	TY3.5HRAEN5	5P	52	11	16	29	5	4	7	3	1	△
		TY3.5HRAENA	1.5P										
M4 × 0.7	P3	TY4.0IRAEN5	5P	52	11	17	29	5	4	7	3	1	○
		TY4.0IRAENA	1.5P										
M5 × 0.8	P3	TY5.0KRAEN5	5P	60	13	22	33	5.5	4.5	7	3	1	○
		TY5.0KRAENA	1.5P										
M6 × 1	P3	TY6.0MRAEN5	5P	62	15	26	33	6	4.5	7	3	1	◎
		TY6.0MRAENA	1.5P										
M8 × 1.25	P3	TY8.0NRAEN5	5P	70	19	-	36	6.2	5	8	3	2	◎
		TY8.0NRAENA	1.5P										
M8 × 1	P3	TY8.0MRAEN5	5P	70	19	-	36	6.2	5	8	3	2	△
		TY8.0MRAENA	1.5P										
M10 × 1.5	P4	TY0100SAEN5	5P	75	23	-	38	7	5.5	8	4	2	◎
		TY0100SAENA	1.5P										
M10 × 1.25	P3	TY010NRAEN5	5P	75	23	-	38	7	5.5	8	4	2	◎
		TY010NRAENA	1.5P										
M10 × 1	P3	TY010MRAEN5	5P	75	23	-	38	7	5.5	8	4	2	○
		TY010MRAENA	1.5P										
M12 × 1.75	P4	TY012PSAEN5	5P	82	26	-	42	8.5	6.5	9	4	2	◎
		TY012PSAENA	1.5P										

※ Available while stock lasts.

◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Think threads with
YAMAWA

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
HT-36

461

Hand Tap Series

FC-HT Hand Taps for Cast Irons

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.5	P4	TY0120SAEN5	5P	82	26	-	42	8.5	6.5	9	4	2	○
		TY0120SAENA	1.5P										
M12 × 1.25	P4	TY012NSAEN5	5P	82	26	-	42	8.5	6.5	9	4	2	○
		TY012NSAENA	1.5P										
M12 × 1	P3	TY012MRAEN5	5P	82	26	-	42	8.5	6.5	9	4	2	△
		TY012MRAENA	1.5P										
M14 × 2	P4	TY014QSAEN5	5P	88	26	-	45	10.5	8	11	4	2	○
		TY014QSAENA	1.5P										
M14 × 1.5	P4	TY0140SAEN5	5P	88	26	-	45	10.5	8	11	4	2	○
		TY0140SAENA	1.5P										
M16 × 2	P4	TY016QSAEN5	5P	95	26	-	48	12.5	10	13	4	2	○
		TY016QSAENA	1.5P										
M16 × 1.5	P4	TY0160SAEN5	5P	95	26	-	48	12.5	10	13	4	2	○
		TY0160SAENA	1.5P										
M18 × 2.5	P5	TY018RTAEN5	5P	100	33	-	51	14	11	14	4	2	○
		TY018RTAENA	1.5P										
M18 × 1.5	P4	TY0180SAEN5	5P	100	33	-	51	14	11	14	4	2	○
		TY0180SAENA	1.5P										
M20 × 2.5	P5	TY020RTAEN5	5P	105	33	-	50	15	12	15	4	3	○
		TY020RTAENA	1.5P										
M20 × 1.5	P4	TY0200SAEN5	5P	105	33	-	50	15	12	15	4	3	○
		TY0200SAENA	1.5P										
M22 × 2.5	P5	TY022RTAEN5	5P	115	33	-	55	17	13	16	4	3	△
		TY022RTAENA	1.5P										
M22 × 1.5	P4	TY0220SAEN5	5P	115	33	-	55	17	13	16	4	3	△
		TY0220SAENA	1.5P										
M24 × 3	P5	TY024STAEN5	5P	120	39	-	55	19	15	18	4	3	△
		TY024STAENA	1.5P										
M24 × 1.5	P4	TY0240SAEN5	5P	120	39	-	55	19	15	18	4	3	○
		TY0240SAENA	1.5P										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

LA-HT

Hand Taps for Die Cast Materials Specification



~M2.6

Recommended Tapping Speeds depending on Materials

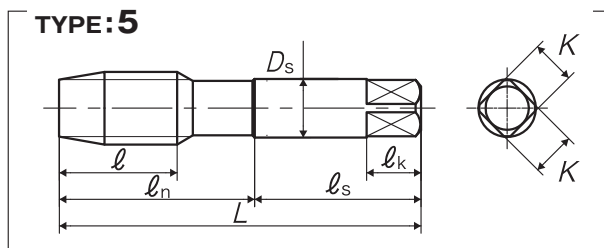
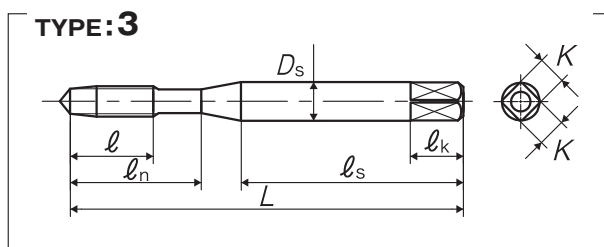
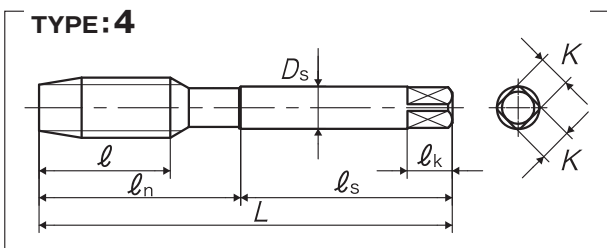
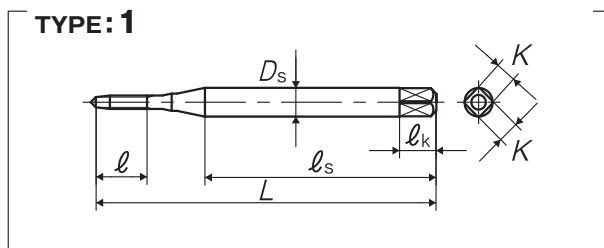
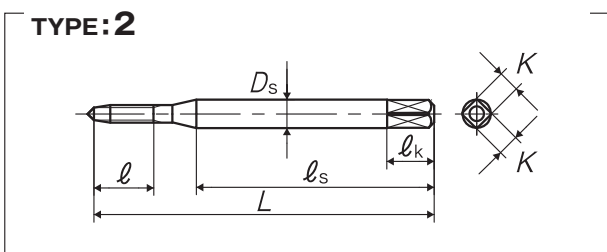
Wrought aluminum	Aluminum alloy castings	Zinc alloy castings
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

For icon explanation, refer to P.50

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_n	ℓ_s	Ds	K	ℓ_k



■ LA-HT is the oversized tap, and is suitable for the materials tending to shrink, such as aluminum alloy diecastings (ADC) and zinc alloy diecastings (ZDC).



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ_n (mm)	ℓ_s (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.4 × 0.3	P2	TY1.4CQLEN5	5P	36	5.4	-	24	3	2.5	5	3	1	△
		TY1.4CQLENA	1.5P										
M1.6 × 0.35	P2	TY1.6DQLEN5	5P	36	6.3	-	24	3	2.5	5	3	2	△
		TY1.6DQLENA	1.5P										
M2 × 0.4	P2	TY2.0EQLEN5	5P	42	7.2	12	27	3	2.5	5	3	3	◎
		TY2.0EQLENA	1.5P										
M2.3 × 0.4	P2	TY2.3EQLEN5	5P	42	7.2	12	27	3	2.5	5	3	3	△
		TY2.3EQLENA	1.5P										
M2.5 × 0.45	P2	TY2.5FQLEN5	5P	46	8.1	14	29	3	2.5	5	3	3	○
		TY2.5FQLENA	1.5P										
M2.6 × 0.45	P2	TY2.6FQLEN5	5P	46	8.1	14	29	3	2.5	5	3	3	△
		TY2.6FQLENA	1.5P										
M3 × 0.5	P2	TY3.0GQLEN5	5P	46	9	14	26	4	3.2	6	3	3	○
		TY3.0GQLENA	1.5P										
M3.5 × 0.6	P2	TY3.5HQLEN5	5P	52	11	16	29	5	4	7	3	3	△
		TY3.5HQLENA	1.5P										

◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

YAMAWA

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
HT-38

463

Hand Tap Series

LA-HT Hand Taps for Die Cast Materials

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M4 × 0.7	P3	TY4.0IRLEN5	5P	52	11	17	29	5	4	7	3	3	○
		TY4.0IRLENA	1.5P										
M5 × 0.8	P3	TY5.0KRLEN5	5P	60	13	22	33	5.5	4.5	7	3	3	○
		TY5.0KRLENA	1.5P										
M6 × 1	P3	TY6.0MRLEN5	5P	62	15	26	33	6	4.5	7	3	3	◎
		TY6.0MRLENA	1.5P										
M8 × 1.25	P3	TY8.0NRLEN5	5P	70	19	-	36	6.2	5	8	3	4	○
		TY8.0NRLENA	1.5P										
M8 × 1	P3	TY8.0MRLEN5	5P	70	19	-	36	6.2	5	8	3	4	△
		TY8.0MRLENA	1.5P										
M10 × 1.5	P4	TY0100SLEN5	5P	75	23	-	38	7	5.5	8	4	4	○
		TY0100SLENA	1.5P										
M10 × 1.25	P3	TY010NRLEN5	5P	75	23	-	38	7	5.5	8	4	4	○
		TY010NRLENA	1.5P										
M10 × 1	P3	TY010MRLEN5	5P	75	23	-	38	7	5.5	8	4	4	△
		TY010MRLENA	1.5P										
M12 × 1.75	P4	TY012PSLEN5	5P	82	26	-	42	8.5	6.5	9	4	4	○
		TY012PSLENA	1.5P										
M12 × 1.5	P4	TY0120SLEN5	5P	82	26	-	42	8.5	6.5	9	4	4	△
		TY0120SLENA	1.5P										
M12 × 1.25	P4	TY012NSLEN5	5P	82	26	-	42	8.5	6.5	9	4	4	△
		TY012NSLENA	1.5P										
M12 × 1	P3	TY012MRLEN5	5P	82	26	-	42	8.5	6.5	9	4	4	△
		TY012MRLENA	1.5P										
M14 × 2	P4	TY014QSLEN5	5P	88	26	-	45	10.5	8	11	4	4	△
		TY014QSLENA	1.5P										
M14 × 1.5	P4	TY0140SLEN5	5P	88	26	-	45	10.5	8	11	4	4	○
		TY0140SLENA	1.5P										
M16 × 2	P4	TY016QSLEN5	5P	95	26	-	48	12.5	10	13	4	4	△
		TY016QSLENA	1.5P										
M16 × 1.5	P4	TY0160SLEN5	5P	95	26	-	48	12.5	10	13	4	4	△
		TY0160SLENA	1.5P										
M18 × 2.5	P5	TY018RTLLEN5	5P	100	33	-	51	14	11	14	4	4	△
		TY018RTLLENA	1.5P										
M18 × 1.5	P4	TY0180SLEN5	5P	100	33	-	51	14	11	14	4	4	△
		TY0180SLENA	1.5P										
M20 × 2.5	P5	TY020RTLLEN5	5P	105	33	-	50	15	12	15	4	5	△
		TY020RTLLENA	1.5P										
M20 × 1.5	P4	TY0200SLEN5	5P	105	33	-	50	15	12	15	4	5	○
		TY0200SLENA	1.5P										
M22 × 2.5	P5	TY022RTLLENA	1.5P	115	33	-	55	17	13	16	4	5	△
M22 × 1.5	P4	TY0220SLENA	1.5P	115	33	-	55	17	13	16	4	5	△
M24 × 3	P5	TY024RTLLENA	1.5P	120	39	-	55	19	15	18	4	5	△
M24 × 1.5	P4	TY0240SLENA	1.5P	120	39	-	55	19	15	18	4	5	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

AXE-HT

AXE Hand Taps

Specification

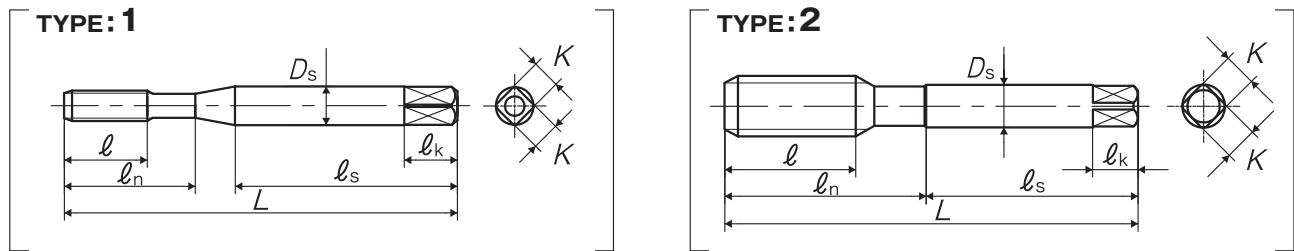


■ AXE-HT has special cutting edges which minimize chipping trouble in aluminum alloy diecasting tapping, and ensures a long tool life.

Recommended Tapping Speeds depending on Materials

Aluminum alloy castings	Zinc alloy castings
10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P3	TAXEMR6.0M1	1.5P	62	15	26	33	6	4.5	7	3	1	△
M8 × 1.25	P3	TAXEMR8.0N1	1.5P	70	19	-	36	6.2	5	8	4	2	△
M10 × 1.5	P3	TAXEMR01001	1.5P	75	23	-	38	7	5.5	8	4	2	△
M10 × 1.25	P3	TAXEMR010N1	1.5P	75	23	-	38	7	5.5	8	4	2	△
M10 × 1	P3	TAXEMR010M1	1.5P	75	23	-	38	7	5.5	8	4	2	△
M12 × 1.75	P3	TAXEMR012P1	1.5P	82	26	-	42	8.5	6.5	9	4	2	△
M12 × 1.5	P3	TAXEMR01201	1.5P	82	26	-	42	8.5	6.5	9	4	2	△
M12 × 1.25	P3	TAXEMR012N1	1.5P	82	26	-	42	8.5	6.5	9	4	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

MG-HT



Hand Taps with Short Chamfer for Magnesium Alloy Castings

Specification



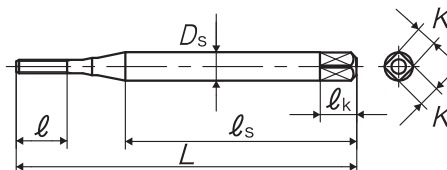
■ Having short chamfer length of less than 1thread, MG-HT is most suitable for blind holes with little space in the bottom.

Recommended Tapping Speeds depending on Materials

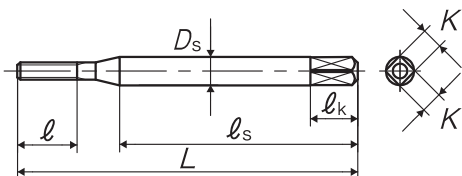
Aluminum alloy castings 5~15 (m/min)	Magnesium alloy die castings 5~15 (m/min)	Zinc alloy castings 5~15 (m/min)
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For icon explanation, refer to P.50

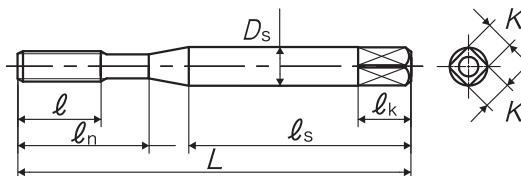
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M1.4 × 0.3	P2	TMGMQ1.4C1	1P	36	5.4	-	24	3	2.5	5	3	1	△
M1.6 × 0.35	P2	TMGMQ1.6D1	1P	36	6.3	-	24	3	2.5	5	3	2	△
M1.7 × 0.35	P2	TMGMQ1.7D1	1P	36	6.3	-	24	3	2.5	5	3	2	△
M2 × 0.4	P2	TMGMQ2.0E1	1P	42	7.2	12	27	3	2.5	5	3	3	△
M2.5 × 0.45	P2	TMGMQ2.5F1	1P	46	8.1	14	29	3	2.5	5	3	3	△
M2.6 × 0.45	P2	TMGMQ2.6F1	1P	46	8.1	14	29	3	2.5	5	3	3	△
M3 × 0.5	P2	TMGMQ3.0G1	1P	46	9	14	26	4	3.2	6	3	3	△

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

AL-HT

Hand Taps for Helical Coil Wire Screw Thread Inserts

Specification



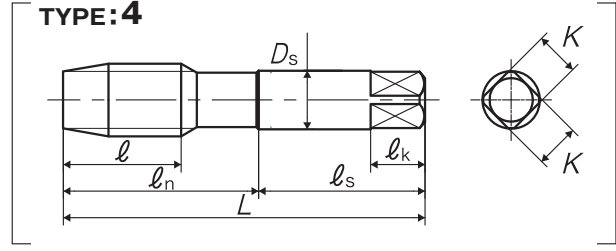
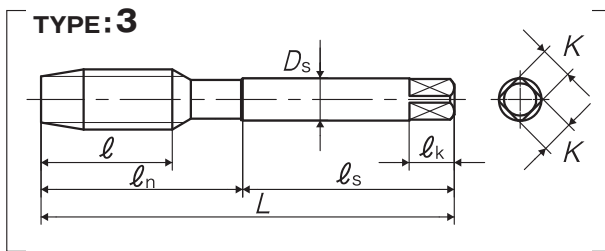
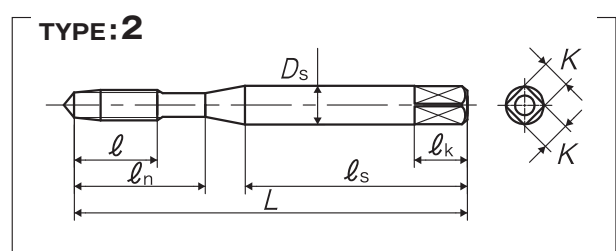
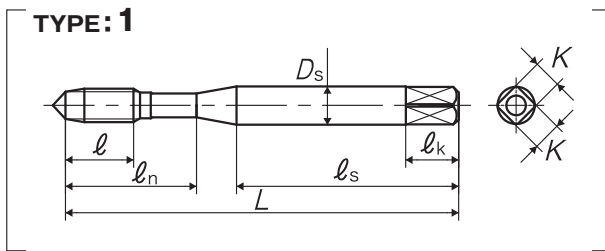
M26~

■ Hand tap cutting internal threads for helical coil to enter.

Recommended Tapping Speeds depending on Materials

Wrought aluminum	Aluminum alloy castings	Zinc alloy castings
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Helical Coil Wire Screw Thread Inserts, for Metric Threads														
STI M2.6 × 0.45	1b	TW2.6F1LEB5	5P	3.185	52	6.8	16	29	5	4	7	3	1	△
		TW2.6F1LEBA	1.5P											
STI M3 × 0.5	1b	TW3.0G1LEB5	5P	3.650	52	7.5	17	29	5	4	7	3	1	◎
		TW3.0G1LEBA	1.5P											
STI M4 × 0.7	1b	TW4.0I1LEB5	5P	4.909	60	13	22	33	5.5	4.5	7	4	2	◎
		TW4.0I1LEBA	1.5P											
STI M5 × 0.8	1b	TW5.0K1LEB5	5P	6.039	62	15	26	33	6	4.5	7	4	2	◎
		TW5.0K1LEBA	1.5P											
STI M6 × 1	1b	TW6.0M1LEB5	5P	7.299	70	19	-	36	6.2	5	8	4	3	◎
		TW6.0M1LEBA	1.5P											
STI M8 × 1.25	1b	TW8.0N1LEB5	5P	9.624	75	23	-	38	7	5.5	8	4	3	◎
		TW8.0N1LEBA	1.5P											
STI M10 × 1.5	1b	TW01001LEB5	5P	11.949	82	26	-	42	8.5	6.5	9	4	3	◎
		TW01001LEBA	1.5P											
STI M10 × 1.25	1b	TW010N1LEB5	5P	11.624	82	26	-	42	8.5	6.5	9	4	3	△
		TW010N1LEBA	1.5P											
STI M10 × 1	1b	TW010M1LEB5	5P	11.299	82	26	-	42	8.5	6.5	9	4	3	△
		TW010M1LEBA	1.5P											
STI M12 × 1.75	1b	TW012P1LEB5	5P	14.273	95	26	-	48	12.5	10	13	4	3	◎

◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Think threads with
YAMAWA

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
HT-42

467

Hand Tap Series

AL-HT Hand Taps for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
STI M12 × 1.75	1b	TW012P1LEBA	1.5P	14.273	95	26	-	48	12.5	10	13	4	3	◎
		TW01201LEB5	5P	13.948	88	26	-	45	10.5	8	11	4	3	△
STI M12 × 1.5	1b	TW01201LEBA	1.5P											
		TW012N1LEB5	5P	13.624	88	26	-	45	10.5	8	11	4	3	△
STI M12 × 1.25	1b	TW012N1LEBA	1.5P											
		TW014Q1LEB5	5P	16.598	100	33	-	51	14	11	14	4	3	△
STI M14 × 2	1b	TW014Q1LEBA	1.5P											
		TW01401LEB5	5P	15.948	95	26	-	48	12.5	10	13	4	3	△
STI M14 × 1.5	1b	TW01401LEBA	1.5P											
		TW016Q1LEB5	5P	18.598	105	33	-	50	15	12	15	4	4	○
STI M16 × 2	1b	TW016Q1LEBA	1.5P											
		TW01601LEB5	5P	17.948	100	33	-	51	14	11	14	4	3	△
STI M16 × 1.5	1b	TW01601LEBA	1.5P											
		TW018R1LEB5	5P	21.248	115	33	-	55	17	13	16	4	4	△
STI M18 × 2.5	1b	TW018R1LEBA	1.5P											
		TW01801LEB5	5P	19.948	105	33	-	50	15	12	15	4	4	△
STI M18 × 1.5	1b	TW01801LEBA	1.5P											
		TW020R1LEB5	5P	23.248	120	39	-	55	19	15	18	4	4	○
STI M20 × 2.5	1b	TW020R1LEBA	1.5P											
		TW02001LEB5	5P	21.948	115	33	-	55	17	13	16	4	4	△
STI M20 × 1.5	1b	TW02001LEBA	1.5P											
		TW022R1LEB5	5P	25.248	125	39	-	58	19	15	18	4	4	△
STI M22 × 2.5	1b	TW022R1LEBA	1.5P											
		TW02201LEB5	5P	23.948	120	39	-	55	19	15	18	4	4	△
STI M22 × 1.5	1b	TW02201LEBA	1.5P											
		TW024S1LEB5	5P	27.897	135	46	-	62	23	17	20	4	4	○
STI M24 × 3	1b	TW024S1LEBA	1.5P											
		TW02401LEB5	5P	25.948	130	39	-	60	20	15	18	4	4	△
STI M24 × 1.5	1b	TW02401LEBA	1.5P											
		For Helical Coil Wire Screw Thread Inserts, for Unified Threads												
Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
STI No.4-40UNC	1b	TWUN4H1LEB5	5P	3.670	52	11	17	29	5	4	7	3	2	△
		TWUN4H1LEBA	1.5P											
STI No.4-48UNF	1b	TWUN4F1LEB5	5P	3.532	52	11	17	29	5	4	7	3	2	△
		TWUN4F1LEBA	1.5P											
STI No.5-40UNC	1b	TWUN5H1LEB5	5P	4.000	52	11	17	29	5	4	7	3	2	△
		TWUN5H1LEBA	1.5P											
STI No.6-32UNC	1b	TWUN6J1LEB5	5P	4.536	60	13	22	33	5.5	4.5	7	3	2	△
		TWUN6J1LEBA	1.5P											
STI No.6-40UNF	1b	TWUN6H1LEB5	5P	4.330	60	13	22	33	5.5	4.5	7	3	2	△
		TWUN6H1LEBA	1.5P											
STI No.8-32UNC	1b	TWUN8J1LEB5	5P	5.197	62	15	26	33	6	4.5	7	4	2	△
		TWUN8J1LEBA	1.5P											
STI No.8-36UNF	1b	TWUN8H1LEB5	5P	5.083	62	9.5	26	33	6	4.5	7	4	1	△
		TWUN8H1LEBA	1.5P											
STI No.10-24UNC	1b	TWUNAM1LEB5	5P	6.200	62	15	26	33	6	4.5	7	4	2	△
		TWUNAM1LEBA	1.5P											
STI No.10-32UNF	1b	TWUNAJ1LEB5	5P	5.857	62	15	26	33	6	4.5	7	4	2	△
		TWUNAJ1LEBA	1.5P											

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps Simple inspection tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS HT-43

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◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

AL-HT Hand Taps for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
STI No.12-24UNC	1b	TWUNCM1LEB5	5P	6.861	70	19	-	36	6.2	5	8	4	3	△
		TWUNCM1LEBA	1.5P											
STI 1/4-20UNC	1b	TWU04N1LEB5	5P	8.000	70	19	-	36	6.2	5	8	4	3	△
		TWU04N1LEBA	1.5P											
STI 1/4-28UNF	1b	TWU04K1LEB5	5P	7.528	70	19	-	36	6.2	5	8	4	3	△
		TWU04K1LEBA	1.5P											
STI 5/16-18UNC	1b	TWU05O1LEB5	5P	9.771	75	23	-	38	7	5.5	8	4	3	△
		TWU05O1LEBA	1.5P											
STI 5/16-24UNF	1b	TWU05M1LEB5	5P	9.313	75	23	-	38	7	5.5	8	4	3	△
		TWU05M1LEBA	1.5P											
STI 3/8-16UNC	1b	TWU06P1LEB5	5P	11.587	82	26	-	42	8.5	6.5	9	4	3	△
		TWU06P1LEBA	1.5P											
STI 3/8-24UNF	1b	TWU06M1LEB5	5P	10.900	82	26	-	42	8.5	6.5	9	4	3	△
		TWU06M1LEBA	1.5P											
STI 7/16-14UNC	1b	TWU07Q1LEB5	5P	13.469	88	26	-	45	10.5	8	11	4	3	△
		TWU07Q1LEBA	1.5P											
STI 7/16-20UNF	1b	TWU07N1LEB5	5P	12.762	88	26	-	45	10.5	8	11	4	3	△
		TWU07N1LEBA	1.5P											
STI 1/2-13UNC	1b	TWU08R1LEB5	5P	15.238	95	26	-	48	12.5	10	13	4	3	△
		TWU08R1LEBA	1.5P											
STI 1/2-20UNF	1b	TWU08N1LEB5	5P	14.350	95	26	-	48	12.5	10	13	4	3	△
		TWU08N1LEBA	1.5P											
STI 5/8-11UNC	1b	TWU10U1LEB5	5P	18.875	105	33	-	50	15	12	15	4	4	△
		TWU10U1LEBA	1.5P											
STI 5/8-18UNF	1b	TWU10O1LEB5	5P	17.708	100	33	-	51	14	11	14	4	3	△
		TWU10O1LEBA	1.5P											
STI 3/4-16UNF	1b	TWU12P1LEB5	5P	21.112	115	33	-	55	17	13	16	4	4	△
		TWU12P1LEBA	1.5P											

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PL1

Hand Taps for Plastics

Specification

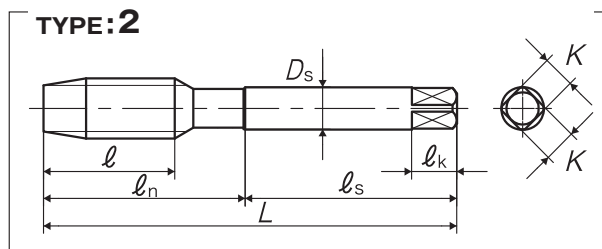
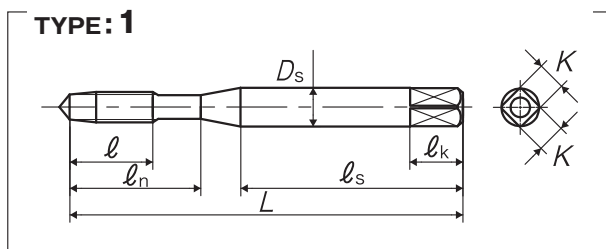


■ PL1 is the tap for thermosetting plastic which is specially hard-to-machine material among plastics.

Recommended Tapping Speeds depending on Materials

Thermosetting plastic
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M2 × 0.4	P4	TPLM2.0E3	3P	42	7.2	12	27	3	2.5	5	3	1	△
M2.3 × 0.4	P4	TPLM2.3E3	3P	42	7.2	12	27	3	2.5	5	3	1	△
M2.5 × 0.45	P4	TPLM2.5F3	3P	46	8.1	14	29	3	2.5	5	3	1	○
M2.6 × 0.45	P4	TPLM2.6F3	3P	46	8.1	14	29	3	2.5	5	3	1	△
M3 × 0.5	P5	TPLM3.0G3	3P	46	9	14	26	4	3.2	6	4	1	○
M3.5 × 0.6	P5	TPLM3.5H3	3P	52	11	16	29	5	4	7	4	1	○
M4 × 0.7	P5	TPLM4.0I3	3P	52	11	17	29	5	4	7	4	1	○
M5 × 0.8	P5	TPLM5.0K3	3P	60	13	22	33	5.5	4.5	7	4	1	○
M6 × 1	P5	TPLM6.0M3	3P	62	15	26	33	6	4.5	7	4	1	△
M8 × 1.25	P6	TPLM8.0N3	3P	70	19	-	36	6.2	5	8	4	2	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

MC-HT

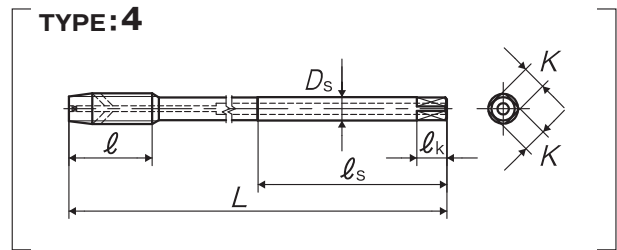
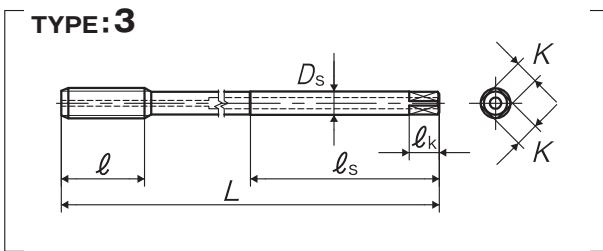
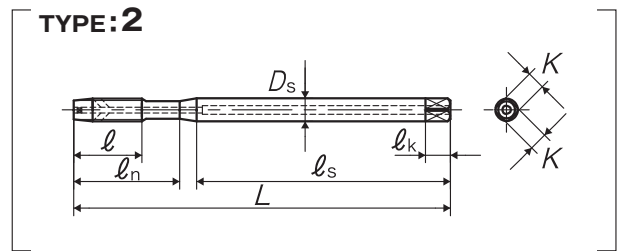
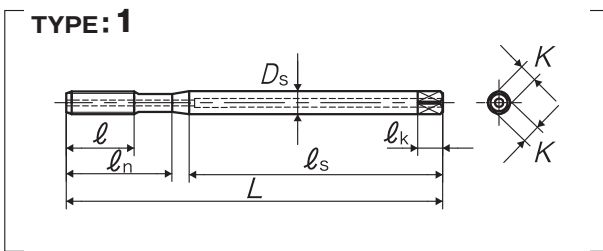
Hand Taps with Internal Coolant Hole Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1A

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P2	ML106.0M5-Q	5P	100	19	28	40	6	4.5	7	4	2	△
		ML156.0M5-Q		150									
		ML106.0M1-Q	1.5P	100									
		ML156.0M1-Q		150									
M8 × 1.25	P2	ML108.0N5-Q	5P	100	22	-	50	6.2	5	8	4	4	△
		ML158.0N5-Q		150									
		ML108.0N1-Q	1.5P	100									
		ML158.0N1-Q		150									
M10 × 1.5	P2	ML1001005-Q	5P	100	24	-	50	7	5.5	8	4	4	△
		ML1501005-Q		150									
		ML1001001-Q	1.5P	100									
		ML1501001-Q		150									
M10 × 1.25	P2	ML10010N5-Q	5P	100	20	-	50	7	5.5	8	4	4	△
		ML15010N5-Q		150									
		ML10010N1-Q	1.5P	100									
		ML15010N1-Q		150									
M12 × 1.75	P2	ML10012P5-Q	5P	100	29	-	50	8.5	6.5	9	4	4	△
		ML15012P5-Q		150									
		ML20012P5-Q		200									

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	l	ln	ls	Ds	K	lk



■ Through internal coolant hole, satisfactory amount of oil is supplied to the exact cutting area. MC-HT hand tap ensures a long tool life and internal threads with good surface finish.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Hand Tap Series

MC-HT Hand Taps with Internal Coolant Hole

	Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
Spiral Fluted Taps (for blind hole)	M12 × 1.75	P2	ML10012P1-Q	1.5P	100	29	-	50	8.5	6.5	9	4	3	△
			ML15012P1-Q		150									
			ML20012P1-Q		200									
Spiral Fluted Taps (for through hole)	M12 × 1.5	P2	ML1001205-Q	5P	100	29	-	50	8.5	6.5	9	4	4	△
			ML1501205-Q		150									
			ML2001205-Q		200									
			ML1001201-Q	1.5P	100									
			ML1501201-Q		150									
			ML2001201-Q		200									
Spiral Pointed Taps (for through hole)	M12 × 1.25	P2	ML10012N5-Q	5P	100	24	-	50	8.5	6.5	9	4	4	△
			ML15012N5-Q		150									
			ML20012N5-Q		200									
			ML10012N1-Q	1.5P	100									
			ML15012N1-Q		150									
			ML20012N1-Q		200									
Cemented Carbide Taps	M14 × 2	P2	ML15014Q5-Q	5P	150	30	-	60	10.5	8	11	4	4	△
			ML20014Q5-Q		200									
			ML15014Q1-Q	1.5P	150									
			ML20014Q1-Q		200									
Roll Taps	M14 × 1.5	P2	ML1501405-Q	5P	150	30	-	60	10.5	8	11	4	4	△
			ML2001405-Q		200									
			ML1501401-Q	1.5P	150									
			ML2001401-Q		200									
Special Thread Taps Simple inspection tools	M16 × 2	P2	ML15016Q5-Q	5P	150	32	-	60	12.5	10	13	4	4	△
			ML20016Q5-Q		200									
			ML15016Q1-Q	1.5P	150									
			ML20016Q1-Q		200									
Pipe Taps	M16 × 1.5	P2	ML1501605-Q	5P	150	32	-	60	12.5	10	13	4	4	△
			ML2001605-Q		200									
			ML1501601-Q	1.5P	150									
			ML2001601-Q		200									
Thread Mills	M18 × 2.5	P3	ML15018R5-R	5P	150	37	-	70	14	11	14	4	4	△
			ML20018R5-R		200									
			ML15018R1-R	1.5P	150									
			ML20018R1-R		200									
Dies	M18 × 1.5	P2	ML1501805-Q	5P	150	29	-	70	14	11	14	4	4	△
			ML2001805-Q		200									
			ML1501801-Q	1.5P	150									
			ML2001801-Q		200									
Center Drills	M20 × 2.5	P3	ML15020R5-R	5P	150	37	-	70	15	12	15	4	4	△
			ML20020R5-R		200									
			ML15020R1-R	1.5P	150									
			ML20020R1-R		200									
Centering Tools	M20 × 1.5	P3	ML1502005-R	5P	150	29	-	70	15	12	15	4	4	△
			ML2002005-R		200									
			ML1502001-R	1.5P	150									
			ML2002001-R		200									
	M22 × 2.5	P3	ML15022R5-R	5P	150	38	-	70	17	13	16	4	4	△
			ML20022R5-R		200									
			ML15022R1-R	1.5P	150									

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

MC-HT Hand Taps with Internal Coolant Hole

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M22 × 2.5	P3	ML20022R1-R	1.5P	200	38	-	70	17	13	16	4	3	△
M22 × 1.5	P3	ML1502205-R	5P	150	33	-	70	17	13	16	4	4	△
		ML2002205-R		200									
		ML1502201-R	1.5P	150								3	
		ML2002201-R		200									
M24 × 3	P3	ML15024S5-R	5P	150	45	-	80	19	15	18	4	4	△
		ML20024S5-R		200									
		ML15024S1-R	1.5P	150								3	
		ML20024S1-R		200									
M24 × 1.5	P3	ML1502405-R	5P	150	35	-	80	19	15	18	4	4	△
		ML2002405-R		200									
		ML1502401-R	1.5P	150								3	
		ML2002401-R		200									
M27 × 3	P3	ML20027S5-R	5P	200	45	-	80	20	15	18	4	4	△
		ML20027S1-R	1.5P	3									
M27 × 1.5	P3	ML2002705-R	5P	200	37	-	80	20	15	18	4	4	△
		ML2002701-R	1.5P	3									
M30 × 3.5	P4	ML20030T5-S	5P	200	48	-	80	23	17	20	4	4	△
		ML20030T1-S	1.5P	3									
M30 × 1.5	P3	ML2003005-R	5P	200	37	-	80	23	17	20	4	4	△
		ML2003001-R	1.5P	3									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

EH-HT

Hand Taps for Hard-to-Machine Materials Specification

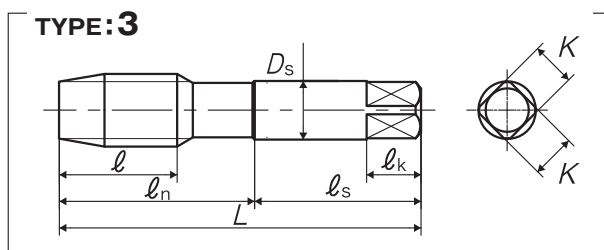
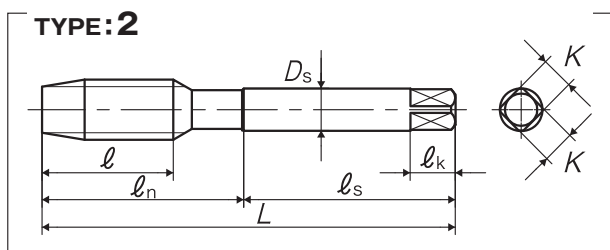
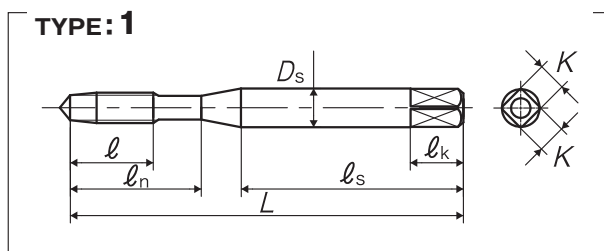


■EH-HT is the hand tap suitable for hard steels of 35-45HRC, such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels.

Recommended Tapping Speeds depending on Materials

Thermal refined steels	Tool steels
~5	~5
(m/min)	(m/min)

35~45HRC
For icon explanation, refer to P.50



Segment : 1B

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M3 × 0.5	P3	ETHMR3.0G5	5P	46	9	14	26	4	3.2	6	3	1	○
		ETHMR3.0G1	2.5P										
M4 × 0.7	P3	ETHMR4.0I5	5P	52	11	17	29	5	4	7	3	1	○
		ETHMR4.0I1	2.5P										
M5 × 0.8	P3	ETHMR5.0K5	5P	60	13	22	33	5.5	4.5	7	3	1	○
		ETHMR5.0K1	2.5P										
M6 × 1	P3	ETHMR6.0M5	5P	62	15	26	33	6	4.5	7	3	1	○
		ETHMR6.0M1	2.5P										
M8 × 1.25	P4	ETHMS8.0N5	5P	70	19	-	36	6.2	5	8	4	2	○
		ETHMS8.0N1	2.5P										
M10 × 1.5	P4	ETHMS01005	5P	75	23	-	38	7	5.5	8	4	2	○
		ETHMS01001	2.5P										
M10 × 1.25	P4	ETHMS010N5	5P	75	23	-	38	7	5.5	8	4	2	△
		ETHMS010N1	2.5P										
M12 × 1.75	P4	ETHMS012P5	5P	82	26	-	42	8.5	6.5	9	4	2	○
		ETHMS012P1	2.5P										
M12 × 1.5	P4	ETHMS01205	5P	82	26	-	42	8.5	6.5	9	4	2	△
		ETHMS01201	2.5P										
M12 × 1.25	P4	ETHMS012N5	5P	82	26	-	42	8.5	6.5	9	4	2	△
		ETHMS012N1	2.5P										
M14 × 2	P5	ETHMT014Q5	5P	88	26	-	45	10.5	8	11	4	2	△
		ETHMT014Q1	2.5P										
M14 × 1.5	P4	ETHMS01405	5P	88	26	-	45	10.5	8	11	4	2	△
		ETHMS01401	2.5P										

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

EH-HT Hand Taps for Hard-to-Machine Materials

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M16 × 2	P5	ETHMT016Q5	5P	95	26	-	48	12.5	10	13	4	2	○
		ETHMT016Q1	2.5P										
M16 × 1.5	P4	ETHMS01605	5P	95	26	-	48	12.5	10	13	4	2	△
		ETHMS01601	2.5P										
M18 × 2.5	P5	ETHMT018R5	5P	100	33	-	51	14	11	14	4	2	△
		ETHMT018R1	2.5P										
M18 × 1.5	P4	ETHMS01805	5P	100	33	-	51	14	11	14	4	2	△
		ETHMS01801	2.5P										
M20 × 2.5	P5	ETHMT020R5	5P	105	33	-	50	15	12	15	4	3	○
		ETHMT020R1	2.5P										
M20 × 1.5	P4	ETHMS02005	5P	105	33	-	50	15	12	15	4	3	△
		ETHMS02001	2.5P										
M22 × 2.5	P5	ETHMT022R5	5P	115	33	-	55	17	13	16	4	3	△
		ETHMT022R1	2.5P										
M22 × 1.5	P4	ETHMS02205	5P	115	33	-	55	17	13	16	4	3	△
		ETHMS02201	2.5P										
M24 × 3	P5	ETHMT024S5	5P	120	39	-	55	19	15	18	4	3	○
		ETHMT024S1	2.5P										
M24 × 1.5	P4	ETHMS02405	5P	120	39	-	55	19	15	18	4	3	△
		ETHMS02401	2.5P										
M27 × 3	P5	ETHMT027S5	5P	130	39	-	60	20	15	18	4	3	△
		ETHMT027S1	2.5P										
M30 × 3.5	P5	ETHMT030T5	5P	135	46	-	62	23	17	20	4	3	△
		ETHMT030T1	2.5P										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS LINE UP

CEMENTED CARBIDE TAP SERIES



<u>N-CT LA</u>	<u>JIS/CT-1</u>	<u>UH-CT</u>	<u>JIS/CT-12</u>
<u>N-CT FC</u>	<u>JIS/CT-4</u>	<u>HFACT-P</u>	<u>JIS/CT-13</u>
<u>N-CT-PO</u>	<u>JIS/CT-8</u>	<u>HFACT-B</u>	<u>JIS/CT-14</u>
<u>MC-AD-CT</u>	<u>JIS/CT-9</u>	<u>HFICT-P</u>	<u>JIS/CT-15</u>
<u>EH-CT</u>	<u>JIS/CT-11</u>	<u>HFICT-B</u>	<u>JIS/CT-16</u>

N-CT LA

Carbide Taps for Light Alloys
Specification

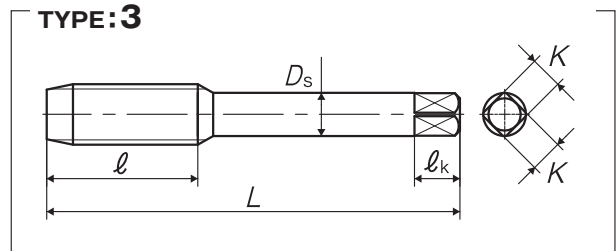
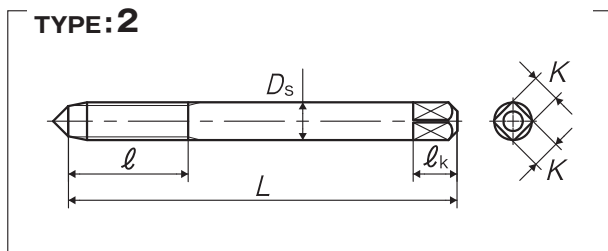
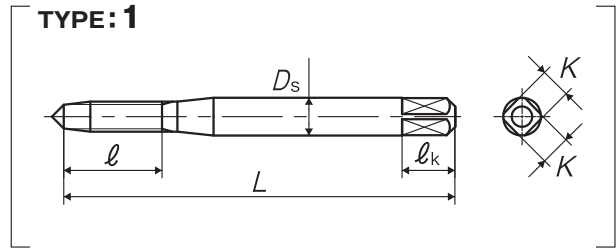


■ N-CT LA is the carbide tap suitable for tapping aluminum castings (AC), aluminum die castings (ADC), and zinc diecastings (ZDC). For volume production.

Recommended Tapping Speeds depending on Materials

Aluminum alloy castings	Zinc alloy castings
10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads												
M1.4 × 0.3	P3	TCNR1.4C3A	3P	34	7	-	3	2.5	5	3	1	△
		TCNR1.4C1A	1.5P									
M1.6 × 0.35	P3	TCNR1.6D3A	3P	36	8	-	3	2.5	5	3	1	△
		TCNR1.6D1A	1.5P									
M1.7 × 0.35	P3	TCNR1.7D3A	3P	36	8	-	3	2.5	5	3	1	△
		TCNR1.7D1A	1.5P									
M2 × 0.4	P3	TCNR2.0E3A	3P	40	8	-	3	2.5	5	3	1	○
		TCNR2.0E1A	1.5P									
M2.2 × 0.45	P3	TCNR2.2F3A	3P	42	9.5	-	3	2.5	5	3	1	△
		TCNR2.2F1A	1.5P									
M2.3 × 0.4	P3	TCNR2.3E3A	3P	42	8	-	3	2.5	5	3	1	△
		TCNR2.3E1A	1.5P									
M2.5 × 0.45	P3	TCNR2.5F3A	3P	44	9.5	-	3	2.5	5	3	1	△
		TCNR2.5F1A	1.5P									
M3 × 0.5	P3	TCNR3.0G3A	3P	46	11	-	4	3.2	6	3	1	○
		TCNR3.0G1A	1.5P									
M3.5 × 0.6	P3	TCNR3.5H3A	3P	48	11	-	4	3.2	6	3	1	△
		TCNR3.5H1A	1.5P									
M4 × 0.7	P3	TCNR4.0I3A	3P	52	13	-	5	4	7	3	1	○
		TCNR4.0I1A	1.5P									
M4 × 0.5	P3	TCNR4.0G3A	3P	52	11	-	5	4	7	3	1	△
		TCNR4.0G1A	1.5P									

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-CT LA Carbide Taps for Light Alloys

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M5 × 0.8	P3	TCNR5.0K3A	3P	60	16	-	5.5	4.5	7	3	1	○
		TCNR5.0K1A	1.5P									○
M5 × 0.5	P3	TCNR5.0G3A	3P	52	11	-	5.5	4.5	7	3	1	△
		TCNR5.0G1A	1.5P									△
M6 × 1	P3	TCNR6.0M3A	3P	62	19	-	6	4.5	7	3	2	○
		TCNR6.0M1A	1.5P									○
M6 × 0.75	P3	TCNR6.0J3A	3P	62	13	-	6	4.5	7	3	2	△
		TCNR6.0J1A	1.5P									△
M6 × 0.5	P3	TCNR6.0G3A	3P	55	11	-	6	4.5	7	3	2	△
		TCNR6.0G1A	1.5P									△
M7 × 1	P3	TCNR7.0M3A	3P	65	19	-	6.2	5	8	3	3	△
		TCNR7.0M1A	1.5P									△
M7 × 0.75	P3	TCNR7.0J3A	3P	62	13	-	6.2	5	8	3	3	△
		TCNR7.0J1A	1.5P									△
M8 × 1.25	P3	TCNR8.0N3A	3P	70	22	-	6.2	5	8	3	3	○
		TCNR8.0N1A	1.5P									○
M8 × 1	P3	TCNR8.0M3A	3P	70	19	-	6.2	5	8	3	3	○
		TCNR8.0M1A	1.5P									○
M8 × 0.75	P3	TCNR8.0J3A	3P	62	13	-	6.2	5	8	3	3	△
		TCNR8.0J1A	1.5P									△
M10 × 1.5	P3	TCNR01003A	3P	75	24	-	7	5.5	8	3	3	△
		TCNR01001A	1.5P									△
M10 × 1.25	P3	TCNR010N3A	3P	75	22	-	7	5.5	8	3	3	○
		TCNR010N1A	1.5P									○
	P4	TCNS010N3A	3P									△
		TCNS010N1A	1.5P									△
M10 × 1	P3	TCNR010M3A	3P	70	19	-	7	5.5	8	3	3	△
		TCNR010M1A	1.5P									△
M12 × 1.75	P3	TCNR012P3A	3P	82	30	-	8.5	6.5	9	3	3	△
		TCNR012P1A	1.5P									△
M12 × 1.5	P3	TCNR012Q3A	3P	82	24	-	8.5	6.5	9	3	3	△
		TCNR012Q1A	1.5P									
	P4	TCNS012Q3A	3P									
		TCNS012Q1A	1.5P									
M12 × 1.25	P3	TCNR012N3A	3P	80	22	-	8.5	6.5	9	3	3	○
		TCNR012N1A	1.5P									○
	P4	TCNS012N3A	3P									△
		TCNS012N1A	1.5P									△
M12 × 1	P3	TCNR012M3A	3P	70	19	-	8.5	6.5	9	3	3	△
		TCNR012M1A	1.5P									△
M14 × 2	P3	TCNR014Q3A	3P	88	30	-	10.5	8	11	4	3	△
		TCNR014Q1A	1.5P									
	P4	TCNS014Q3A	3P									
		TCNS014Q1A	1.5P									
M14 × 1.5	P3	TCNR014O3A	3P	88	24	-	10.5	8	11	4	3	△
		TCNR014O1A	1.5P									
	P4	TCNS014O3A	3P									
		TCNS014O1A	1.5P									
M16 × 2	P4	TCNS016Q3A	3P	95	30	-	12.5	10	13	4	3	△
		TCNS016Q1A	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Cemented Carbide Tap Series

N-CT LA Carbide Taps for Light Alloys

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M16 × 1.5	P3	TCNR01603A	3P	95	24	-	12.5	10	13	4	3	△
		TCNR01601A	1.5P									
	P4	TCNS01603A	3P									
		TCNS01601A	1.5P									
M18 × 2.5	P4	TCNS018R3A	3P	100	35	-	14	11	14	4	3	△
		TCNS018R1A	1.5P									
M18 × 1.5	P4	TCNS01803A	3P	95	24	-	14	11	14	4	3	△
		TCNS01801A	1.5P									
M20 × 2.5	P4	TCNS020R3A	3P	105	35	-	15	12	15	4	3	△
		TCNS020R1A	1.5P									
M20 × 1.5	P4	TCNS02003A	3P	95	24	-	15	12	15	4	3	△
		TCNS02001A	1.5P									

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Helical Coil Wire Screw Thread Inserts, for Metric Threads													
STI M3 × 0.5	1b	TW3.0G1LWB5	5P	3.65	52	13	-	5	4	7	3	1	△
		TW3.0G1LWBA	1.5P										
STI M4 × 0.7	1b	TW4.0I1LWB5	5P	4.909	60	16	-	5.5	4.5	7	3	1	△
		TW4.0I1LWBA	1.5P										
STI M5 × 0.8	1b	TW5.0K1LWB5	5P	6.039	62	19	-	6	4.5	7	3	2	△
		TW5.0K1LWBA	1.5P										
STI M6 × 1	1b	TW6.0M1LWB5	5P	7.299	65	19	-	6.2	5	8	4	3	△
		TW6.0M1LWBA	1.5P										
STI M8 × 1.25	1b	TW8.0N1LWB5	5P	9.624	75	24	-	7	5.5	8	4	3	△
		TW8.0N1LWBA	1.5P										
STI M10 × 1.5	1b	TW01001LWB5	5P	11.948	82	30	-	8.5	6.5	9	4	3	△
		TW01001LWBA	1.5P										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-CT FC

Carbide Taps for Cast Irons
Specification

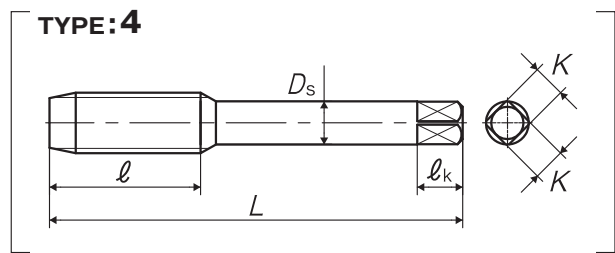
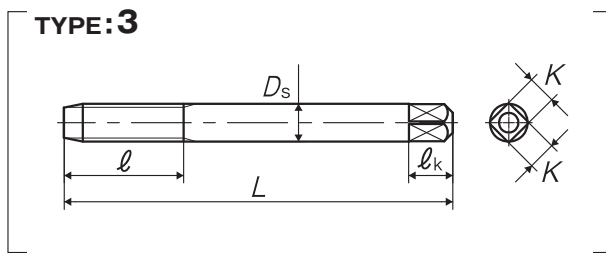
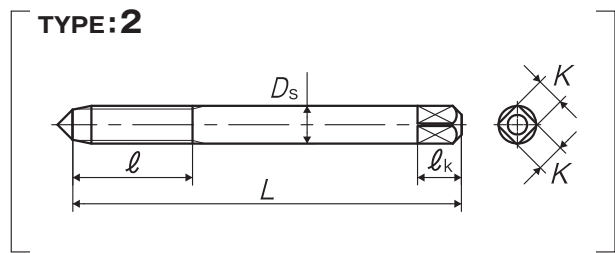
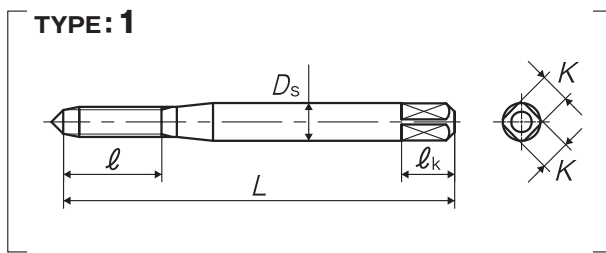


■N-CT FC is the carbide tap suitable for hard and abrasive materials such as cast irons. For volume production.

Recommended Tapping Speeds depending on Materials

Cast irons 5~15 (m/min)	Ductile cast irons 5~15 (m/min)	Brass castings 5~15 (m/min)
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For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads												
M1.4 × 0.3	P3	TCNR1.4C3	3P	34	7	-	3	2.5	5	3	1	△
		TCNR1.4C1	1.5P									
M1.6 × 0.35	P3	TCNR1.6D3	3P	36	8	-	3	2.5	5	3	1	△
		TCNR1.6D1	1.5P									
M1.7 × 0.35	P3	TCNR1.7D3	3P	36	8	-	3	2.5	5	3	1	△
		TCNR1.7D1	1.5P									
M2 × 0.4	P3	TCNR2.0E3	3P	40	8	-	3	2.5	5	3	1	○
		TCNR2.0E1	1.5P									
M2.2 × 0.45	P3	TCNR2.2F3	3P	42	9.5	-	3	2.5	5	3	1	△
		TCNR2.2F1	1.5P									
M2.3 × 0.4	P3	TCNR2.3E3	3P	42	8	-	3	2.5	5	3	1	△
		TCNR2.3E1	1.5P									
M2.5 × 0.45	P3	TCNR2.5F3	3P	44	9.5	-	3	2.5	5	3	1	△
		TCNR2.5F1	1.5P									
M2.6 × 0.45	P3	TCNR2.6F3	3P	44	9.5	-	3	2.5	5	3	1	○
		TCNR2.6F1	1.5P									
M3 × 0.5	P3	TCNR3.0G3	3P	46	11	-	4	3.2	6	3	1	◎
		TCNR3.0G1	1.5P									
M3 × 0.35	P3	TCNR3.0D3	3P	46	8	-	4	3.2	6	3	1	△

Cemented Carbide Tap Series

N-CT FC Carbide Taps for Cast Irons

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M3 × 0.35	P3	TCNR3.0D1	1.5P	46	8	-	4	3.2	6	3	1	△
		TCNR3.5H3	3P									○
M3.5 × 0.6	P3	TCNR3.5H1	1.5P	48	11	-	4	3.2	6	3	1	○
		TCNR4.0I3	3P									◎
M4 × 0.7	P3	TCNR4.0I1	1.5P	52	13	-	5	4	7	4	1	◎
		TCNR4.0G3	3P									△
M4 × 0.5	P3	TCNR4.0G1	1.5P	52	11	-	5	4	7	4	1	△
		TCNR5.0K3	3P									◎
M5 × 0.8	P3	TCNR5.0K1	1.5P	60	16	-	5.5	4.5	7	4	1	◎
		TCNR5.0G3	3P									△
M5 × 0.5	P3	TCNR5.0G1	1.5P	52	11	-	5.5	4.5	7	4	1	△
		TCNR6.0M3	3P									2
M6 × 1	P3	TCNR6.0M3F	3P	62	19	-	6	4.5	7	4	4	3
		TCNR6.0M1	1.5P									2
		TCNR6.0M1F	1.5P									3
		TCNR6.0J3	3P									○
M6 × 0.75	P3	TCNR6.0J1	1.5P	62	13	-	6	4.5	7	4	2	○
		TCNR6.0G3	3P									△
M6 × 0.5	P3	TCNR6.0G1	1.5P	55	11	-	6	4.5	7	4	2	△
		TCNR7.0M3	3P									○
M7 × 1	P3	TCNR7.0M1	1.5P	65	19	-	6.2	5	8	4	4	○
		TCNR7.0J3	3P									△
M7 × 0.75	P3	TCNR7.0J1	1.5P	62	13	-	6.2	5	8	4	4	△
		TCNR8.0N3	3P									◎
M8 × 1.25	P3	TCNR8.0N1	1.5P	70	22	-	6.2	5	8	4	4	◎
		TCNS8.0N3	3P									△
	P4	TCNS8.0N1	1.5P									○
		TCNR8.0M3	3P									○
M8 × 1	P3	TCNR8.0M1	1.5P	70	19	-	6.2	5	8	4	4	○
		TCNR8.0J3	3P									△
M8 × 0.75	P3	TCNR8.0J1	1.5P	62	13	-	6.2	5	8	4	4	△
		TCNR01003	3P									◎
M10 × 1.5	P3	TCNR01001	1.5P	75	24	-	7	5.5	8	4	4	◎
		TCNS01003	3P									△
	P4	TCNS01001	1.5P									○
		TCNR010N3	3P									○
M10 × 1.25	P3	TCNR010N1	1.5P	75	22	-	7	5.5	8	4	4	◎
		TCNS010N3	3P									△
	P4	TCNS010N1	1.5P									○
		TCNR010M3	3P									○
M10 × 1	P3	TCNR010M1	1.5P	70	19	-	7	5.5	8	4	4	◎
		TCNS010M3	3P									△
	P4	TCNS010M1	1.5P									○
		TCNR012P3	3P									◎
M12 × 1.75	P3	TCNR012P1	1.5P	82	30	-	8.5	6.5	9	4	4	◎
		TCNS012P3	3P									○
	P4	TCNS012P1	1.5P									○
		TCNR01203	3P									○
M12 × 1.5	P3	TCNR01201	1.5P	82	24	-	8.5	6.5	9	4	4	○
		TCNS01203	3P									△
	P4	TCNS01203	3P									△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-CT FC Carbide Taps for Cast Irons

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
M12 × 1.5	P4	TCNS01201	1.5P	82	24	-	8.5	6.5	9	4	4	△
	P3	TCNR012N3	3P	80	22	-	8.5	6.5	9	4	4	○
M12 × 1.25	P3	TCNR012N1	1.5P									
	P4	TCNS012N3	3P									△
			TCNS012N1									1.5P
M12 × 1	P3	TCNR012M3	3P	70	19	-	8.5	6.5	9	4	4	△
		TCNR012M1	1.5P									
	P4	TCNS012M3	3P									
		TCNS012M1	1.5P									
M14 × 2	P3	TCNR014Q3	3P	88	30	-	10.5	8	11	4	4	△
		TCNR014Q1	1.5P									
	P4	TCNS014Q3	3P									○
		TCNS014Q1	1.5P									
M14 × 1.5	P3	TCNR014O3	3P	88	24	-	10.5	8	11	4	4	○
		TCNR014O1	1.5P									
	P4	TCNS014O3	3P									△
		TCNS014O1	1.5P									
M14 × 1.25	P3	TCNR014N3	3P	88	22	-	10.5	8	11	4	4	△
		TCNR014N1	1.5P									
	P4	TCNS014N3	3P									
		TCNS014N1	1.5P									
M14 × 1	P3	TCNR014M3	3P	70	19	-	10.5	8	11	4	4	△
		TCNR014M1	1.5P									
	P4	TCNS014M3	3P									
		TCNS014M1	1.5P									
M16 × 2	P4	TCNS016Q3	3P	95	30	-	12.5	10	13	4	4	○
		TCNS016Q1	1.5P									
M16 × 1.5	P3	TCNR016O3	3P	95	24	-	12.5	10	13	4	4	△
		TCNR016O1	1.5P									
	P4	TCNS016O3	3P									○
		TCNS016O1	1.5P									
M16 × 1	P4	TCNS016M3	3P	75	19	-	12.5	10	13	4	4	○
		TCNS016M1	1.5P									
M18 × 2.5	P4	TCNS018R3	3P	100	35	-	14	11	14	4	4	△
		TCNS018R1	1.5P									
M18 × 1.5	P4	TCNS018O3	3P	95	24	-	14	11	14	4	4	○
		TCNS018O1	1.5P									
M20 × 2.5	P4	TCNS020R3	3P	105	35	-	15	12	15	4	4	○
		TCNS020R1	1.5P									
M20 × 1.5	P4	TCNS020O3	3P	95	24	-	15	12	15	4	4	○
		TCNS020O1	1.5P									
M22 × 2.5	P4	TCNS022R3	3P	115	35	-	17	13	16	4	4	△
		TCNS022R1	1.5P									
M22 × 1.5	P4	TCNS022O3	3P	95	24	-	17	13	16	4	4	△
		TCNS022O1	1.5P									
M24 × 3	P4	TCNS024S3	3P	120	35	-	19	15	18	4	4	△
		TCNS024S1	1.5P									
M24 × 1.5	P4	TCNS024O3	3P	95	24	-	19	15	18	4	4	△
		TCNS024O1	1.5P									

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Cemented Carbide Tap Series

N-CT FC Carbide Taps for Cast Irons

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Unified Threads												
No.4-40UNC	P3	TCNRUN4H3	3P	44	9.5	-	3	2.5	5	3	1	△
		TCNRUN4H1	1.5P									
No.4-48UNF	P3	TCNRUN4F3	3P	44	9.5	-	3	2.5	5	3	1	△
		TCNRUN4F1	1.5P									
No.5-40UNC	P3	TCNRUN5H3	3P	46	9.5	-	4	3.2	6	3	1	△
		TCNRUN5H1	1.5P									
No.6-32UNC	P3	TCNRUN6J3	3P	48	11	-	4	3.2	6	3	1	△
		TCNRUN6J1	1.5P									
No.8-32UNC	P3	TCNRUN8J3	3P	52	11	-	5	4	7	4	1	△
		TCNRUN8J1	1.5P									
No.10-24UNC	P3	TCNRUNAM3	3P	60	16	-	5.5	4.5	7	4	1	△
		TCNRUNAM1	1.5P									
No.10-32UNF	P3	TCNRUNAJ3	3P	60	11	-	5.5	4.5	7	4	1	△
		TCNRUNAJ1	1.5P									
1/4-20UNC	P3	TCNRU04N3	3P	62	19	-	6	4.5	7	4	2	△
		TCNRU04N1	1.5P									
1/4-28UNF	P3	TCNRU04K3	3P	62	16	-	6	4.5	7	4	2	△
		TCNRU04K1	1.5P									
5/16-18UNC	P3	TCNRU05O3	3P	70	22	-	6.1	5	8	4	4	△
		TCNRU05O1	1.5P									
5/16-24UNF	P3	TCNRU05M3	3P	70	16	-	6.1	5	8	4	4	△
		TCNRU05M1	1.5P									
3/8-16UNC	P3	TCNRU06P3	3P	75	24	-	7	5.5	8	4	4	△
		TCNRU06P1	1.5P									
3/8-24UNF	P3	TCNRU06M3	3P	75	16	-	7	5.5	8	4	4	△
		TCNRU06M1	1.5P									
7/16-14UNC	P3	TCNRU07Q3	3P	80	24	-	8	6	9	4	4	△
		TCNRU07Q1	1.5P									
7/16-20UNF	P3	TCNRU07N3	3P	80	19	-	8	6	9	4	4	△
		TCNRU07N1	1.5P									
1/2-13UNC	P3	TCNRU08R3	3P	85	30	-	9	7	10	4	4	△
		TCNRU08R1	1.5P									
1/2-20UNF	P3	TCNRU08N3	3P	85	19	-	9	7	10	4	4	△
		TCNRU08N1	1.5P									
5/8-11UNC	P4	TCNSU10U3	3P	95	30	-	12	9	12	4	4	△
		TCNSU10U1	1.5P									
5/8-18UNF	P4	TCNSU10O3	3P	95	22	-	12	9	12	4	4	△
		TCNSU10O1	1.5P									
3/4-10UNC	P4	TCNSU12V3	3P	105	35	-	14	11	14	4	4	△
		TCNSU12V1	1.5P									
3/4-16UNF	P4	TCNSU12P3	3P	95	24	-	14	11	14	4	4	△
		TCNSU12P1	1.5P									

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-CT-PO

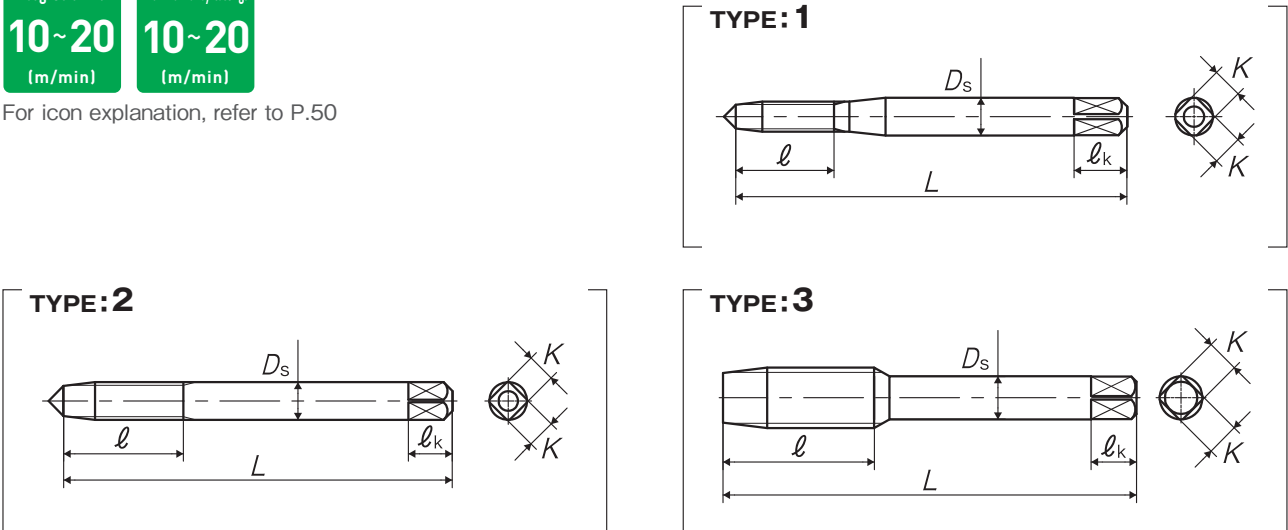
Spiral Pointed Carbide Taps Specification



Recommended Tapping Speeds depending on Materials

Wrought aluminum 10~20 (m/min)	Aluminum alloy castings 10~20 (m/min)
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For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads												
M3 × 0.5	P3	PCNR3.0G	5P	46	11	-	4	3.2	6	3	1	△
M4 × 0.7	P3	PCNR4.0I	5P	52	13	-	5	4	7	3	1	△
M5 × 0.8	P3	PCNR5.0K	5P	60	16	-	5.5	4.5	7	3	1	△
M6 × 1	P3	PCNR6.0M	5P	62	19	-	6	4.5	7	3	2	△
M8 × 1.25	P3	PCNR8.0N	5P	70	22	-	6.2	5	8	3	3	△
M10 × 1.5	P4	PCNS0100	5P	75	24	-	7	5.5	8	3	3	△
M12 × 1.75	P4	PCNS012P	5P	82	30	-	8.5	6.5	9	3	3	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

MC-AD-CT



Carbide Taps with Oil Hole

Specification



Recommended Tapping Speeds depending on Materials

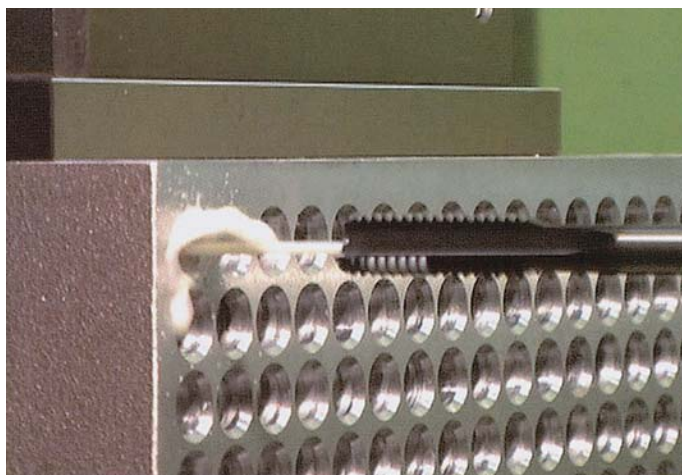
Wrought aluminum 30~60 (m/min)	Aluminum alloy castings 30~60 (m/min)	Zinc alloy castings 30~60 (m/min)
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For icon explanation, refer to P.50

Product features

- Carbide Taps with Oil Hole suitable for tapping the blind holes of Aluminum alloy castings and Aluminum die castings.
- The combination of unique cutting edge design enabling less damage, ultra fine grain carbide alloys with superior wear resistance and optimal coating results in 5 times longer tool life than the life of conventional special purpose tap for aluminum.
- Having center through hole design to correspond with such cutting condition as inner coolant supply, mist coolant supply and cryogenic dry, MC-AD-CT works quite well in removing remaining chips after boring and in avoiding welding trouble.

Tapping data

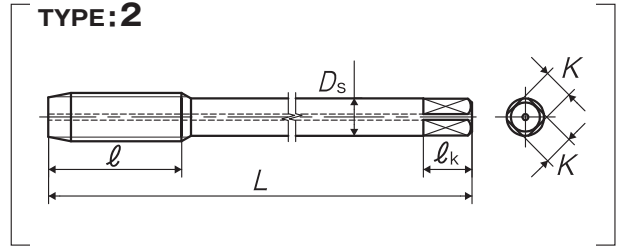
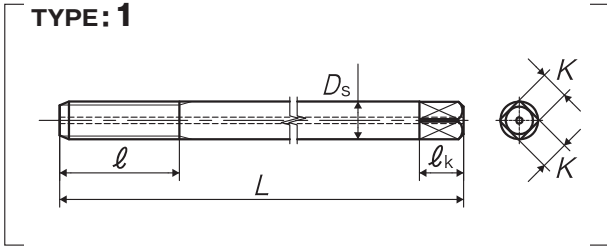


Tapping condition [M6×1]

Work material	ADC12
Hole shape	Blind
Hole depth	14mm
Tapping length	12mm
Tapping speed	57m/min
Feed	Synchronized feed
Machine	Machining center (Horizontal)
Tapping fluid	Water soluble oil
Tool life	240,000 hole ~

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads												
M6 × 1	P3	MCADR6.0M1	1.5P	100	19	-	6	4.5	7	3	1	△
M8 × 1.25	P3	MCADR8.0N1	1.5P	100	22	-	6.2	5	8	3	2	△
M10 × 1.5	P4	MCADS01001	1.5P	100	24	-	7	5.5	8	3	2	△
M10 × 1.25	P4	MCADS010N1	1.5P	100	22	-	7	5.5	8	3	2	△
M10 × 1	P4	MCADS010M1	1.5P	100	19	-	7	5.5	8	3	2	△
M12 × 1.75	P4	MCADS012P1	1.5P	100	30	-	8.5	6.5	9	3	2	△
M12 × 1.5	P4	MCADS012O1	1.5P	100	24	-	8.5	6.5	9	3	2	△
M12 × 1.25	P4	MCADS012N1	1.5P	100	22	-	8.5	6.5	9	3	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

EH-CT

Carbide Taps for Hard Materials

Specification



Recommended Tapping Speeds depending on Materials

Thermal refined steels

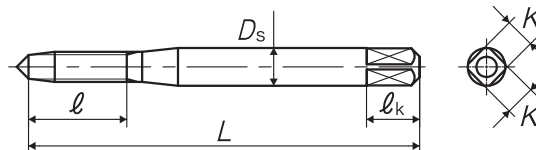
~5

(m/min)

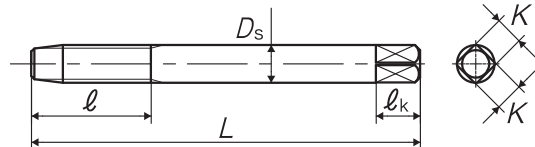
45~55HRC

For icon explanation, refer to P.50

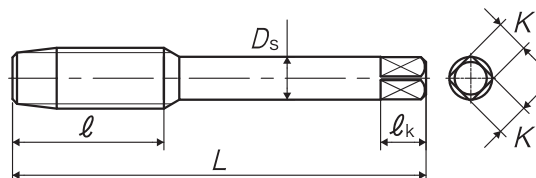
TYPE:1



TYPE:2



TYPE:3



Segment: 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ_n (mm)	D_s (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Metric Threads												
M3 × 0.5	P3	EHCR3.0G5	5P	46	11	-	4	3.2	6	4	1	○
M4 × 0.7	P3	EHCR4.0I5	5P	52	13	-	5	4	7	4	1	○
M5 × 0.8	P3	EHCR5.0K5	5P	60	16	-	5.5	4.5	7	4	1	○
M6 × 1	P3	EHCR6.0M5	5P	62	19	-	6	4.5	7	5	2	○
M8 × 1.25	P4	EHCS8.0N5	5P	70	22	-	6.2	5	8	5	3	○
M10 × 1.5	P4	EHCS01005	5P	75	24	-	7	5.5	8	5	3	○
M12 × 1.75	P4	EHCS012P5	5P	82	30	-	8.5	6.5	9	5	3	○

UH-CT

Carbide Taps for Ultra Hard Materials
Specification



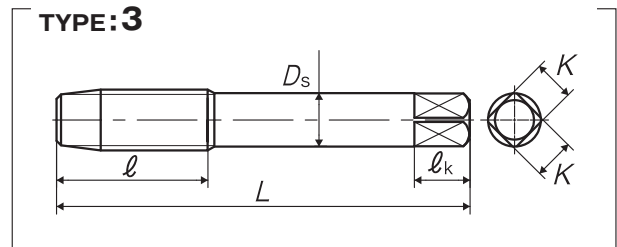
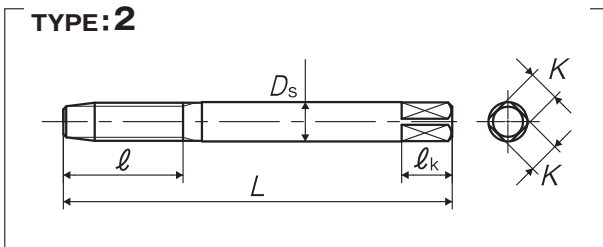
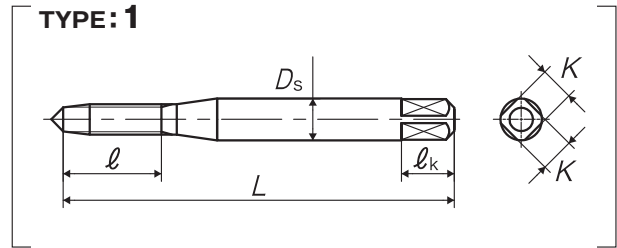
Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk



Recommended Tapping Speeds depending on Materials

Thermal refined steels
~5
(m/min)
50~63HRC

For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads												
M2 × 0.4	P3	UHCR2.0E5	5P	40	8	-	4	3.2	6	3	1	○
M2.5 × 0.45	P3	UHCR2.5F5	5P	44	9.5	-	4	3.2	6	4	1	○
M2.6 × 0.45	P3	UHCR2.6F5	5P	44	9.5	-	4	3.2	6	4	1	○
M3 × 0.5	P3	UHCR3.0G5	5P	46	11	-	5	4	7	4	1	○
M4 × 0.7	P3	UHCR4.0I5	5P	52	13	-	5.5	4.5	7	4	1	○
M5 × 0.8	P3	UHCR5.0K5	5P	60	16	-	6	4.5	7	4	1	○
M6 × 1	P3	UHCR6.0M5	5P	62	19	-	6.2	5	8	5	2	○
M8 × 1.25	P4	UHCS8.0N5	5P	70	22	-	7	5.5	8	5	3	○
M10 × 1.5	P4	UHCS01005	5P	75	24	-	8.5	6.5	9	5	3	○
M10 × 1.25	P4	UHCS010N5	5P	75	24	-	8.5	6.5	9	5	3	△
M12 × 1.75	P4	UHCS012P5	5P	82	30	-	10.5	8	11	5	3	○
M12 × 1.5	P4	UHCS01205	5P	82	30	-	10.5	8	11	5	3	△
M12 × 1.25	P4	UHCS012N5	5P	82	30	-	10.5	8	11	5	3	△
M14 × 2	P4	UHCS014Q5	5P	88	30	-	12.5	10	13	6	3	△
M14 × 1.5	P4	UHCS01405	5P	88	30	-	12.5	10	13	6	3	△
M16 × 2	P4	UHCS016Q5	5P	95	30	-	14	11	14	6	3	△
M16 × 1.5	P4	UHCS01605	5P	95	30	-	14	11	14	6	3	△
M18 × 2.5	P4	UHCS018R5	5P	100	35	-	15	12	15	6	3	△
M18 × 1.5	P4	UHCS01805	5P	100	35	-	15	12	15	6	3	△
M20 × 2.5	P4	UHCS020R5	5P	105	35	-	17	13	16	6	3	△
M20 × 1.5	P4	UHCS02005	5P	105	35	-	17	13	16	6	3	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HFACT-P



Carbide Taps for Ultra Fast Tappings, Through Hole Use, for Aluminum

Specification

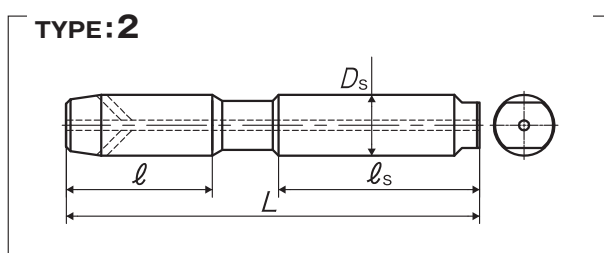
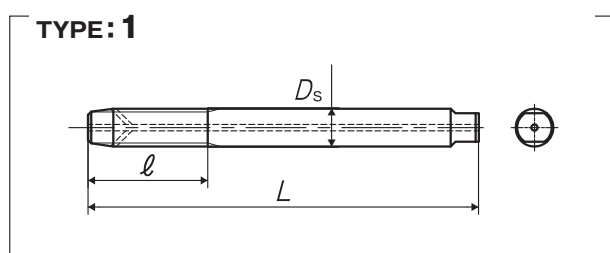


■ HFACT-P is the carbide tap applicable under ultra high speed cutting. For such tapping conditions as inner coolant supply, mist coolant and dry under cryogenic condition, HFACT-P has radial type coolant hole and is suitable for through holes of such materials as aluminum castings and aluminum diecastings.

Recommended Tapping Speeds depending on Materials

Aluminum alloy castings	Zinc alloy castings
30~100 (m/min)	30~100 (m/min)

For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P3	HFACTPR6.0M	4P	62	19	-	-	6	-	-	3	1	○
M8 × 1.25	P3	HFACTPR8.0N	4P	70	22	-	36	8	-	-	3	2	○
M10 × 1.5	P3	HFACTPR0100	4P	75	24	-	37	10	-	-	3	2	○
M10 × 1.25	P3	HFACTPR010N	4P	75	24	-	37	10	-	-	3	2	○
M12 × 1.75	P3	HFACTPR012P	4P	82	29	-	40	12	-	-	3	2	○
M12 × 1.5	P3	HFACTPR0120	4P	82	29	-	40	12	-	-	3	2	○
M12 × 1.25	P3	HFACTPR012N	4P	82	29	-	40	12	-	-	3	2	○

Remarks:

- HFACT-P do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HFACT-B



Carbide Taps for Ultra Fast Tappings, Blind Hole Use, for Aluminum

Specification

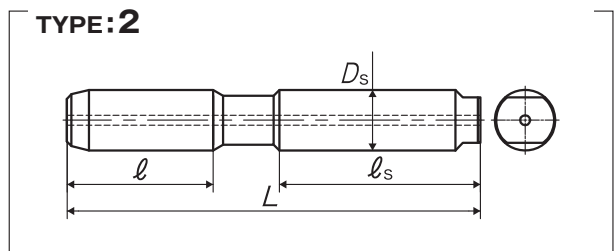
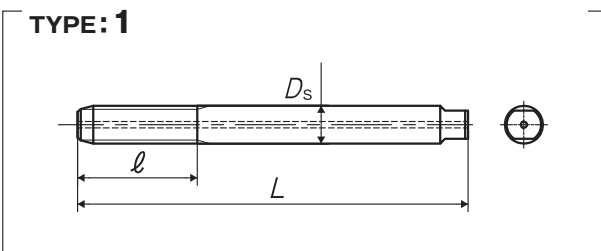


■ HFACT-B is the carbide tap applicable under ultra high speed cutting. For such tapping conditions as inner coolant supply, mist coolant and dry under cryogenic condition, HFACT-B has coolant hole (center through type) and is suitable for blind holes of such materials as aluminum castings and aluminum diecastings.

Recommended Tapping Speeds depending on Materials

Aluminum alloy castings	Zinc alloy castings
30~100 (m/min)	30~100 (m/min)

For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P3	HFACTBR6.0M	2.5P	62	19	-	-	6	-	-	3	1	○
M8 × 1.25	P3	HFACTBR8.0N	2.5P	70	22	-	36	8	-	-	3	2	○
M10 × 1.5	P3	HFACTBR0100	2.5P	75	24	-	37	10	-	-	3	2	○
M10 × 1.25	P3	HFACTBR010N	2.5P	75	24	-	37	10	-	-	3	2	○
M12 × 1.75	P3	HFACTBR012P	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.5	P3	HFACTBR0120	2.5P	82	29	-	40	12	-	-	3	2	○
M12 × 1.25	P3	HFACTBR012N	2.5P	82	29	-	40	12	-	-	3	2	○

Remarks:

- HFACT-B do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HFICT-P



Carbide Taps for Ultra Fast Tappings, Through Hole Use, for Cast Irons

Specification

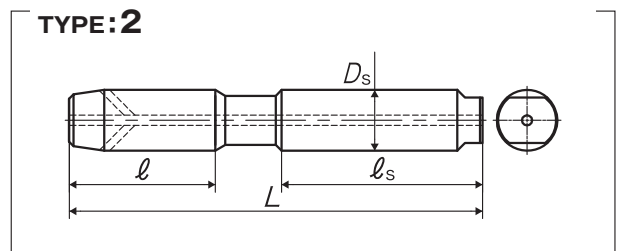
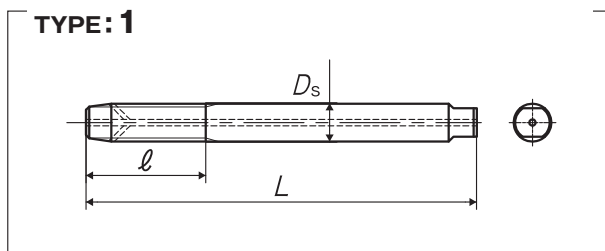


■ HFICT-P is the carbide tap applicable under ultra high speed cutting. For such tapping conditions as inner coolant supply, mist coolant and dry under cryogenic condition, HFICT-P has radial type coolant hole, and is suitable for through holes of cast irons and the like.

Recommended Tapping Speeds depending on Materials

Cast irons	Ductile cast irons
25~50	25~50
(m/min)	(m/min)

For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ_n (mm)	ℓ_s (mm)	D_s (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P3	HFICTPR6.0M	4P	62	19	-	-	6	-	-	4	1	○
M8 × 1.25	P3	HFICTPR8.0N	4P	70	22	-	36	8	-	-	4	2	○
M10 × 1.5	P3	HFICTPR0100	4P	75	24	-	37	10	-	-	4	2	○
M10 × 1.25	P3	HFICTPR010N	4P	75	24	-	37	10	-	-	4	2	○
M12 × 1.75	P3	HFICTPR012P	4P	82	29	-	40	12	-	-	4	2	○
M12 × 1.5	P3	HFICTPR0120	4P	82	29	-	40	12	-	-	4	2	○
M12 × 1.25	P3	HFICTPR012N	4P	82	29	-	40	12	-	-	4	2	○

Remarks:

- HFICT-P do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HFICT-B



Carbide Taps for Ultra Fast Tappings, Blind Hole Use, for Cast Irons

Specification

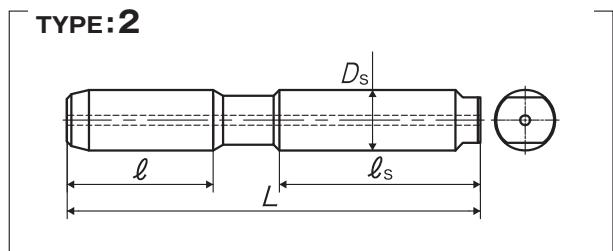
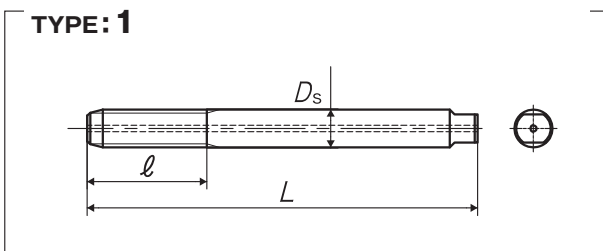


■ HFICT-B is the carbide tap applicable under ultra high speed cutting. For such tapping conditions as inner coolant supply, mist coolant and dry under cryogenic condition, HFICT-B has coolant hole(center through type), and is suitable for blind holes of cast irons and the like.

Recommended Tapping Speeds depending on Materials

Cast irons 25~50 (m/min)	Ductile cast irons 25~50 (m/min)
---------------------------------------	---

For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Metric Threads													
M6 × 1	P3	HFICTBR6.0M	2.5P	62	19	-	-	6	-	-	4	1	○
M8 × 1.25	P3	HFICTBR8.0N	2.5P	70	22	-	36	8	-	-	4	2	○
M10 × 1.5	P3	HFICTBR0100	2.5P	75	24	-	37	10	-	-	4	2	○
M10 × 1.25	P3	HFICTBR010N	2.5P	75	24	-	37	10	-	-	4	2	○
M12 × 1.75	P3	HFICTBR012P	2.5P	82	29	-	40	12	-	-	4	2	○
M12 × 1.5	P3	HFICTBR0120	2.5P	82	29	-	40	12	-	-	4	2	○
M12 × 1.25	P3	HFICTBR012N	2.5P	82	29	-	40	12	-	-	4	2	○

Remarks:

- HFICT-B do not have square on its shank, please use holders having strong gripping force, such as milling chucks.
- Rear end of the shank is to tongue specification. If the portion which contacts the rear end has V saucer shape, coolant may leak.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

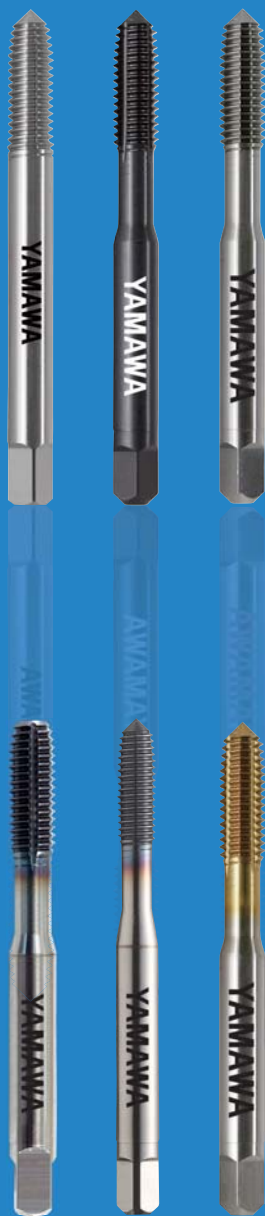
Dies

Center Drills

Centering Tools

JIS LINE UP

ROLL TAP SERIES



N+RZ/N-RZ

JIS/R0-1

LS-N-RZ

JIS/R0-6

N+RS/N-RS

JIS/R0-7

LS-N-RS

JIS/R0-13

R+V

JIS/R0-15

OL+RZ/OL-RZ

JIS/R0-17

HP+RZ/HP-RZ

JIS/R0-19

SC-TL-RZ

JIS/R0-23

SURZ

JIS/R0-25

MHRZ

JIS/R0-27

N+RZ/N-RZ

Thread Forming Taps for Steels

Specification

HSS-E **HSS** **OX**
Oxide

~M2.6

Recommended Tapping Speeds depending on Materials

Low carbon steels **5~15** (m/min)
Medium carbon steels **5~15** (m/min)

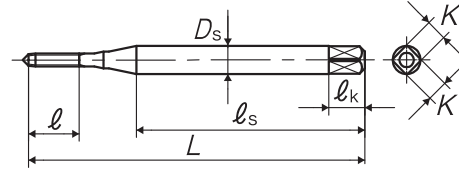
For icon explanation, refer to P.50



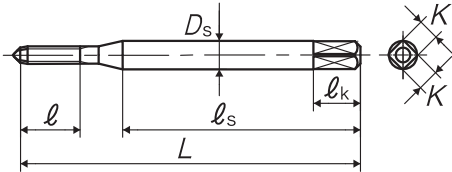
■N+RZ/N-RZ are the forming taps suitable for ferrous materials such as carbon steels, alloy steels, and normal steels.

N+RZ	~ M6 (coarse thread)
N-RZ	~ M6 (fine thread), M7 ~

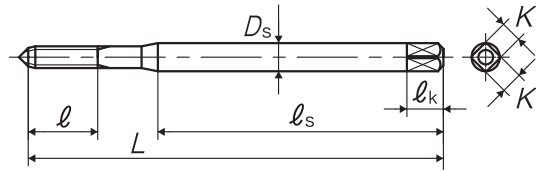
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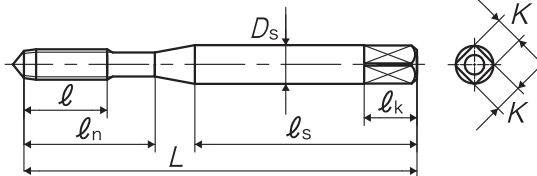
TYPE: 2



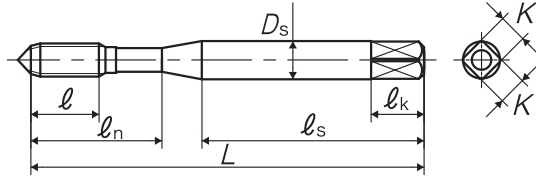
TYPE: 3



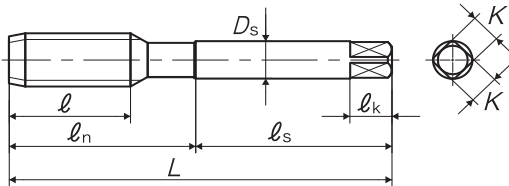
TYPE: 4



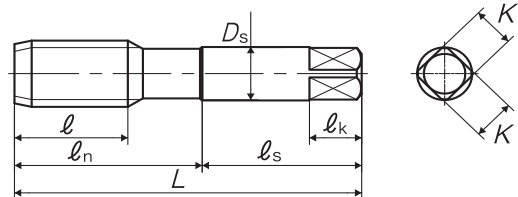
TYPE: 5



TYPE: 6



TYPE: 7



Number of oil grooves : Metric thread : M2.6 and smaller=non, M3~M7=4, M8=3, M10 and larger=4

For M6 and smaller, external centers of 2 thread chamfer taps are removed.

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N+RZ/N-RZ Thread Forming Taps for Steels

Recommended class
Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
For Metric Threads													
M1 × 0.25	G4	NRZP41.0BP	4P	36	4.5	-	24	3	2.5	5	4	1	○
		NRZP41.0BB	2P										△
	G5	NRZP51.0BP	4P										△
		NRZP51.0BB	2P										
M1.2 × 0.25	G4	NRZP41.2BP	4P	36	4.5	-	24	3	2.5	5	4	1	○
		NRZP41.2BB	2P										△
	G5	NRZP51.2BP	4P										△
		NRZP51.2BB	2P										
M1.4 × 0.3	G4	NRZP41.4CP	4P	36	5.4	-	24	3	2.5	5	4	1	◎
		NRZP41.4CB	2P										○
	G5	NRZP51.4CP	4P										○
		NRZP51.4CB	2P										
M1.6 × 0.35	G4	NRZP41.6DP	4P	36	6.3	-	24	3	2.5	5	4	2	○
		NRZP41.6DB	2P										
	G5	NRZP51.6DP	4P										
		NRZP51.6DB	2P										
M1.7 × 0.35	G4	NRZP41.7DP	4P	36	6.3	-	24	3	2.5	5	4	2	◎
		NRZP41.7DB	2P										
	G5	NRZP51.7DP	4P										○
		NRZP51.7DB	2P										
	G6	NRZP61.7DP	4P										○
		NRZP61.7DB	2P										
M1.8 × 0.35	G4	NRZP41.8DP	4P	42	6.3	-	27	3	2.5	5	4	2	△
		NRZP41.8DB	2P										
	G5	NRZP51.8DP	4P										
		NRZP51.8DB	2P										
M2 × 0.4	G4	NRZP42.0EP	4P	42	7.2	-	27	3	2.5	5	4	3	◎
		NRZP42.0EB	2P										
	G5	NRZP52.0EP	4P										○
		NRZP52.0EB	2P										
	G6	NRZP62.0EP	4P										○
		NRZP62.0EB	2P										
M2 × 0.25	G4	NRZM42.0BP	4P	42	4.5	-	27	3	2.5	5	4	3	△
		NRZM42.0BB	2P										
	G5	NRZM52.0BP	4P										
		NRZM52.0BB	2P										
M2.2 × 0.45	G5	NRZP52.2FP	4P	42	8.1	-	27	3	2.5	5	4	3	△
		NRZP52.2FB	2P										
M2.3 × 0.4	G4	NRZP42.3EP	4P	42	7.2	-	27	3	2.5	5	4	3	△
		NRZP42.3EB	2P										
	G5	NRZP52.3EP	4P										
		NRZP52.3EB	2P										
	G6	NRZP62.3EP	4P										
		NRZP62.3EB	2P										
M2.5 × 0.45	G5	NRZP52.5FP	4P	46	8.1	14	29	3	2.5	5	4	4	○
		NRZP52.5FB	2P										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

N+RZ/N-RZ Thread Forming Taps for Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M2.5 × 0.45	G6	NRZP62.5FP	4P	46	8.1	14	29	3	2.5	5	4	4	○
		NRZP62.5FB	2P										
M2.5 × 0.35	G5	NRZM52.5DP	4P	46	6.3	14	29	3	2.5	5	4	5	△
		NRZM52.5DB	2P										
M2.6 × 0.45	G5	NRZP52.6FP	4P	46	8.1	14	29	3	2.5	5	4	4	○
		NRZP52.6FB	2P										
	G6	NRZP62.6FP	4P										
		NRZP62.6FB	2P										
M2.6 × 0.35	G5	NRZM52.6DP	4P	46	6.3	14	29	3	2.5	5	4	5	△
		NRZM52.6DB	2P										
M3 × 0.5	G5	NRZP53.0GP	4P	46	9	14	26	4	3.2	6	4	4	◎
		NRZP53.0GB	2P										
	G6	NRZP63.0GP	4P										
		NRZP63.0GB	2P										
	G7	NRZP73.0GP	4P										
		NRZP73.0GB	2P										
G8	NRZP83.0GP	4P											
	NRZP83.0GB	2P											
M3 × 0.35	G5	NRZM53.0DP	4P	46	6.5	14	26	4	3.2	6	4	5	△
		NRZM53.0DB	2P										
M3.5 × 0.6	G5	NRZP53.5HP	4P	52	11	16	29	5	4	7	4	4	○
		NRZP53.5HB	2P										
	G6	NRZP63.5HP	4P										
		NRZP63.5HB	2P										
	G7	NRZP73.5HP	4P										
		NRZP73.5HB	2P										
G8	NRZP83.5HP	4P											
	NRZP83.5HB	2P											
M4 × 0.7	G5	NRZP54.0IP	4P	52	11	17	29	5	4	7	4	4	○
		NRZP54.0IB	2P										
	G6	NRZP64.0IP	4P										
		NRZP64.0IB	2P										
	G7	NRZP74.0IP	4P										
		NRZP74.0IB	2P										
	G8	NRZP84.0IP	4P										
		NRZP84.0IB	2P										
M4 × 0.5	G5	NRZM54.0GP	4P	52	9	17	29	5	4	7	4	5	△
		NRZM54.0GB	2P										
	G6	NRZM64.0GP	4P										
		NRZM64.0GB	2P										
	G7	NRZM74.0GB	2P										
M5 × 0.8	G5	NRZP55.0KP	4P	60	13	22	33	5.5	4.5	7	4	4	△
		NRZP55.0KB	2P										
	G6	NRZP65.0KP	4P										
		NRZP65.0KB	2P										
	G7	NRZP75.0KP	4P										
		NRZP75.0KB	2P										
G8	NRZP85.0KP	4P											
	NRZP85.0KB	2P											
M5 × 0.5	G6	NRZM65.0GP	4P	60	9	22	33	5.5	4.5	7	4	5	△
		NRZM65.0GB	2P										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N+RZ/N-RZ Thread Forming Taps for Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock									
M6 × 1	G5	NRZP56.OMP	4P	62	15	26	33	6	4.5	7	4	4	△									
		NRZP56.OMB	2P										○									
	G6	NRZP66.OMP	4P										62	15	26	33	6	4.5	7	4	4	△
		NRZP66.OMB	2P																			
		G7	NRZP76.OMP																			
NRZP76.OMB	2P																					
M6 × 0.75	G6	NRZM66.0JP	4P	62	15	26	33	6	4.5	7	4	4	△									
		NRZM66.0JB	2P																			
	G7	NRZM76.0JP	4P																			
		NRZM76.0JB	2P																			
M6 × 0.5	G6	NRZM66.0GP	4P	62	9	26	33	6	4.5	7	4	5	△									
		NRZM66.0GB	2P																			
M7 × 1	G7	NRZM77.OMP	4P	70	19	-	36	6.2	5	8	4	6	△									
		NRZM77.OMB	2P																			
M7 × 0.75	G7	NRZM77.0JP	4P	70	19	-	36	6.2	5	8	4	6	△									
		NRZM77.0JB	2P																			
M8 × 1.25	G7	NRZM78.0NP	4P	70	19	-	36	6.2	5	8	6	6	○									
		NRZM78.0NB	2P										△									
	G8	NRZM88.0NP	4P																			
		NRZM88.0NB	2P																			
M8 × 1	G7	NRZM78.0MP	4P	70	19	-	36	6.2	5	8	6	6	△									
		NRZM78.0MB	2P																			
M8 × 0.75	G7	NRZM78.0JP	4P	70	19	-	36	6.2	5	8	6	6	△									
		NRZM78.0JB	2P																			
M10 × 1.5	G7	NRZM70100P	4P	75	23	-	38	7	5.5	8	8	6	△									
		NRZM70100B	2P																			
	G8	NRZM80100P	4P																			
		NRZM80100B	2P																			
M10 × 1.25	G7	NRZM7010NP	4P	75	23	-	38	7	5.5	8	8	6	△									
		NRZM7010NB	2P																			
	G8	NRZM8010NP	4P																			
		NRZM8010NB	2P																			
M10 × 1	G7	NRZM7010MP	4P	75	23	-	38	7	5.5	8	8	6	△									
		NRZM7010MB	2P																			
M12 × 1.75	G8	NRZM8012PP	4P	82	26	-	42	8.5	6.5	9	8	6	△									
		NRZM8012PB	2P																			
	G9	NRZM9012PP	4P																			
		NRZM9012PB	2P																			
M12 × 1.5	G8	NRZM80120P	4P	82	26	-	42	8.5	6.5	9	8	6	△									
		NRZM80120B	2P																			
M12 × 1.25	G8	NRZM8012NP	4P	82	26	-	42	8.5	6.5	9	8	6	△									
		NRZM8012NB	2P																			
	G9	NRZM9012NP	4P																			
		NRZM9012NB	2P																			
M12 × 1	G7	NRZM7012MP	4P	82	26	-	42	8.5	6.5	9	8	6	△									
		NRZM7012MB	2P																			
M14 × 2	G9	NRZM9014QP	4P	88	26	-	45	10.5	8	11	8	6	△									
		NRZM9014QB	2P																			
	G10	NRZM0014QP	4P																			
		NRZM0014QB	2P																			

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

N+RZ/N-RZ Thread Forming Taps for Steels

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M14 × 1.5	G9	NRZM90140P	4P	88	26	-	45	10.5	8	11	8	6	△
		NRZM90140B	2P										
M14 × 1	G8	NRZM8014MP	4P	88	26	-	45	10.5	8	11	8	6	△
		NRZM8014MB	2P										
M16 × 2	G9	NRZM9016QP	4P	95	26	-	48	12.5	10	13	8	6	△
		NRZM9016QB	2P										
	G10	NRZM0016QP	4P										
		NRZM0016QB	2P										
M16 × 1.5	G9	NRZM90160P	4P	95	26	-	48	12.5	10	13	8	6	△
		NRZM90160B	2P										
M20 × 1.5	G9	NRZM90200P	4P	105	33	-	50	15	12	15	8	7	△
		NRZM90200B	2P										
	G10	NRZM00200P	4P										
		NRZM00200B	2P										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk



LS-N-RZ

Long Shank Thread Forming Taps for Steels

Specification

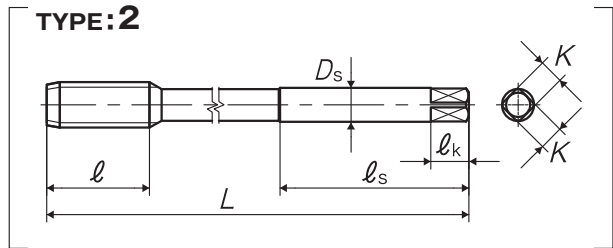
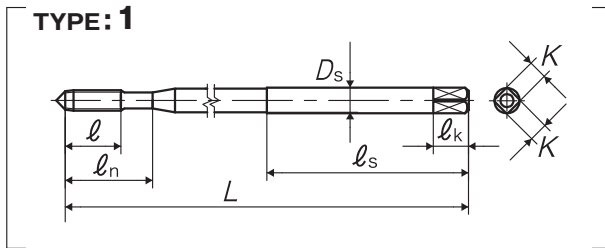


■ LS-N-RZ is the long shank forming tap suitable for ferrous materials such as carbon steels, alloy steels and normal steels.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels
5~15 (m/min)	5~15 (m/min)

For icon explanation, refer to P.50



Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
For Metric Threads													
M3 × 0.5	G5	NRZM53.0GP10	4P	100	9	14	40	4	3.2	6	4	1	△
		NRZM53.0GB10	2P										
	G6	NRZM63.0GP10	4P										
		NRZM63.0GB10	2P										
M4 × 0.7	G6	NRZM64.0IP10	4P	100	11	17	40	5	4	7	4	1	△
		NRZM64.0IB10	2P										
	G7	NRZM74.0IP10	4P										
		NRZM74.0IB10	2P										
M5 × 0.8	G6	NRZM65.0KP10	4P	100	13	22	40	5.5	4.5	7	4	1	△
		NRZM65.0KB10	2P										
	G7	NRZM75.0KP10	4P										
		NRZM75.0KB10	2P										
M6 × 1	G7	NRZM76.0MP10	4P	100	15	26	40	6	4.5	7	4	1	△
		NRZM76.0MP15		150									
		NRZM76.0MB10	2P	100									
		NRZM76.0MB15		150									
	G8	NRZM86.0MP10	4P	100									
		NRZM86.0MB10		2P									
M8 × 1.25	G7	NRZM78.0NP10	4P	100	19	-	50	6.2	5	8	6	2	△
		NRZM78.0NP15		150									
		NRZM78.0NB10	2P	100									
		NRZM78.0NB15		150									
M10 × 1.5	G7	NRZM70100P10	4P	100	23	-	50	7	5.5	8	8	2	△
		NRZM70100P15		150									
		NRZM70100B10	2P	100									
		NRZM70100B15		150									

Number of oil grooves : M3~M6=4, M8=3, M10=4 For M6 and smaller, external centers of 2 thread chamfer taps are removed.

◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
RO-6

501

N+RS/N-RS

Thread Forming Taps for Non-Ferrous Materials

Specification



■N+RS/N-RS are the forming taps suitable for non-ferrous materials such as aluminum castings, aluminum diecasting and brass.

Recommended Tapping Speeds depending on Materials

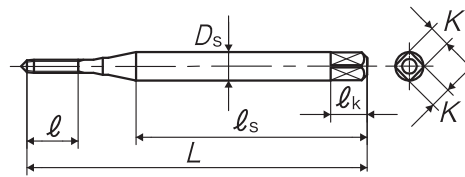


For icon explanation, refer to P.50

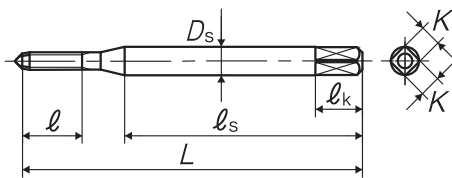
N+RS	~ M6 (coarse thread)
N-RS	~ M6 (fine thread), M7 ~, all U, all STI



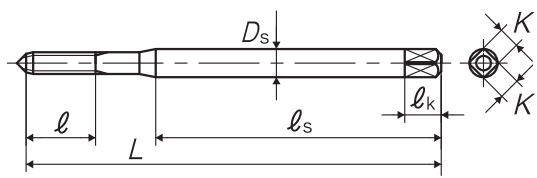
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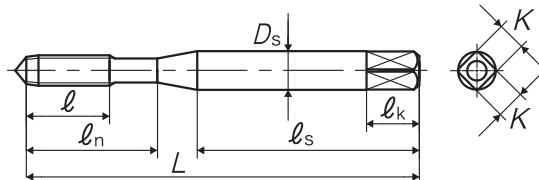
TYPE: 2



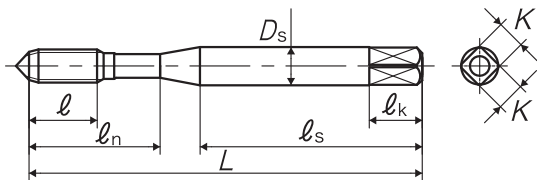
TYPE: 3



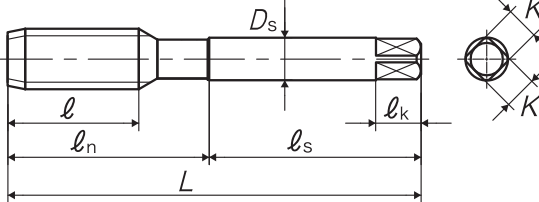
TYPE: 4



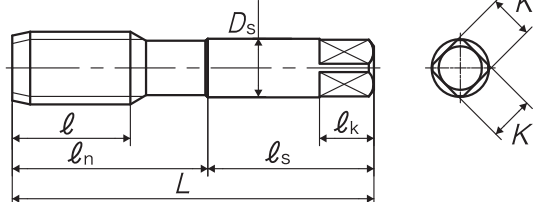
TYPE: 5



TYPE: 6



TYPE: 7



Number of oil grooves :
 Metric thread : M2.6 and smaller=non, M3 and larger=1
 Unified thread : No.4 and smaller=non, No.5 and larger=1
 STI Metric thread : 1

For M6 and smaller, external centers of 2 thread chamfer taps are removed.

Number of oil grooves : M3 ~ M6=4, M8=3, M10=4

Think threads with **YAMAWA**
 ○=Standard ○=Semi standard △=Made to order
 For improvement, spec may change without advance notice.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N+RS/N-RS Thread Forming Taps for Non-Ferrous Materials

Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
For Metric Threads													
M1 × 0.25	G4	NRSP41.0BP	4P	36	4.5	-	24	3	2.5	5	4	1	◎
		NRSP41.0BB	2P										△
	G5	NRSP51.0BP	4P										△
		NRSP51.0BB	2P										△
M1.2 × 0.25	G4	NRSP41.2BP	4P	36	4.5	-	24	3	2.5	5	4	1	◎
		NRSP41.2BB	2P										△
	G5	NRSP51.2BP	4P										○
		NRSP51.2BB	2P										○
M1.4 × 0.3	G4	NRSP41.4CP	4P	36	5.4	-	24	3	2.5	5	4	1	◎
		NRSP41.4CB	2P										△
	G5	NRSP51.4CP	4P										△
		NRSP51.4CB	2P										△
M1.6 × 0.35	G4	NRSP41.6DP	4P	36	6.3	-	24	3	2.5	5	4	2	○
		NRSP41.6DB	2P										◎
	G5	NRSP51.6DP	4P										◎
		NRSP51.6DB	2P										◎
M1.7 × 0.35	G4	NRSP41.7DP	4P	36	6.3	-	24	3	2.5	5	4	2	◎
		NRSP41.7DB	2P										◎
	G5	NRSP51.7DP	4P										◎
		NRSP51.7DB	2P										◎
	G6	NRSP61.7DP	4P										○
		NRSP61.7DB	2P										○
M1.8 × 0.35	G4	NRSP41.8DP	4P	42	6.3	-	27	3	2.5	5	4	2	△
		NRSP41.8DB	2P										△
	G5	NRSP51.8DP	4P										△
		NRSP51.8DB	2P										△
M2 × 0.4	G4	NRSP42.0EP	4P	42	7.2	-	27	3	2.5	5	4	3	◎
		NRSP42.0EB	2P										◎
	G5	NRSP52.0EP	4P										◎
		NRSP52.0EB	2P										◎
	G6	NRSP62.0EP	4P										○
		NRSP62.0EB	2P										○
M2 × 0.25	G4	NRSM42.0BP	4P	42	4.5	-	27	3	2.5	5	4	3	△
		NRSM42.0BB	2P										△
	G5	NRSM52.0BP	4P										△
		NRSM52.0BB	2P										△
M2.3 × 0.4	G4	NRSP42.3EP	4P	42	7.2	-	27	3	2.5	5	4	3	○
		NRSP42.3EB	2P										○
	G5	NRSP52.3EP	4P										○
		NRSP52.3EB	2P										○
	G6	NRSP62.3EP	4P										△
		NRSP62.3EB	2P										△
M2.5 × 0.45	G5	NRSP52.5FP	4P	46	8.1	14	29	3	2.5	5	4	4	◎
		NRSP52.5FB	2P										◎
	G6	NRSP62.5FP	4P										○
		NRSP62.5FB	2P										○
M2.5 × 0.35	G4	NRSM42.5DP	4P	46	6.3	14	29	3	2.5	5	4	5	△
		NRSM42.5DB	2P										△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

N+RS/N-RS Thread Forming Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M2.5 × 0.35	G5	NRSM52.5DP	4P	46	6.3	14	29	3	2.5	5	4	5	△
		NRSM52.5DB	2P										△
M2.6 × 0.45	G5	NRSP52.6FP	4P	46	8.1	14	29	3	2.5	5	4	4	◎
		NRSP52.6FB	2P										△
	NRSP62.6FP	4P	○										
	NRSP62.6FB	2P	△										
M2.6 × 0.35	G5	NRSM52.6DP	4P	46	6.3	14	29	3	2.5	5	4	5	△
		NRSM52.6DB	2P										△
	NRSM62.6DP	4P	△										
	NRSM62.6DB	2P	△										
M3 × 0.5	G5	NRSP53.0GP	4P	46	9	14	26	4	3.2	6	4	4	◎
		NRSP53.0GB	2P										△
	G6	NRSP63.0GP	4P										○
		NRSP63.0GB	2P										△
	G7	NRSP73.0GP	4P										○
		NRSP73.0GB	2P										△
G8	NRSP83.0GP	4P	△										
	NRSP83.0GB	2P	△										
M3 × 0.35	G5	NRSM53.0DP	4P	46	6.5	14	26	4	3.2	6	4	5	△
		NRSM53.0DB	2P										△
	G6	NRSM63.0DP	4P										△
		NRSM63.0DB	2P										△
M3.5 × 0.6	G5	NRSP53.5HP	4P	52	11	16	29	5	4	7	4	4	○
		NRSP53.5HB	2P										△
	G6	NRSP63.5HP	4P										○
		NRSP63.5HB	2P										△
	G7	NRSP73.5HP	4P										△
M3.5 × 0.35	G5	NRSM53.5DP	4P	52	6.5	16	29	5	4	7	4	5	△
		NRSM53.5DB	2P										△
	G6	NRSM63.5DP	4P										△
		NRSM63.5DB	2P										△
M4 × 0.7	G5	NRSP54.0IP	4P	52	11	17	29	5	4	7	4	4	○
		NRSP54.0IB	2P										△
	G6	NRSP64.0IP	4P										◎
		NRSP64.0IB	2P										△
	G7	NRSP74.0IP	4P										○
		NRSP74.0IB	2P										△
	G8	NRSP84.0IP	4P										△
		NRSP84.0IB	2P										△
M4 × 0.5	G6	NRSM64.0GP	4P	52	9	17	29	5	4	7	4	5	△
		NRSM64.0GB	2P										△
	G7	NRSM74.0GP	4P										△
		NRSM74.0GB	2P										△
M5 × 0.8	G5	NRSP55.0KP	4P	60	13	22	33	5.5	4.5	7	4	4	△
		NRSP55.0KB	2P										△
	G6	NRSP65.0KP	4P										◎
		NRSP65.0KB	2P										△
	G7	NRSP75.0KP	4P										○
		NRSP75.0KB	2P										△
	G8	NRSP85.0KB	2P										△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N+RS/N-RS Thread Forming Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M5 × 0.5	G6	NRSM65.0GP	4P	60	9	22	33	5.5	4.5	7	4	5	△
		NRSM65.0GB	2P										
	G7	NRSM75.0GP	4P										
		NRSM75.0GB	2P										
M6 × 1	G5	NRSP56.0MP	4P	62	15	26	33	6	4.5	7	4	4	△
		NRSP56.0MB	2P										
	G6	NRSP66.0MP	4P										
		NRSP66.0MB	2P										
	G7	NRSP76.0MP	4P										
		NRSP76.0MB	2P										
M6 × 0.75	G6	NRSM66.0JP	4P	62	15	26	33	6	4.5	7	4	4	△
		NRSM66.0JB	2P										
	G7	NRSM76.0JP	4P										
		NRSM76.0JB	2P										
M6 × 0.5	G6	NRSM66.0GP	4P	62	9	26	33	6	4.5	7	4	5	△
		NRSM66.0GB	2P										
	G7	NRSM77.0MP	4P										
		NRSM77.0MB	2P										
M7 × 1	G6	NRSM67.0MP	4P	70	19	-	36	6.2	5	8	4	6	△
		NRSM67.0MB	2P										
	G7	NRSM77.0MP	4P										
		NRSM77.0MB	2P										
M7 × 0.75	G7	NRSM77.0JP	4P	70	19	-	36	6.2	5	8	4	6	△
		NRSM77.0JB	2P										
M8 × 1.25	G7	NRSM78.0NP	4P	70	19	-	36	6.2	5	8	6	6	○
		NRSM78.0NB	2P										
	G8	NRSM88.0NP	4P										
		NRSM88.0NB	2P										
M8 × 1	G7	NRSM78.0MP	4P	70	19	-	36	6.2	5	8	6	6	△
		NRSM78.0MB	2P										
M8 × 0.75	G7	NRSM78.0JP	4P	70	19	-	36	6.2	5	8	6	6	△
		NRSM78.0JB	2P										
	G8	NRSM88.0JP	4P										
		NRSM88.0JB	2P										
M10 × 1.5	G7	NRSM70100P	4P	75	23	-	38	7	5.5	8	6	6	○
		NRSM70100B	2P										
	G8	NRSM80100P	4P										
		NRSM80100B	2P										
M10 × 1.25	G7	NRSM7010NP	4P	75	23	-	38	7	5.5	8	6	6	△
		NRSM7010NB	2P										
	G8	NRSM8010NP	4P										
		NRSM8010NB	2P										
M10 × 1	G7	NRSM7010MP	4P	75	23	-	38	7	5.5	8	6	6	△
		NRSM7010MB	2P										
M12 × 1.75	G8	NRSM8012PP	4P	82	26	-	42	8.5	6.5	9	6	6	△
		NRSM8012PB	2P										
	G9	NRSM9012PP	4P										
		NRSM9012PB	2P										
M12 × 1.5	G8	NRSM80120P	4P	82	26	-	42	8.5	6.5	9	6	6	△
		NRSM80120B	2P										
	G9	NRSM90120P	4P										
		NRSM90120B	2P										
M12 × 1.25	G8	NRSM8012NP	4P	82	26	-	42	8.5	6.5	9	6	6	△
		NRSM8012NB	2P										

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Roll Tap Series

N+RS/N-RS Thread Forming Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M12 × 1.25	G9	NRSM9012NP	4P	82	26	-	42	8.5	6.5	9	6	6	△
		NRSM9012NB	2P										
M12 × 1	G7	NRSM7012MP	4P	82	26	-	42	8.5	6.5	9	6	6	△
		NRSM7012MB	2P										
M14 × 2	G9	NRSM9014QP	4P	88	26	-	45	10.5	8	11	6	6	△
		NRSM9014QB	2P										
	G10	NRSM0014QP	4P										
		NRSM0014QB	2P										
M14 × 1.5	G9	NRSM90140P	4P	88	26	-	45	10.5	8	11	6	6	△
		NRSM90140B	2P										
M14 × 1	G8	NRSM8014MP	4P	88	26	-	45	10.5	8	11	6	6	△
		NRSM8014MB	2P										
M16 × 2	G9	NRSM9016QP	4P	95	26	-	48	12.5	10	13	6	6	△
		NRSM9016QB	2P										
	G10	NRSM0016QP	4P										
		NRSM0016QB	2P										
M16 × 1.5	G9	NRSM90160P	4P	95	26	-	48	12.5	10	13	6	6	△
		NRSM90160B	2P										
M16 × 1	G8	NRSM8016MP	4P	95	26	-	48	12.5	10	13	6	6	△
		NRSM8016MB	2P										
M18 × 1.5	G9	NRSM90180P	4P	100	33	-	51	14	11	14	6	6	△
		NRSM90180B	2P										
M20 × 2.5	G11	NRSM1020RP	4P	105	33	-	50	15	12	15	6	7	△
		NRSM1020RB	2P										
M20 × 1.5	G9	NRSM90200P	4P	105	33	-	50	15	12	15	6	7	△
		NRSM90200B	2P										
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
No.0-80UNF	G5	NRSM5UN0BP	4P	36	6.3	-	24	3	2.5	5	3	2	△
		NRSM5UN0BB	2P										
No.1-72UNF	G5	NRSM5UN1CP	4P	42	7.2	-	27	3	2.5	5	3	2	△
		NRSM5UN1CB	2P										
No.2-56UNC	G4	NRSM4UN2EP	4P	42	8.1	-	27	3	2.5	5	4	3	△
		NRSM4UN2EB	2P										
	G5	NRSM5UN2EP	4P										
		NRSM5UN2EB	2P										
	G7	NRSM7UN2EP	4P										
		NRSM7UN2EB	2P										
No.3-48UNC	G4	NRSM4UN3FP	4P	46	8.1	14	29	3	2.5	5	4	4	△
		NRSM4UN3FB	2P										
	G5	NRSM5UN3FP	4P										
		NRSM5UN3FB	2P										
No.4-40UNC	G5	NRSM5UN4HP	4P	46	9	14	26	4	3.2	6	4	4	△
		NRSM5UN4HB	2P										
	G6	NRSM6UN4HP	4P										
		NRSM6UN4HB	2P										
	G7	NRSM7UN4HP	4P										
		NRSM7UN4HB	2P										
No.4-48UNF	G5	NRSM5UN4FP	4P	46	9	14	26	4	3.2	6	4	4	△
		NRSM5UN4FB	2P										

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N+RS/N-RS Thread Forming Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
No.4-48UNF	G6	NRSM6UN4FP	4P	46	9	14	26	4	3.2	6	4	4	△
		NRSM6UN4FB	2P										
No.6-32UNC	G5	NRSM5UN6JP	4P	52	11	16	29	5	4	7	4	4	△
		NRSM5UN6JB	2P										
	G6	NRSM6UN6JP	4P										
		NRSM6UN6JB	2P										
	G7	NRSM7UN6JP	4P										
		NRSM7UN6JB	2P										
No.6-40UNF	G5	NRSM5UN6HP	4P	52	11	16	29	5	4	7	4	4	△
		NRSM5UN6HB	2P										
No.8-32UNC	G6	NRSM6UN8JP	4P	60	13	21	33	5.5	4.5	7	4	4	△
		NRSM6UN8JB	2P										
	G7	NRSM7UN8JP	4P										
		NRSM7UN8JB	2P										
	G8	NRSM8UN8JP	4P										
No.8-36UNF	G5	NRSM5UN8IP	4P	60	13	21	33	5.5	4.5	7	4	4	△
		NRSM5UN8IB	2P										
	G6	NRSM6UN8IB											
No.10-24UNC	G6	NRSM6UNAMP	4P	60	13	22	33	5.5	4.5	7	4	4	△
		NRSM6UNAMB	2P										
	G7	NRSM7UNAMP	4P										
		NRSM7UNAMB	2P										
No.10-32UNF	G6	NRSM6UNAJP	4P	60	13	22	33	5.5	4.5	7	4	4	△
		NRSM6UNAJB	2P										
	G7	NRSM7UNAJP	4P										
		NRSM7UNAJB	2P										
1/4-20UNC	G6	NRSM6U04NP	4P	62	15	26	33	6	4.5	7	4	4	△
		NRSM6U04NB	2P										
	G7	NRSM7U04NP	4P										
		NRSM7U04NB	2P										
1/4-28UNF	G6	NRSM6U04KP	4P	62	15	26	33	6	4.5	7	4	4	△
		NRSM6U04KB	2P										

For Helical Coil Wire Screw Thread Inserts, for Metric Threads

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
STI M3 × 0.5	G3	RW3.0G3LENP	4P	3.65	52	7.5	17	29	5	4	7	4	4	△
		RW3.0G3LENB	2P											
STI M4 × 0.7	G4	RW4.0I4LENP	4P	4.909	60	13	22	33	5.5	4.5	7	4	4	△
		RW4.0I4LENB	2P											
STI M5 × 0.8	G4	RW5.0K4LENP	4P	6.039	62	15	26	33	6	4.5	7	4	4	△
		RW5.0K4LENB	2P											
STI M6 × 1	G4	RW6.0M4LENP	4P	7.299	70	19	-	36	6.2	5	8	4	6	△
		RW6.0M4LENB	2P											
STI M8 × 1.25	G4	RW8.0N4LENB	2P	9.624	75	23	-	38	7	5.5	8	6	6	△
STI M10 × 1.5	G5	RW01005LENB	2P	11.948	82	26	-	42	8.5	6.5	9	6	6	△
STI M12 × 1.75	G6	RW012P6LENB	2P	14.273	95	26	-	48	12.5	10	13	6	6	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-N-RS

Long Shank Thread Forming Taps for Non-Ferrous Materials

Specification

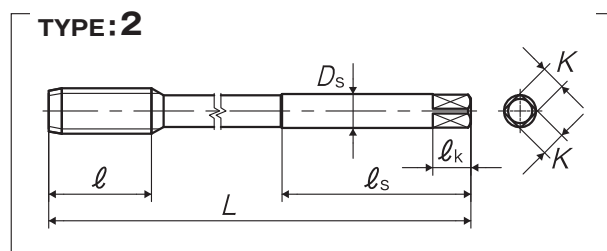
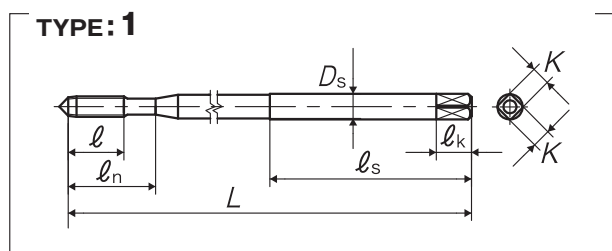


■LS-N-RS is the long shank forming tap suitable for non-ferrous materials such as aluminum castings, aluminum diecasting and brass.

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	Lobe	Type	Stock
For Metric Threads													
M3 × 0.5	G5	NRSM53.0GP10	4P	100	9	14	40	4	3.2	6	4	1	○
		NRSM53.0GB10	2P										
	G6	NRSM63.0GP10	4P										
		NRSM63.0GB10	2P										
M4 × 0.7	G6	NRSM64.0IP10	4P	100	11	17	40	5	4	7	4	1	○
		NRSM64.0IB10	2P										
	G7	NRSM74.0IP10	4P										
		NRSM74.0IB10	2P										
M5 × 0.8	G6	NRSM65.0KP10	4P	100	13	22	40	5.5	4.5	7	4	1	△
		NRSM65.0KB10	2P										
	G7	NRSM75.0KP10	4P										
		NRSM75.0KB10	2P										
M6 × 1	G7	NRSM76.0MP10	4P	100	15	26	40	6	4.5	7	4	1	○
		NRSM76.0MP15	4P	150									
		NRSM76.0MB10	2P	100									
		NRSM76.0MB15	2P	150									
	G8	NRSM86.0MP10	4P	100									
		NRSM86.0MP15	4P	150									
		NRSM86.0MB10	2P	100									
		NRSM86.0MB15	2P	150									
M8 × 1.25	G7	NRSM78.0NP10	4P	100	19	-	50	6.2	5	8	6	2	△
		NRSM78.0NP15	4P	150									
		NRSM78.0NB10	2P	100									
		NRSM78.0NB15	2P	150									
M10 × 1.5	G7	NRSM70100P10	4P	100	23	-	50	7	5.5	8	6	2	△
		NRSM70100P15	4P	150									



○=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LS-N-RS Long Shank Thread Forming Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M10 × 1.5	G7	NRSM70100B10	2P	100	23	-	50	7	5.5	8	6	2	△
		NRSM70100B15		150									

Number of oil grooves : 1

For M6 and smaller, external centers of 2 thread chamfer taps are removed.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

R+V

Thread Forming Taps, Coated

Specification



~M2.6

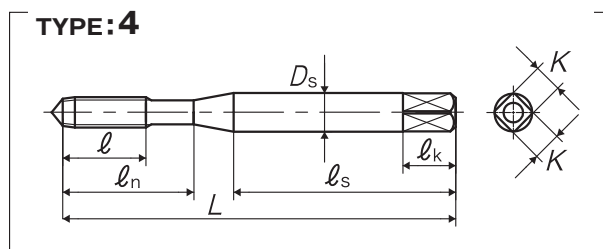
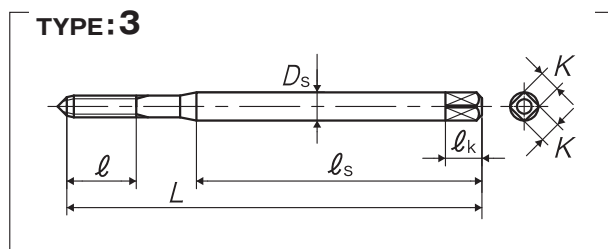
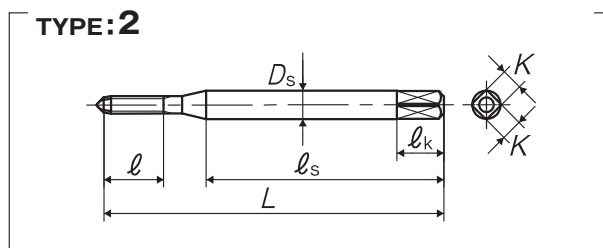
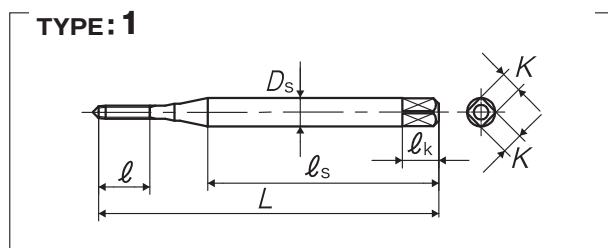


■R+V is coated forming tap for ferrous and non-ferrous materials. Optimum coating suitable to the tapping condition.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels
10~20 (m/min)	10~20 (m/min)

For icon explanation, refer to P.50



Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	K (mm)	l _k (mm)	Lobe	Type	Stock
For Metric Threads													
M1 × 0.25	G4	RVP41.0BP	4P	36	4.5	-	24	3	2.5	5	4	1	○
		RVP41.0BB	2P										△
	G5	RVP51.0BP	4P										○
		RVP51.0BB	2P										△
M1.2 × 0.25	G4	RVP41.2BP	4P	36	4.5	-	24	3	2.5	5	4	1	○
		RVP41.2BB	2P										△
	G5	RVP51.2BP	4P										○
		RVP51.2BB	2P										△
M1.4 × 0.3	G4	RVP41.4CP	4P	36	5.4	-	24	3	2.5	5	4	1	◎
		RVP41.4CB	2P										○
	G5	RVP51.4CP	4P										○
		RVP51.4CB	2P										△
M1.6 × 0.35	G4	RVP41.6DP	4P	36	6.3	-	24	3	2.5	5	4	2	○
		RVP41.6DB	2P										△
	G5	RVP51.6DP	4P										○
		RVP51.6DB	2P										△
M1.7 × 0.35	G6	RVP61.6DB	2P	36	6.3	-	24	3	2.5	5	4	2	△
		RVP41.7DP	4P										○

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

R+V Thread Forming Tap, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock	
M1.7 × 0.35	G4	RVP41.7DB	2P	36	6.3	-	24	3	2.5	5	4	2	○	
	G5	RVP51.7DP	4P										◎	
		RVP51.7DB	2P										△	
	G6	RVP61.7DP	4P											
		RVP61.7DB	2P											
	M2 × 0.4	G4	RVP42.0EP											4P
G5		RVP42.0EB	2P	△										
		RVP52.0EP	4P											
G6		RVP52.0EB	2P											
		RVP62.0EP	4P											
RVP62.0EB		2P												
M2.3 × 0.4	G4	RVP42.3EP	4P	42	7.2	-	27	3	2.5	5	4	3	△	
		RVP42.3EB	2P											
	G5	RVP52.3EP	4P											
		RVP52.3EB	2P											
M2.5 × 0.45	G5	RVP52.5FP	4P	46	8.1	14	29	3	2.5	5	4	4	○	
		RVP52.5FB	2P										△	
	G6	RVP62.5FP	4P											
		RVP62.5FB	2P											
M2.6 × 0.45	G5	RVP52.6FP	4P	46	8.1	14	29	3	2.5	5	4	4		◎
		RVP52.6FB	2P										○	
	G6	RVP62.6FP	4P											
		RVP62.6FB	2P											
M3 × 0.5	G5	RVP53.0GP	4P	46	9	14	26	4	3.2	6	4	4		◎
		RVP53.0GB	2P										△	
	G6	RVP63.0GP	4P											
		RVP63.0GB	2P											
	G7	RVP73.0GP	4P											○
		RVP73.0GB	2P											
	G8	RVP83.0GP	4P											
M4 × 0.7	G5	RVP54.0IP	4P	52	11	17	29	5	4	7	4	4		△
		RVP54.0IB	2P										◎	
	G6	RVP64.0IP	4P											○
		RVP64.0IB	2P											
	G7	RVP74.0IP	4P											○
		RVP74.0IB	2P											
	G8	RVP84.0IP	4P											△
		RVP84.0IB	2P											
M5 × 0.8	G5	RVP55.0KP	4P	60	13	22	33	5.5	4.5	7	4	4		△
		RVP55.0KB	2P										○	
	G6	RVP65.0KP	4P											○
		RVP65.0KB	2P											
	G7	RVP75.0KP	4P											○
		RVP75.0KB	2P											
	G8	RVP85.0KP	4P											△
		RVP85.0KB	2P											
M6 × 1	G6	RVP66.0MP	4P	62	15	26	33	6	4.5	7	4	4		○
		RVP66.0MB	2P											
	G7	RVP76.0MP	4P											
		RVP76.0MB	2P											

Number of oil grooves : Metric thread : M2.6 and smaller=non, M3 and larger=4
 For M6 and smaller, external centers of 2 thread chamfer taps are removed.

◎=Standard ○=Semi standard △=Made to order
 For improvement, spec may change without advance notice.

Think threads with
YAMAWA

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

JIS RO-16

511

OL+RZ/OL-RZ



Thread Forming Taps for Dry Tapping, Coated

Specification



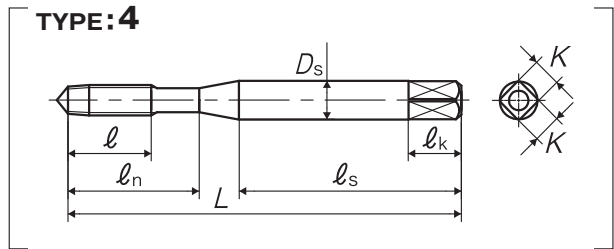
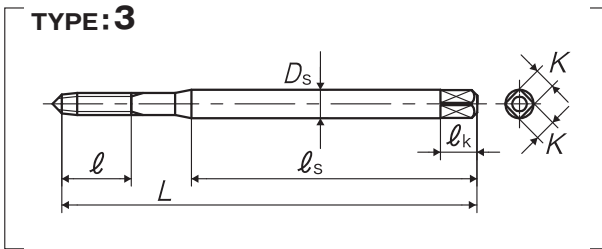
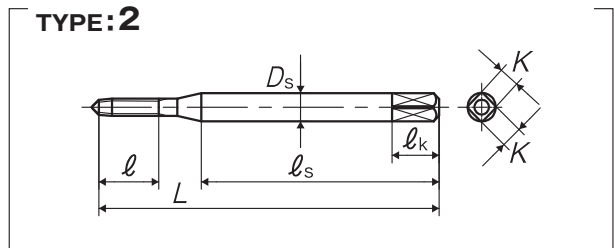
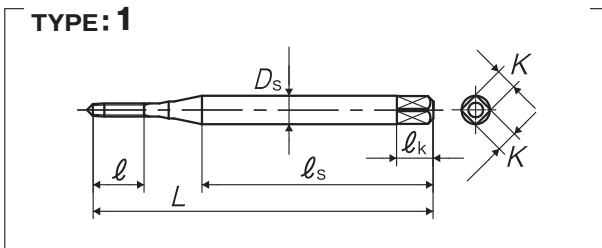
■OL+RZ/OL-RZ are the forming taps enabling dry tapping under following condition : tapping sizes of smaller than M6, thin steel sheets having burring operation, and steel parts with rather short length. Optimum coating suitable to the tapping condition.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels	Stainless steels
15~30 (m/min)	15~30 (m/min)	15~25 (m/min)	15~25 (m/min)	10~25 (m/min)

OL+RZ	all M
OL-RZ	all U

For icon explanation, refer to P.50



Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	K (mm)	lk (mm)	Lobe	Type	Stock
For Metric Threads													
M1 × 0.25	G4	OLRZP41.0BP	4P	36	4.5	-	24	3	2.5	5	4	1	△
M1.2 × 0.25	G4	OLRZP41.2BP	4P	36	4.5	-	24	3	2.5	5	4	1	○
M1.4 × 0.3	G4	OLRZP41.4CP	4P	36	5.4	-	24	3	2.5	5	4	1	◎
M1.6 × 0.35	G4	OLRZP41.6DP	4P	36	6.3	-	24	3	2.5	5	4	2	○
M1.7 × 0.35	G4	OLRZP41.7DP	4P	36	6.3	-	24	3	2.5	5	4	2	◎
M2 × 0.4	G4	OLRZP42.0EP	4P	42	7.2	-	27	3	2.5	5	4	3	◎
	G5	OLRZP52.0EP											
M2.3 × 0.4	G4	OLRZP42.3EP	4P	42	7.2	-	27	3	2.5	5	4	3	○
	G5	OLRZP52.3EP											
M2.5 × 0.45	G5	OLRZP52.5FP	4P	46	8.1	14	29	3	2.5	5	4	4	○
	G6	OLRZP62.5FP											
M2.6 × 0.45	G5	OLRZP52.6FP	4P	46	8.1	14	29	3	2.5	5	4	4	○
	G6	OLRZP62.6FP											
M3 × 0.5	G5	OLRZP53.0GP	4P	46	9	14	26	4	3.2	6	4	4	◎
	G6	OLRZP63.0GP											
M3.5 × 0.6	G5	OLRZP53.5HP	4P	52	11	16	29	5	4	7	4	4	△
	G6	OLRZP63.5HP											
M4 × 0.7	G6	OLRZP64.0IP	4P	52	11	17	29	5	4	7	4	4	◎
	G7	OLRZP74.0IP											



◎=Standard ○=Semi standard △=Made to order
For improvement, spec may change without advance notice.

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

OL+RZ/OL-RZ Thread Forming Taps for Dry Tapping, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M5 × 0.8	G6	OLRZP65.0KP	4P	60	13	22	33	5.5	4.5	7	4	4	○
	G7	OLRZP75.0KP											
M6 × 1	G6	OLRZP66.0MP	4P	62	15	26	33	6	4.5	7	4	4	○
	G7	OLRZP76.0MP											
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
No.2-56UNC	G4	OLRZM4UN2EP	4P	42	8.1	-	27	3	2.5	5	4	3	△
	G5	OLRZM5UN2EP											
No.2-64UNF	G4	OLRZM4UN2DP	4P	42	8.1	-	27	3	2.5	5	4	3	△
No.3-48UNC	G4	OLRZM4UN3FP	4P	46	8.1	14	29	3	2.5	5	4	4	△
No.3-56UNF	G4	OLRZM4UN3EP	4P	46	8.1	14	29	3	2.5	5	4	4	△
No.4-40UNC	G5	OLRZM5UN4HP	4P	46	9	14	26	4	3.2	6	4	4	○
	G6	OLRZM6UN4HP											
No.4-48UNF	G5	OLRZM5UN4FP	4P	46	9	14	26	4	3.2	6	4	4	△
No.5-40UNC	G5	OLRZM5UN5HP	4P	52	11	16	29	5	4	7	4	4	△
No.5-44UNF	G5	OLRZM5UN5GP	4P	52	11	16	29	5	4	7	4	4	△
No.6-32UNC	G5	OLRZM5UN6JP	4P	52	11	16	29	5	4	7	4	4	△
	G6	OLRZM6UN6JP											
No.6-40UNF	G5	OLRZM5UN6HP	4P	52	11	16	29	5	4	7	4	4	△
No.8-32UNC	G6	OLRZM6UN8JP	4P	60	13	21	33	5.5	4.5	7	4	4	△
	G7	OLRZM7UN8JP											
No.8-36UNF	G6	OLRZM6UN8IP	4P	60	13	21	33	5.5	4.5	7	4	4	△
No.10-24UNC	G6	OLRZM6UNAMP	4P	60	13	22	33	5.5	4.5	7	4	4	△
	G7	OLRZM7UNAMP											
No.10-32UNF	G6	OLRZM6UNAJP	4P	60	13	22	33	5.5	4.5	7	4	4	△
	G7	OLRZM7UNAJP											
No.12-24UNC	G6	OLRZM6UNCMP	4P	62	15	26	33	6	4.5	7	4	4	△
No.12-28UNF	G6	OLRZM6UNCCKP	4P	62	15	26	33	6	4.5	7	4	4	△
1/4-20UNC	G7	OLRZM7U04NP	4P	62	15	26	33	6	4.5	7	4	4	△
1/4-28UNF	G7	OLRZM7U04KP	4P	62	15	26	33	6	4.5	7	4	4	△

Number of oil grooves : non

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

HP+RZ/HP-RZ



High Performance Thread Forming Taps, Coated

Specification



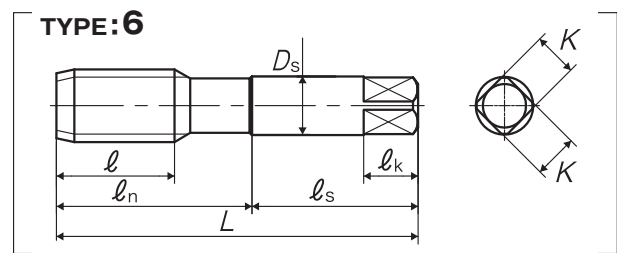
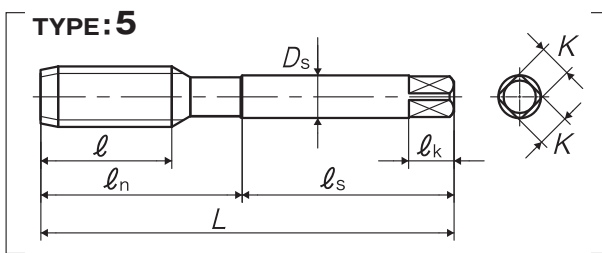
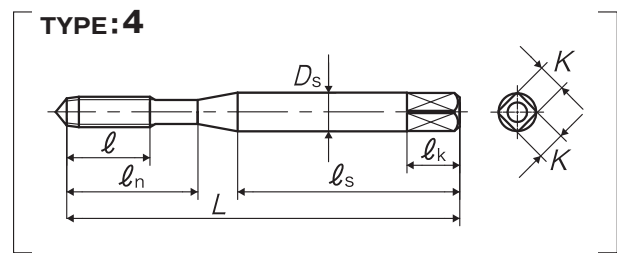
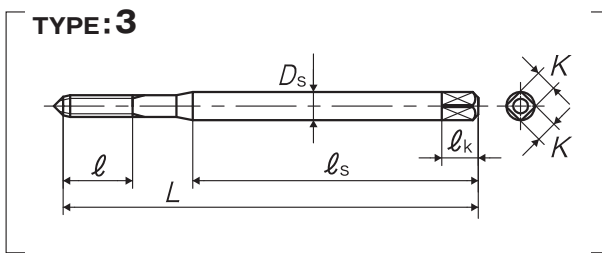
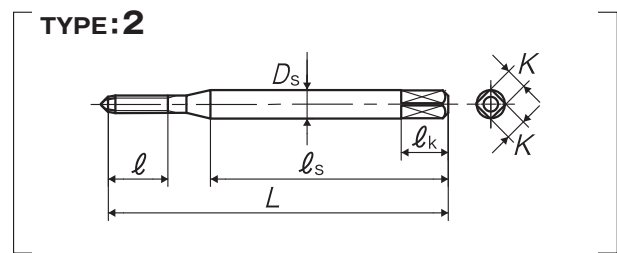
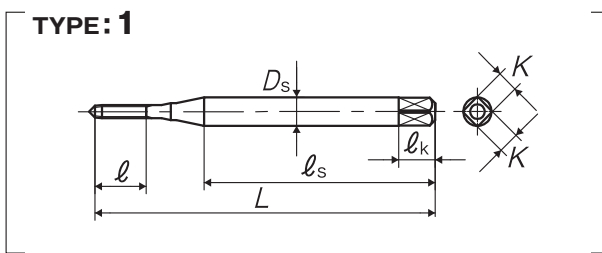
■HP+RZ/HP-RZ are the forming taps suitable for steels (lower than 35HRC) and light alloys, and applicable to the high speed tapping. Optimum coating suitable to the tapping condition.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels	Stainless steels
15~30 (m/min)	15~30 (m/min)	15~25 (m/min)	15~25 (m/min)	10~25 (m/min)

HP+RZ	~M6
HP-RZ	M8~, all U

For icon explanation, refer to P.50



Recommended class

Segment: 1J

Size	Class	Code	Chamfer	L (mm)	l (mm)	l_n (mm)	l_s (mm)	D_s (mm)	K (mm)	l_k (mm)	Lobe	Type	Stock
For Metric Threads													
M1 × 0.25	G4	HRZP41.0BB	2P	36	4.5	-	24	3	2.5	5	4	1	○
M1.2 × 0.25	G4	HRZP41.2BB	2P	36	4.5	-	24	3	2.5	5	4	1	○
M1.4 × 0.3	G4	HRZP41.4CB	2P	36	5.4	-	24	3	2.5	5	4	1	○
M1.6 × 0.35	G4	HRZP41.6DB	2P	36	6.3	-	24	3	2.5	5	4	2	○
M1.7 × 0.35	G4	HRZP41.7DB	2P	36	6.3	-	24	3	2.5	5	4	2	○
M2 × 0.4	G4	HRZP42.0EB	2P	42	7.2	-	27	3	2.5	5	4	3	◎
	G5	HRZP52.0EB											○
M2.3 × 0.4	G4	HRZP42.3EB	2P	42	7.2	-	27	3	2.5	5	4	3	○
	G5	HRZP52.3EB											○
M2.5 × 0.45	G5	HRZP52.5FB	2P	46	8.1	14	29	3	2.5	5	4	4	◎
	G6	HRZP62.5FB											○

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HP+RZ/HP-RZ High Performance Thread Forming Taps, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M2.6 × 0.45	G5	HRZP52.6FB	2P	46	8.1	14	29	3	2.5	5	4	4	○
	G6	HRZP62.6FB											○
M3 × 0.5	G5	HRZP53.0GP	4P	46	9	14	26	4	3.2	6	4	4	◎
		HRZP53.0GB	2P										○
	G6	HRZP63.0GP	4P										○
		HRZP63.0GB	2P										○
M3.5 × 0.6	G5	HRZP53.5HP	4P	52	11	16	29	5	4	7	4	4	△
		HRZP53.5HB	2P										○
	G6	HRZP63.5HP	4P										○
		HRZP63.5HB	2P										○
M4 × 0.7	G6	HRZP64.0IP	4P	52	11	17	29	5	4	7	4	4	○
		HRZP64.0IB	2P										○
	G7	HRZP74.0IP	4P										○
		HRZP74.0IB	2P										○
M5 × 0.8	G6	HRZP65.0KP	4P	60	13	22	33	5.5	4.5	7	4	4	○
		HRZP65.0KB	2P										○
	G7	HRZP75.0KP	4P										○
		HRZP75.0KB	2P										○
M6 × 1	G6	HRZP66.0MP	4P	62	15	26	33	6	4.5	7	4	4	○
		HRZP66.0MB	2P										○
	G7	HRZP76.0MP	4P										○
		HRZP76.0MB	2P										○
M8 × 1.25	G7	HRZM78.0NP	4P	70	19	-	36	6.2	5	8	6	5	○
		HRZM78.0NB	2P										○
	G8	HRZM88.0NP	4P										○
		HRZM88.0NB	2P										○
M10 × 1.5	G7	HRZM70100P	4P	75	23	-	38	7	5.5	8	8	5	○
		HRZM70100B	2P										○
	G8	HRZM80100P	4P										○
		HRZM80100B	2P										○
M10 × 1.25	G7	HRZM7010NP	4P	75	23	-	38	7	5.5	8	8	5	○
		HRZM7010NB	2P										○
	G8	HRZM8010NP	4P										○
		HRZM8010NB	2P										○
M12 × 1.75	G8	HRZM8012PP	4P	82	26	-	42	8.5	6.5	9	8	5	△
		HRZM8012PB	2P										○
	G9	HRZM9012PP	4P										○
		HRZM9012PB	2P										○
M12 × 1.5	G8	HRZM80120P	4P	82	26	-	42	8.5	6.5	9	8	5	○
		HRZM80120B	2P										○
	G9	HRZM90120P	4P										○
		HRZM90120B	2P										○
M12 × 1.25	G8	HRZM8012NP	4P	82	26	-	42	8.5	6.5	9	8	5	△
		HRZM8012NB	2P										○
	G9	HRZM9012NP	4P										○
		HRZM9012NB	2P										○
M14 × 1.5	G9	HRZM90140P	4P	88	26	-	45	10.5	8	11	8	5	△
		HRZM90140B	2P										○
M16 × 1.5	G9	HRZM90160P	4P	95	26	-	48	12.5	10	13	8	5	△
		HRZM90160B	2P										○

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

HP+RZ/HP-RZ High Performance Thread Forming Taps, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
M18 × 1.5	G9	HRZM90180P	4P	100	33	-	51	14	11	14	8	5	△
		HRZM90180B	2P										
M20 × 1.5	G9	HRZM90200P	4P	105	33	-	50	15	12	15	8	6	△
		HRZM90200B	2P										
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
No.2-56UNC	G4	HRZM4UN2EB	2P	42	8.1	-	27	3	2.5	5	4	3	△
	G5	HRZM5UN2EB											
No.2-64UNF	G4	HRZM4UN2DB	2P	42	8.1	-	27	3	2.5	5	4	3	△
No.3-48UNC	G4	HRZM4UN3FB	2P	46	8.1	14	29	3	2.5	5	4	4	△
No.3-56UNF	G4	HRZM4UN3EB	2P	46	8.1	14	29	3	2.5	5	4	4	△
No.4-40UNC	G5	HRZM5UN4HB	2P	46	9	14	26	4	3.2	6	4	4	○
	G6	HRZM6UN4HB											
No.4-48UNF	G5	HRZM5UN4FB	2P	46	9	14	26	4	3.2	6	4	4	△
No.5-40UNC	G5	HRZM5UN5HP	4P	52	11	16	29	5	4	7	4	4	△
		HRZM5UN5HB	2P										
No.5-44UNF	G5	HRZM5UN5GP	4P	52	11	16	29	5	4	7	4	4	△
		HRZM5UN5GB	2P										
No.6-32UNC	G5	HRZM5UN6JP	4P	52	11	16	29	5	4	7	4	4	△
		HRZM5UN6JB	2P										
	G6	HRZM6UN6JP	4P										
		HRZM6UN6JB	2P										
No.6-40UNF	G5	HRZM5UN6HP	4P	52	11	16	29	5	4	7	4	4	△
		HRZM5UN6HB	2P										
No.8-32UNC	G6	HRZM6UN8JP	4P	60	13	21	33	5.5	4.5	7	4	4	△
		HRZM6UN8JB	2P										
	G7	HRZM7UN8JP	4P										
		HRZM7UN8JB	2P										
No.8-36UNF	G6	HRZM6UN8IP	4P	60	13	21	33	5.5	4.5	7	4	4	△
		HRZM6UN8IB	2P										
No.10-24UNC	G6	HRZM6UNAMP	4P	60	13	22	33	5.5	4.5	7	4	4	△
		HRZM6UNAMB	2P										
	G7	HRZM7UNAMP	4P										
		HRZM7UNAMB	2P										
No.10-32UNF	G6	HRZM6UNAJP	4P	60	13	22	33	5.5	4.5	7	4	4	△
		HRZM6UNAJB	2P										
	G7	HRZM7UNAJP	4P										
		HRZM7UNAJB	2P										
No.12-24UNC	G6	HRZM6UNCMP	4P	62	15	26	33	6	4.5	7	4	4	△
		HRZM6UNCMB	2P										
No.12-28UNF	G6	HRZM6UNCCKP	4P	62	15	26	33	6	4.5	7	4	4	△
		HRZM6UNCCKB	2P										
1/4-20UNC	G7	HRZM7U04NP	4P	62	15	26	33	6	4.5	7	4	4	△
		HRZM7U04NB	2P										
1/4-28UNF	G7	HRZM7U04KP	4P	62	15	26	33	6	4.5	7	4	4	△
		HRZM7U04KB	2P										

Number of oil grooves : Metric thread : M2.6 and smaller=non, M3~M7=2, M8=3, M10 and larger=4
 Unified thread : No.4 and smaller=non, No.5 and larger=2

For M6 and smaller, external centers of 2 thread chamfer taps are removed.

SC-TL-RZ



Torqueless Thread Forming Taps with short chamfer

Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels	Stainless steels
15~30 (m/min)	15~30 (m/min)	15~25 (m/min)	15~25 (m/min)	10~25 (m/min)

For icon explanation, refer to P.50

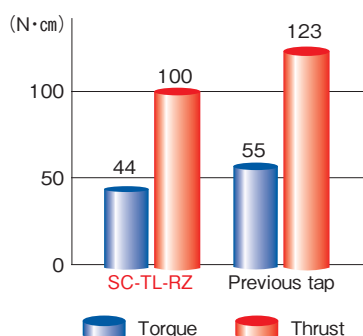
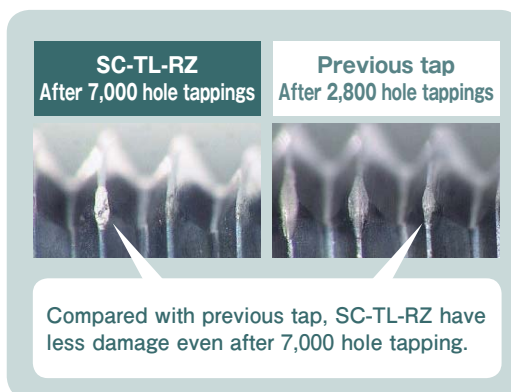
Product features

- Producing high quality internal threads with little burrs, SC-TL-RZ results in longer tool life.
- Tapping hard-to-machine materials of lower ductility becomes possible.
- Longer tool life under water soluble oil.
- Wider tapping application range up to higher speed tapping.
- Applicable materials:
 - Stainless steels: SUS303, SUS304, SUS316, SUS440C
 - Alloy steels: SCM420
 - Carbon steels: S45C ~ S50C
 - Aluminum alloy castings and die castings

Tapping data

Tapping condition [M3×0.5]

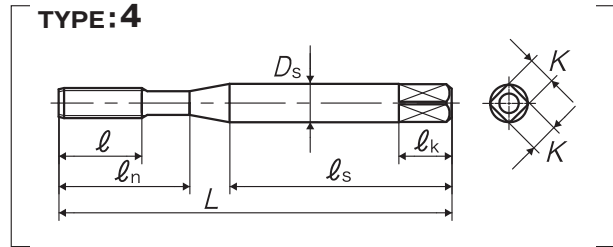
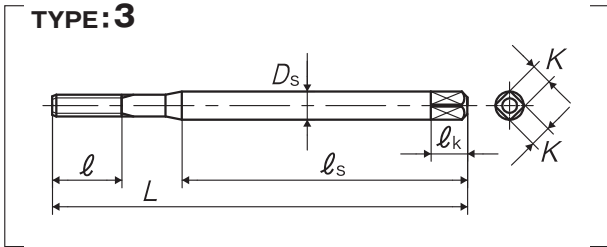
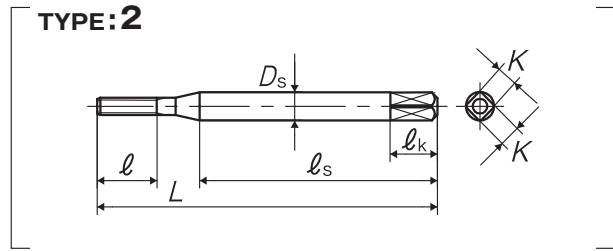
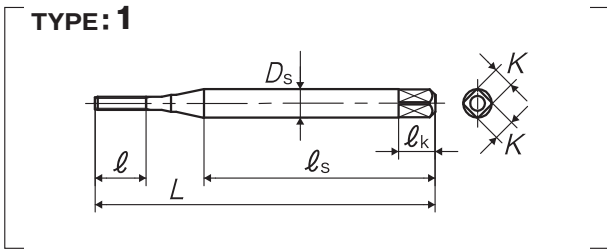
Work material	SCM440 tempered 32HRC
Tapping depth	4.5mm
Bored hole	φ2.8
Tapping speed	5m/min
Machine	Tapping center
Tapping fluid	Water soluble oil (×10)



Legend: Blue bar = Torque, Red bar = Thrust

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	Type	Stock
For Metric Threads													
M1 × 0.25	G4	SRZM41.0B1	1P	36	4.5	-	24	3	2.5	5	4	1	△
M1.2 × 0.25	G4	SRZM41.2B1	1P	36	4.5	-	24	3	2.5	5	4	1	△
M1.4 × 0.3	G4	SRZM41.4C1	1P	36	5.4	-	24	3	2.5	5	4	1	△
M1.4 × 0.2	G3	SRZM31.4A1	1P	36	3.6	-	24	3	2.5	5	4	1	△
M1.6 × 0.35	G4	SRZM41.6D1	1P	36	6.3	-	24	3	2.5	5	4	2	△
M1.6 × 0.2	G3	SRZM31.6A1	1P	36	3.6	-	24	3	2.5	5	4	2	△
M1.7 × 0.35	G4	SRZM41.7D1	1P	36	6.3	-	24	3	2.5	5	4	2	△
M2 × 0.4	G4	SRZM42.0E1	1P	42	7.2	-	27	3	2.5	5	4	3	△
M2.5 × 0.45	G5	SRZM52.5F1	1P	46	8.1	14	29	3	2.5	5	4	4	△
M2.6 × 0.45	G5	SRZM52.6F1	1P	46	8.1	14	29	3	2.5	5	4	4	△
M3 × 0.5	G5	SRZM53.0G1	1P	46	9	14	26	4	3.2	6	4	4	△
M4 × 0.7	G6	SRZM64.0I1	1P	52	11	17	29	5	4	7	4	4	△
M5 × 0.8	G6	SRZM65.0K1	1P	60	13	22	33	5.5	4.5	7	4	4	△
M6 × 1	G6	SRZM66.0M1	1P	62	15	26	33	6	4.5	7	4	4	△

Number of oil grooves : M2.6 and smaller=non, M3 and larger=2

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SURZ

SU Thread Forming Taps

Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels 15~30 (m/min)	Medium carbon steels 15~30 (m/min)	High carbon steels 15~25 (m/min)	Alloy steels 15~25 (m/min)	Stainless steels 10~25 (m/min)
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For icon explanation, refer to P.50

Product features

- Adopting the special form on tap's root, SURZ controls the minor diameter geometry of internal threads.
- Special lobe shape realizes low tapping torque.
- High efficiency can be obtained in thread forming of stainless steel parts.
- By adjusting bored hole size, you can adjust the minor diameter geometry of internal threads.


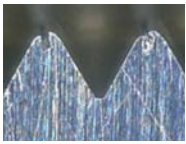
Tapping data



Tapping condition [M2×0.4]

Work material	SUS304
Tapping length	5.2mm (Blind hole)
Bored hole size	ϕ 1.85~ ϕ 1.82
Tapping speed	5m/min
Feed	Rigid
Tapping direction	Vertical
Machine	Machining center (BT15)
Tapping fluid	Water soluble oil (×20)

POINT

In use, please select proper bored hole diameter.

Bored hole size	ϕ 1.84	ϕ 1.83
Cross section picture of internal threads		
Seam shape	Normal seams remain.	Seams remain a little.
Minor diameter	ϕ 1.62	ϕ 1.60

Bored hole size	ϕ 1.82	ϕ 1.81
Cross section picture of internal threads		
Seam shape	Seams remain a little.	No seam remains.
Minor diameter	ϕ 1.59	ϕ 1.58

Recommended bored hole diameter before tapping

Unit : mm

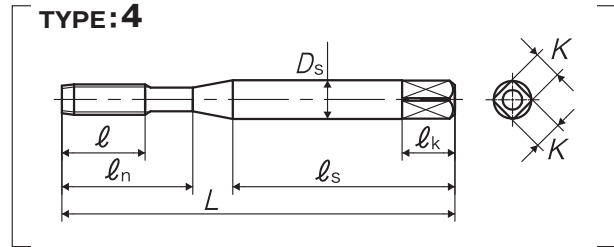
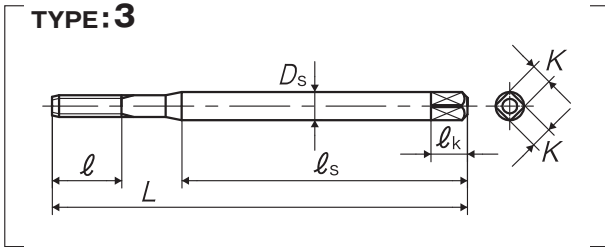
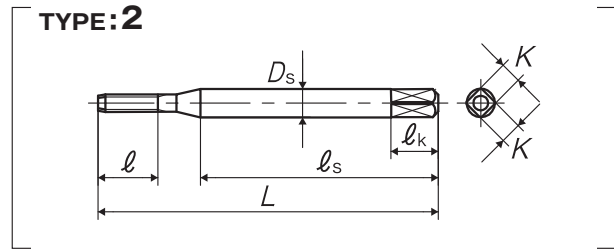
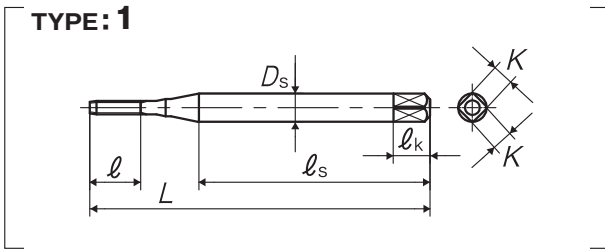
Size	Class	Recommended bored hole size
M1X0.25	G4	0.90
M1.2X0.25	G4	1.10
M1.4X0.3	G4	1.28
M1.6X0.2	G3	1.52
M1.6X0.35	G4	1.46
M1.7X0.35	G4	1.56
M2X0.4	G4	1.82
M2.3X0.4	G4	2.12
M2.5X0.45	G4	2.30
M2.6X0.45	G5	2.40
M3X0.5	G5	2.77
No.2-56UNC	G4	1.98
No.4-40UNC	G5	2.55
No.6-32UNC	G5	3.14

※Recommended bored hole diameters shown in above table have been calculated by aiming at the thread engagement of 90% and by considering avoidance of tap breakage, based on our past tapping test experiences.

※Recommended bore hole diameter may change because material deformation can slightly change depending on material, hardness, dimension of workpiece and tapping condition.

M2×0.4 6H internal thread minor diameter and tolerance	
Max.	1.679
Min.	1.567
Tolerance	0.112

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k



Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	Type	Stock
For Metric Threads													
M1 × 0.25	G4	SURZ41.0BB	2P	36	4.5	-	24	3	2.5	5	4	1	○
M1.2 × 0.25	G4	SURZ41.2BB	2P	36	4.5	-	24	3	2.5	5	4	1	○
M1.4 × 0.3	G4	SURZ41.4CB	2P	36	5.4	-	24	3	2.5	5	4	1	○
M1.6 × 0.2	G3	SURZ31.6AB	2P	36	3.6	-	24	3	2.5	5	4	2	○
M1.6 × 0.35	G4	SURZ41.6DB	2P	36	6.3	-	24	3	2.5	5	4	2	○
M1.7 × 0.35	G4	SURZ41.7DB	2P	36	6.3	-	24	3	2.5	5	4	2	○
M2 × 0.4	G4	SURZ42.0EB	2P	42	7.2	-	27	3	2.5	5	4	3	○
M2.3 × 0.4	G4	SURZ42.3EB	2P	42	7.2	-	27	3	2.5	5	4	3	○
M2.5 × 0.45	G4	SURZ42.5FB	2P	46	8.1	14	29	3	2.5	5	4	4	○
M2.6 × 0.45	G5	SURZ52.6FB	2P	46	8.1	14	29	3	2.5	5	4	4	○
M3 × 0.5	G5	SURZ53.0GB	2P	46	9	14	26	4	3.2	6	4	4	○
For Unified Threads													
Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	Type	Stock
No.2-56UNC	G4	SURZ4UN2EB	2P	42	8.1	-	27	3	2.5	5	4	3	○
No.4-40UNC	G5	SURZ5UN4HB	2P	46	9	14	26	4	3.2	6	4	4	○
No.6-32UNC	G5	SURZ5UN6JB	2P	52	11	16	29	5	4	7	4	4	○

Number of oil grooves : Metric thread : M2.6 and smaller=non, M3=2
 Unified thread : No.4 and smaller=non, No.6=2

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

MHRZ



Roll Taps for Carbon Steels of Middle Hardness

Specification

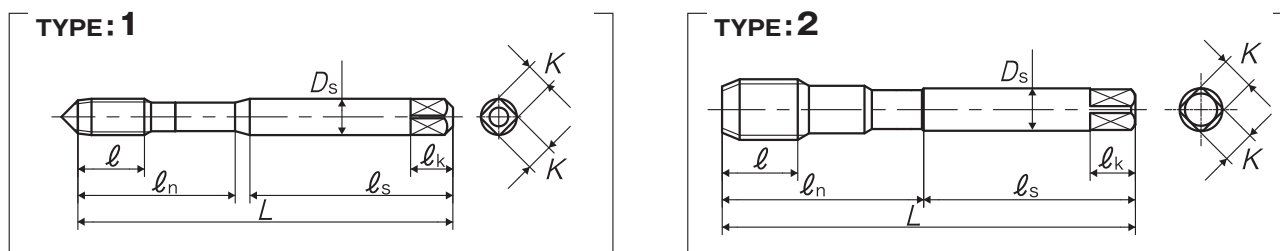


■ Stable tapping in thermal refined steels (~35HRC).

Recommended Tapping Speed depending on Materials

High carbon steels	Alloy steels	Thermal refined steels
10~30 (m/min)	10~30 (m/min)	10~20 (m/min)
		~35HRC

For icon explanation, refer to P.50



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	Type	Stock
M6 × 1	G8	RY6.0M80CTP	4P	62	11	26	33	6	4.5	7	5	1	◎
		RY6.0M80CTB	2P										
M8 × 1.25	G8	RY8.0N80CTP	4P	70	12	-	36	6.2	5	8	6	2	◎
		RY8.0N80CTB	2P										
M10 × 1.5	G8	RY010080CTP	4P	75	13	-	38	7	5.5	8	8	2	◎
		RY010080CTB	2P										
M10 × 1.25	G8	RY010N80CTP	4P	75	13	-	38	7	5.5	8	8	2	◎
		RY010N80CTB	2P										
M12 × 1.5	G8	RY012080CTP	4P	82	15	-	42	8.5	6.5	9	8	2	◎
		RY012080CTB	2P										
M12 × 1.25	G8	RY012N80CTP	4P	82	15	-	42	8.5	6.5	9	8	2	◎
		RY012N80CTB	2P										
M14 × 1.5	G9	RY014090CTP	4P	88	18	-	45	10.5	8	11	8	2	◎
		RY014090CTB	2P										

Number of oil grooves : M6=5, M8=6, M10 and larger=8

For M6 and smaller, external centers of 2 thread chamfer taps are removed.

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

JIS LINE UP

SPECIAL THREAD TAPS / SIMPLE INSPECTION TOOLS



MS+RS HPsRZ	JIS/ST-1
SIT	JIS/ST-3
SITD	JIS/ST-9
CHECK PINS	JIS/ST-13
CPC-S	JIS/ST-15
CPC-T	JIS/ST-17
CPR-S	JIS/ST-18
CPR-T	JIS/ST-20
SA	JIS/ST-22
TA	JIS/ST-23

MS+RS

Roll Taps for Miniature Threads



Specification

HSS

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50

HPsRZ

High Performance Roll Taps for Miniature Threads



Specification

HSS-P Coating

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50

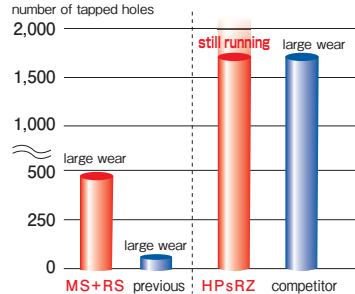
Product features

- Using new blanks, Roll Taps improve their rigidity, bending strength and run-out tolerance.
- Marking position is moved to square portion to keep high shank concentricity.
- Adoption of new thread limits (GS classes) improves the thread accuracy of internal threads machined.

Tapping data

Tapping condition [S0.8×0.2]

Tool	MS+RS	HPsRZ
	previous	competitor
Coating	—	TiCN
Tapping speed	4m/min	8m/min
Work material	SUS304 (88HRB)	
Bored hole size	φ0.73	
Tapping length	1.2mm (1.5D)	
Machine	CNC tapping center	
Tapping fluid	Insoluble oil	

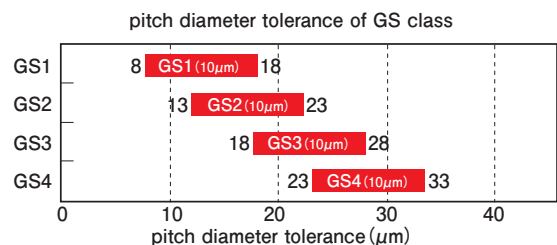
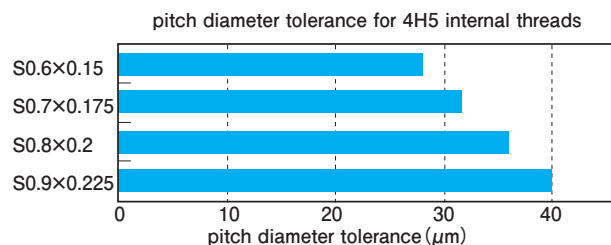


※Judgement of tool life : Crest wear at the 1st full thread

Recommended bored hole size

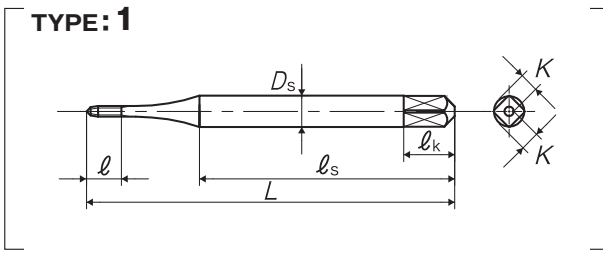
Size	Class	Bored hole size for class 4H5	
		Max	Min
S0.6X0.15	GS 2	0.55	0.54
S0.7X0.175	GS 3	0.64	0.62
S0.8X0.2	GS 3	0.73	0.71
S0.9X0.225	GS 4	0.82	0.80

4H5 internal threads and New thread class "GS"



Overall length	Thread length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓs	Ds	K	ℓk

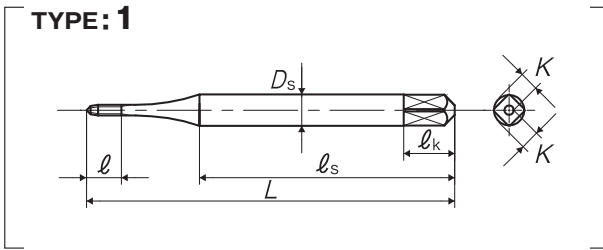
MS+RS Roll Taps for Miniature Threads



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
For Miniature Screw Threads												
S0.6 × 0.15	GS2	MSP20.6-B	2P	36	2.5	25	3	2.5	6	4	1	△
S0.7 × 0.175	GS3	MSP30.7-B	2P	36	2.5	25	3	2.5	6	4	1	△
S0.8 × 0.2	GS3	MSP30.8-B	2P	36	3	25	3	2.5	6	4	1	△
S0.9 × 0.225	GS4	MSP40.9-B	2P	36	3	25	3	2.5	6	4	1	△

HPsRZ High Performance Roll Taps for Miniature Threads



Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	Type	Stock
For Miniature Screw Threads												
S0.6 × 0.15	GS2	HPS20.6-B	2P	36	2.5	25	3	2.5	6	4	1	△
S0.7 × 0.175	GS3	HPS30.7-B	2P	36	2.5	25	3	2.5	6	4	1	△
S0.8 × 0.2	GS3	HPS30.8-B	2P	36	3	25	3	2.5	6	4	1	△
S0.9 × 0.225	GS4	HPS40.9-B	2P	36	3	25	3	2.5	6	4	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SIT

Simple Thread Inspection Tools Specification

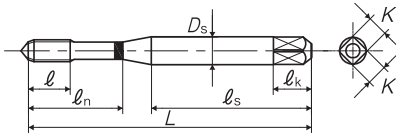
HSS

For icon explanation, refer to P.50

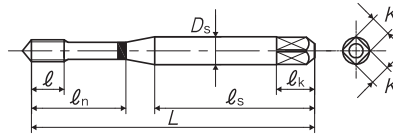


■ Specification of SIT is available up to M48 (U1 3/4). For details, please contact us.

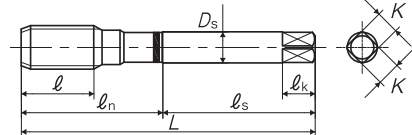
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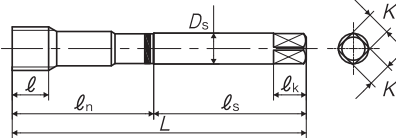
TYPE: 2



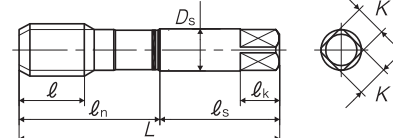
TYPE: 3



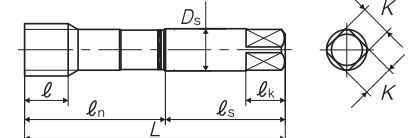
TYPE: 4



TYPE: 5



TYPE: 6



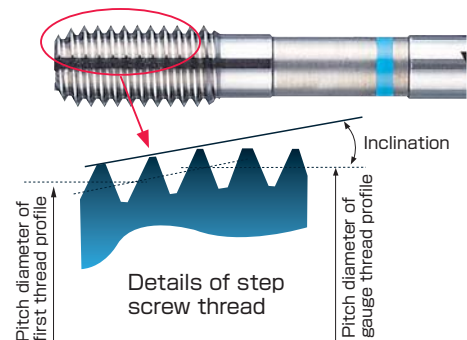
Product features

- SIT can minimize the jobs on inspection process and improve the inspection efficiency by adopting step screw thread.
- Premium HSS material extends the tool life dramatically.
- Tool for through hole or blind hole is available individually.
- Color case and color mark on the tool simplify tool storage control.

● What is the step screw thread ?

YAMAWA new thread gauge (for through hole) has the step screw thread on its end where the whole profile of screw thread becomes incrementally larger. — Due to this feature, the gauge enters easily the internal screw and works efficiently particularly when checking the screw threads with fine pitches.

Note : Step screw thread is not applied to the gauge for blind hole (NP gauge)



Accuracy of SIT

In SIT, tolerance of simple pitch diameter, pitch tolerance and tolerance of thread half angle, 3 important factors on measuring internal screw threads, are same with those of thread plug gauge.

■ Comparison between GB-6H/and GP-6H/thread plug gauge unit: mm

Size	OD				PD				Pitch tolerance (±)	Tolerance for thread half angle (± minute)
	Basic size	Max	Min	Tolerance	Basic size	Max	Min	Tolerance		
GB-6H M6 × 1	6.000	6.023	6.001	0.022	5.350	5.3675	5.3565	0.011	0.005	15
GP-6H M6 × 1	6.000	6.023	6.001	0.022	5.350	5.3675	5.3565	0.011	0.005	15

The pitch diameter is simple pitch diameter. Pitch tolerance includes error of thread lead.

■ Comparison between NB-6H/and NP-6H/thread plug gauge unit: mm

Size	OD				PD				Pitch tolerance (±)	Tolerance for thread half angle (± minute)
	Basic size	Max	Min	Tolerance	Basic size	Max	Min	Tolerance		
NB-6H M6 × 1	5.7055	5.7165	5.6945	0.022	5.500	5.511	5.500	0.011	0.005	16
NP-6H M6 × 1	5.7055	5.7165	5.6945	0.022	5.500	5.511	5.500	0.011	0.005	16

The pitch diameter is simple pitch diameter. Pitch tolerance includes error of thread lead.

※ Main specification of SIT is same with that of thread gauge. But SIT has partly Yamawa's own design in the length of thread and bottom part relief. Due to these features, Yamawa has adopted the name "Simple Inspection Tool or SIT" instead of using the name "thread gauge".

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Segment : 7B

Size		Class	Code	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Type	Stock
For Metric Threads												
M2 × 0.4	For Go	6H	ITM62.0EG	42	5.5	12	27	3	2.5	5	1	△
	For Not-go		ITM62.0EN		4.5						2	
M2 × 0.25	For Go	5H	ITM52.0BG	42	4	12	27	3	2.5	5	1	△
	For Not-go		ITM52.0BN		3.5						2	
M2.2 × 0.45	For Go	6H	ITM62.2FG	42	5.5	12	27	3	2.5	5	1	△
	For Not-go		ITM62.2FN		4.5						2	
M2.2 × 0.25	For Go	5H	ITM52.2BG	42	4	12	27	3	2.5	5	1	△
	For Not-go		ITM52.2BN		3.5						2	
M2.3 × 0.4	For Go	6H	ITM62.3EG	42	5.5	12	27	3	2.5	5	1	△
	For Not-go		ITM62.3EN		4.5						2	
M2.3 × 0.25	For Go	5H	ITM52.3BG	42	4	12	27	3	2.5	5	1	△
	For Not-go		ITM52.3BN		3.5						2	
M2.5 × 0.45	For Go	6H	ITM62.5FG	46	5.5	14	29	3	2.5	5	1	△
	For Not-go		ITM62.5FN		4.5						2	
M2.5 × 0.35	For Go	6H	ITM62.5DG	46	4.5	14	29	3	2.5	5	1	△
	For Not-go		ITM62.5DN		3.5						2	
M2.6 × 0.45	For Go	6H	ITM62.6FG	46	5.5	14	29	3	2.5	5	1	△
	For Not-go		ITM62.6FN		4.5						2	
M2.6 × 0.35	For Go	6H	ITM62.6DG	46	4.5	14	29	3	2.5	5	1	△
	For Not-go		ITM62.6DN		3.5						2	
M3 × 0.5	For Go	6H	ITM63.0GG	46	5.5	14	26	4	3.2	6	1	△
	For Not-go		ITM63.0GN		4.5						2	
M3 × 0.35	For Go	6H	ITM63.0DG	46	4.5	14	26	4	3.2	6	1	△
	For Not-go		ITM63.0DN		3.5						2	
M3.5 × 0.6	For Go	6H	ITM63.5HG	52	7.5	16	29	5	4	7	1	△
	For Not-go		ITM63.5HN		6						2	
M3.5 × 0.35	For Go	6H	ITM63.5DG	52	4.5	16	29	5	4	7	1	△
	For Not-go		ITM63.5DN		3.5						2	
M4 × 0.7	For Go	6H	ITM64.0IG	52	7.5	17	29	5	4	7	1	△
	For Not-go		ITM64.0IN		6						2	
M4 × 0.5	For Go	6H	ITM64.0GG	52	7.5	17	29	5	4	7	1	△
	For Not-go		ITM64.0GN		6						2	
M4.5 × 0.75	For Go	6H	ITM64.5JG	60	7.5	21	33	5.5	4.5	7	1	△
	For Not-go		ITM64.5JN		6						2	
M4.5 × 0.5	For Go	6H	ITM64.5GG	60	7.5	21	33	5.5	4.5	7	1	△
	For Not-go		ITM64.5GN		6						2	
M5 × 0.8	For Go	6H	ITM65.0KG	60	10	22	33	5.5	4.5	7	1	△
	For Not-go		ITM65.0KN		6						2	
M5 × 0.5	For Go	6H	ITM65.0GG	60	7	22	33	5.5	4.5	7	1	△
	For Not-go		ITM65.0GN		6						2	
M5.5 × 0.5	For Go	6H	ITM65.5GG	62	7	26	33	6	4.5	7	1	△
	For Not-go		ITM65.5GN		6						2	
M6 × 1	For Go	6H	ITM66.0MG	62	10	26	33	6	4.5	7	1	△
	For Not-go		ITM66.0MN		6						2	
M6 × 0.75	For Go	6H	ITM66.0JG	62	7.5	26	33	6	4.5	7	1	△
	For Not-go		ITM66.0JN		6						2	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SIT Simple Thread Inspection Tools

	Size	Class	Code	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Type	Stock
Spiral Fluted Taps (for blind hole)	M7 × 1	For Go	ITM67.0MG	70	12	34	36	6.2	5	8	3	△
		For Not-go	ITM67.0MN		6						4	
Spiral Fluted Taps (for through hole)	M7 × 0.75	For Go	ITM67.0JG	70	9	34	36	6.2	5	8	3	△
		For Not-go	ITM67.0JN		6						4	
Spiral Fluted Taps (for through hole)	M8 × 1.25	For Go	ITM68.0NG	70	15	34	36	6.2	5	8	3	△
		For Not-go	ITM68.0NN		10						4	
Spiral Pointed Taps (for through hole)	M8 × 1	For Go	ITM68.0MG	70	12	34	36	6.2	5	8	3	△
		For Not-go	ITM68.0MN		6						4	
Spiral Pointed Taps (for through hole)	M8 × 0.75	For Go	ITM68.0JG	70	9	34	36	6.2	5	8	3	△
		For Not-go	ITM68.0JN		6						4	
Hand Taps	M9 × 1.25	For Go	ITM69.0NG	75	15	37	38	7	5.5	8	3	△
		For Not-go	ITM69.0NN		10						4	
Hand Taps	M9 × 1	For Go	ITM69.0MG	75	12	37	38	7	5.5	8	3	△
		For Not-go	ITM69.0MN		6						4	
Hand Taps	M9 × 0.75	For Go	ITM69.0JG	75	9	37	38	7	5.5	8	3	△
		For Not-go	ITM69.0JN		6						4	
Cemented Carbide Taps	M10 × 1.5	For Go	ITM60100G	75	15	37	38	7	5.5	8	3	△
		For Not-go	ITM60100N		10						4	
Cemented Carbide Taps	M10 × 1.25	For Go	ITM6010NG	75	15	37	38	7	5.5	8	3	△
		For Not-go	ITM6010NN		10						4	
Roll Taps	M10 × 1	For Go	ITM6010MG	75	12	37	38	7	5.5	8	3	△
		For Not-go	ITM6010MN		6						4	
Roll Taps	M10 × 0.75	For Go	ITM6010JG	75	9	37	38	7	5.5	8	3	△
		For Not-go	ITM6010JN		6						4	
Special Thread Taps Simple Inspection Tools	M11 × 1.5	For Go	ITM60110G	82	19	40	42	8.5	6.5	9	3	△
		For Not-go	ITM60110N		10						4	
Special Thread Taps Simple Inspection Tools	M11 × 1	For Go	ITM6011MG	82	12	40	42	8.5	6.5	9	3	△
		For Not-go	ITM6011MN		6						4	
Special Thread Taps Simple Inspection Tools	M11 × 0.75	For Go	ITM6011JG	82	10	40	42	8.5	6.5	9	3	△
		For Not-go	ITM6011JN		6						4	
Pipe Taps	M12 × 1.75	For Go	ITM6012PG	82	20	40	42	8.5	6.5	9	3	△
		For Not-go	ITM6012PN		10						4	
Thread Mills	M12 × 1.5	For Go	ITM60120G	82	20	40	42	8.5	6.5	9	3	△
		For Not-go	ITM60120N		10						4	
Thread Mills	M12 × 1.25	For Go	ITM6012NG	82	15	40	42	8.5	6.5	9	3	△
		For Not-go	ITM6012NN		10						4	
Dies	M12 × 1	For Go	ITM6012MG	82	12	40	42	8.5	6.5	9	3	△
		For Not-go	ITM6012MN		6						4	
Center Drills	M14 × 2	For Go	ITM6014QG	88	20	43	45	10.5	8	11	3	△
		For Not-go	ITM6014QN		12						4	
Center Drills	M14 × 1.5	For Go	ITM60140G	88	20	43	45	10.5	8	11	3	△
		For Not-go	ITM60140N		12						4	
Center Drills	M14 × 1.25	For Go	ITM6014NG	88	15	43	45	10.5	8	11	3	△
		For Not-go	ITM6014NN		12						4	
Centering Tools	M14 × 1	For Go	ITM6014MG	88	12	43	45	10.5	8	11	3	△
		For Not-go	ITM6014MN		6						4	
Centering Tools	M15 × 1.5	For Go	ITM60150G	95	19	47	48	12.5	10	13	3	△
		For Not-go	ITM60150N		10						4	

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SIT Simple Thread Inspection Tools

Size	Class	Code	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Type	Stock
M15 × 1	For Go	ITM6015MG	95	12	47	48	12.5	10	13	3	△
	For Not-go	ITM6015MN		10						4	
M16 × 2	For Go	ITM6016QG	95	20	47	48	12.5	10	13	3	△
	For Not-go	ITM6016QN		12						4	
M16 × 1.5	For Go	ITM60160G	95	20	47	48	12.5	10	13	3	△
	For Not-go	ITM60160N		12						4	
M16 × 1	For Go	ITM6016MG	95	12	47	48	12.5	10	13	3	△
	For Not-go	ITM6016MN		8						4	
M17 × 1.5	For Go	ITM60170G	100	19	49	51	14	11	14	3	△
	For Not-go	ITM60170N		10						4	
M17 × 1	For Go	ITM6017MG	100	12	49	51	14	11	14	3	△
	For Not-go	ITM6017MN		10						4	
M18 × 2.5	For Go	ITM6018RG	100	25	49	51	14	11	14	3	△
	For Not-go	ITM6018RN		16						4	
M18 × 2	For Go	ITM6018QG	100	20	49	51	14	11	14	3	△
	For Not-go	ITM6018QN		12						4	
M18 × 1.5	For Go	ITM60180G	100	20	49	51	14	11	14	3	△
	For Not-go	ITM60180N		12						4	
M18 × 1	For Go	ITM6018MG	100	12	49	51	14	11	14	3	△
	For Not-go	ITM6018MN		8						4	
M20 × 2.5	For Go	ITM6020RG	105	25	55	50	15	12	15	5	△
	For Not-go	ITM6020RN		16						6	
M20 × 2	For Go	ITM6020QG	105	20	55	50	15	12	15	5	△
	For Not-go	ITM6020QN		12						6	
M20 × 1.5	For Go	ITM60200G	105	20	55	50	15	12	15	5	△
	For Not-go	ITM60200N		12						6	
M20 × 1	For Go	ITM6020MG	105	14	55	50	15	12	15	5	△
	For Not-go	ITM6020MN		8						6	
M22 × 2.5	For Go	ITM6022RG	115	33	60	55	17	13	16	5	△
	For Not-go	ITM6022RN		16						6	
M22 × 2	For Go	ITM6022QG	115	20	60	55	17	13	16	5	△
	For Not-go	ITM6022QN		14						6	
M22 × 1.5	For Go	ITM60220G	115	20	60	55	17	13	16	5	△
	For Not-go	ITM60220N		14						6	
M22 × 1	For Go	ITM6022MG	115	14	60	55	17	13	16	5	△
	For Not-go	ITM6022MN		8						6	
M24 × 3	For Go	ITM6024SG	120	30	65	55	19	15	18	5	△
	For Not-go	ITM6024SN		20						6	
M24 × 2	For Go	ITM6024QG	120	20	65	55	19	15	18	5	△
	For Not-go	ITM6024QN		14						6	
M24 × 1.5	For Go	ITM60240G	120	20	65	55	19	15	18	5	△
	For Not-go	ITM60240N		14						6	
M24 × 1	For Go	ITM6024MG	120	14	65	55	19	15	18	5	△
	For Not-go	ITM6024MN		8						6	
For Unified Threads											
No. 2-56UNC	For Go	ITM2UN2EG	42	4.5	12	26	3	2.5	5	1	△
	For Not-go	ITM2UN2EN		3.5						2	
No. 2-64UNF	For Go	ITM2UN2DG	42	4.5	12	26	3	2.5	5	1	△
	For Not-go	ITM2UN2DN		3.5						2	

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SIT Simple Thread Inspection Tools

	Size	Class	Code	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Type	Stock
Spiral Fluted Taps (for blind hole)	No. 3-48UNC	For Go	ITM2UN3FG	46	6.5	14	28	3	2.5	5	1	△
		For Not-go	ITM2UN3FN		3.5						2	
Spiral Fluted Taps (for through hole)	No. 3-56UNF	For Go	ITM2UN3EG	46	6.5	14	28	3	2.5	5	1	△
		For Not-go	ITM2UN3EN		3.5						2	
Spiral Fluted Taps (for through hole)	No. 4-40UNC	For Go	ITM2UN4HG	46	6.5	14	25	4	3.2	6	1	△
		For Not-go	ITM2UN4HN		3.5						2	
Spiral Pointed Taps (for through hole)	No. 4-48UNF	For Go	ITM2UN4FG	46	6.5	14	25	4	3.2	6	1	△
		For Not-go	ITM2UN4FN		3.5						2	
Hand Taps	No. 5-40UNC	For Go	ITM2UN5HG	52	6.5	16	28	5	4	7	1	△
		For Not-go	ITM2UN5HN		3.5						2	
Cemented Carbide Taps	No. 5-44UNF	For Go	ITM2UN5GG	52	6.5	16	28	5	4	7	1	△
		For Not-go	ITM2UN5GN		3.5						2	
Roll Taps	No. 6-32UNC	For Go	ITM2UN6JG	52	7	16	28	5	4	7	1	△
		For Not-go	ITM2UN6JN		3.5						2	
Cemented Carbide Taps	No. 6-40UNF	For Go	ITM2UN6HG	52	7	16	28	5	4	7	1	△
		For Not-go	ITM2UN6HN		3.5						2	
Roll Taps	No. 8-32UNC	For Go	ITM2UN8JG	60	9	21	32	5.5	4.5	7	1	△
		For Not-go	ITM2UN8JN		5						2	
Cemented Carbide Taps	No. 8-36UNF	For Go	ITM2UN8IG	60	9	21	32	5.5	4.5	7	1	△
		For Not-go	ITM2UN8IN		5						2	
Roll Taps	No. 10-24UNC	For Go	ITM2UNAMG	60	9.5	22	32	5.5	4.5	7	1	△
		For Not-go	ITM2UNAMN		5						2	
Cemented Carbide Taps	No. 10-32UNF	For Go	ITM2UNAJG	60	9.5	22	32	5.5	4.5	7	1	△
		For Not-go	ITM2UNAJN		5						2	
Special Thread Taps Simple Inspection Tools	No. 12-24UNC	For Go	ITM2UNCMG	62	9.5	26	32	6	4.5	7	1	△
		For Not-go	ITM2UNCMN		5						2	
Pipe Taps	No. 12-28UNF	For Go	ITM2UNCKG	62	9.5	26	32	6	4.5	7	1	△
		For Not-go	ITM2UNCKN		5						2	
Thread Mills	1/4-20UNC	For Go	ITM2U04NG	62	15	26	32	6	4.5	7	1	△
		For Not-go	ITM2U04NN		10						2	
Dies	1/4-28UNF	For Go	ITM2U04KG	62	12	26	32	6	4.5	7	1	△
		For Not-go	ITM2U04KN		7						2	
Center Drills	5/16-18UNC	For Go	ITM2U050G	70	15	34	36	6.2	5	8	3	△
		For Not-go	ITM2U050N		10						4	
Centering Tools	5/16-24UNF	For Go	ITM2U05MG	70	15	34	36	6.2	5	8	3	△
		For Not-go	ITM2U05MN		7						4	
Centering Tools	3/8-16UNC	For Go	ITM2U06PG	75	17	37	38	7	5.5	8	3	△
		For Not-go	ITM2U06PN		10						4	
Centering Tools	3/8-24UNF	For Go	ITM2U06MG	75	17	37	38	7	5.5	8	3	△
		For Not-go	ITM2U06MN		10						4	
Centering Tools	7/16-14UNC	For Go	ITM2U07QG	82	17	40	42	8.5	6.5	9	3	△
		For Not-go	ITM2U07QN		10						4	
Centering Tools	7/16-20UNF	For Go	ITM2U07NG	82	17	40	42	8.5	6.5	9	3	△
		For Not-go	ITM2U07NN		10						4	
Centering Tools	1/2-13UNC	For Go	ITM2U08RG	88	17	43	45	10.5	8	11	3	△
		For Not-go	ITM2U08RN		13						4	
Centering Tools	1/2-20UNF	For Go	ITM2U08NG	88	17	43	45	10.5	8	11	3	△
		For Not-go	ITM2U08NN		10						4	

Overall length	Thread length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SIT Simple Thread Inspection Tools

Size	Class	Code	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Type	Stock
9/16-12UNC	For Go	ITM2U09SG	95	26	47	48	12.5	10	13	3	△
	For Not-go	ITM2U09SN		17						4	
9/16-18UNF	For Go	ITM2U090G	95	20	47	48	12.5	10	13	3	△
	For Not-go	ITM2U090N		13						4	
5/8-11UNC	For Go	ITM2U10UG	95	26	47	48	12.5	10	13	3	△
	For Not-go	ITM2U10UN		17						4	
5/8-18UNF	For Go	ITM2U100G	95	20	47	48	12.5	10	13	3	△
	For Not-go	ITM2U100N		13						4	

Spiral Fluted Taps
(for blind hole)

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(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SITD (Tandem Type)

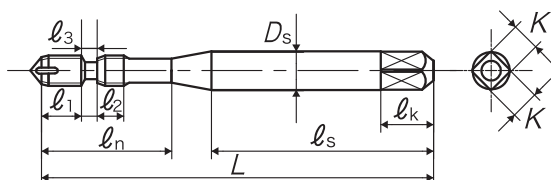
Simple Thread Inspection Tools, Tandem Type
Specification

HSS

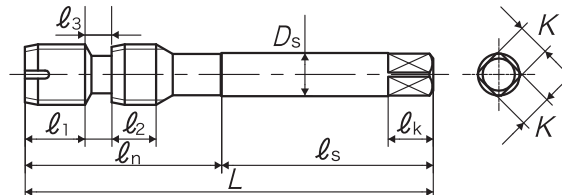
For icon explanation, refer to P.50



TYPE: 1

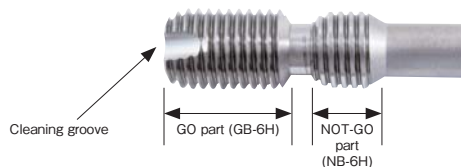


TYPE: 2



Product features

- Under normal inspection procedure, the finished thread is checked by a 2-time process, that is, by using GP GO gauge and then by using NP/WP NO-GO gauge. By using Yamawa Thread Inspection Tool, the thread inspection can be done in one single process.
- SITD, attached to a measuring machine, enables the mechanical measuring.
- Even in difficult-to-insert thread inspection such as checking smaller sizes and/or finer pitch threads, smooth inspection becomes possible due to the step screw thread mechanism adopted to SITD.
- What is the [SITD] ?
Both GO part and NOT-GO part are embedded in one tool.
- Cleaning groove
Cleaning groove of the thread portion helps to remove the small dirt left inside the internal threads and hence allows for the proper inspection procedure.



Accuracy of SITD

In SITD, tolerance of simple pitch diameter, pitch tolerance and tolerance of thread half angle, 3 important factors on measuring internal screw threads, are same with those of thread plug gauge.

■ Comparison between GB-6H/ and GP-6H/ thread plug gauge unit : mm

Size	OD				PD				Pitch tolerance	Tolerance for thread half angle
	Basic size	Max	Min	Tolerance	Basic size	Max	Min	Tolerance	(±)	(± minute)
GB-6H M6 × 1	6.000	6.023	6.001	0.022	5.350	5.3675	5.3565	0.011	0.005	15
GP-6H M6 × 1	6.000	6.023	6.001	0.022	5.350	5.3675	5.3565	0.011	0.005	15

The pitch diameter is simple pitch diameter. Pitch tolerance includes error of thread lead.

■ Comparison between NB-6H/ and NP-6H/ thread plug gauge unit : mm

Size	OD				PD				Pitch tolerance	Tolerance for thread half angle
	Basic size	Max	Min	Tolerance	Basic size	Max	Min	Tolerance	(±)	(± minute)
NB-6H M6 × 1	5.7055	5.7165	5.6945	0.022	5.500	5.511	5.500	0.011	0.005	16
NP-6H M6 × 1	5.7055	5.7165	5.6945	0.022	5.500	5.511	5.500	0.011	0.005	16

The pitch diameter is simple pitch diameter. Pitch tolerance includes error of thread lead.

※ Main specification of SITD is same with that of thread gauge. But SITD has partly Yamawa's own design in the length of thread and bottom part relief. Due to these features, Yamawa has adopted the name "Simple Inspection Tool or SITD" instead of using the name "thread gauge".

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Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	GO part	NOT-GO part	Recess length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ ₁	ℓ ₂	ℓ ₃	ℓ _n	ℓ _s	D _s	K	ℓ _k

Segment : 7B

Size	Class	Code	L (mm)	ℓ ₁ (mm)	ℓ ₂ (mm)	ℓ ₃ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Type	Stock
For Metric Threads													
M2 × 0.4	6H	ITDM62.0E	42	4	2	1.2	12	27	3	2.5	5	1	△
M2 × 0.25	5H	ITDM52.0B	42	4.9	1.3	1	12	27	3	2.5	5	1	△
M2.2 × 0.45	6H	ITDM62.2F	42	4.4	2.3	1.4	12	27	3	2.5	5	1	△
M2.2 × 0.25	5H	ITDM52.2B	42	5.8	1.3	1	12	27	3	2.5	5	1	△
M2.3 × 0.4	6H	ITDM62.3E	42	4	2	1.2	12	27	3	2.5	5	1	△
M2.3 × 0.25	5H	ITDM52.3B	42	4.9	1.3	1	12	27	3	2.5	5	1	△
M2.5 × 0.45	6H	ITDM62.5F	46	4.4	2.3	1.4	14	29	3	2.5	5	1	△
M2.5 × 0.35	6H	ITDM62.5D	46	5.2	1.8	1.1	14	29	3	2.5	5	1	△
M2.6 × 0.45	6H	ITDM62.6F	46	4.4	2.3	1.4	14	29	3	2.5	5	1	△
M2.6 × 0.35	6H	ITDM62.6D	46	5.2	1.8	1.1	14	29	3	2.5	5	1	△
M3 × 0.5	6H	ITDM63.0G	46	5	2.5	1.5	14	26	4	3.2	6	1	△
M3 × 0.35	6H	ITDM63.0D	46	6.1	1.8	1.1	14	26	4	3.2	6	1	△
M3.5 × 0.6	6H	ITDM63.5H	52	6.2	3	1.8	16	29	5	4	7	1	△
M3.5 × 0.35	6H	ITDM63.5D	52	8.1	1.8	1.1	16	29	5	4	7	1	△
M4 × 0.7	6H	ITDM64.0I	52	5.4	3.5	2.1	17	29	5	4	7	1	△
M4 × 0.5	6H	ITDM64.0G	52	7	2.5	1.5	17	29	5	4	7	1	△
M4.5 × 0.75	6H	ITDM64.5J	60	6.9	3.8	2.3	21	33	5.5	4.5	7	1	△
M4.5 × 0.5	6H	ITDM64.5G	60	9	2.5	1.5	21	33	5.5	4.5	7	1	△
M5 × 0.8	6H	ITDM65.0K	60	6.6	4	2.4	22	33	5.5	4.5	7	1	△
M5 × 0.5	6H	ITDM65.0G	60	9	2.5	1.5	22	33	5.5	4.5	7	1	△
M5.5 × 0.5	6H	ITDM65.5G	62	11	2.5	1.5	26	33	6	4.5	7	1	△
M6 × 1	6H	ITDM66.0M	62	7	5	3	26	33	6	4.5	7	1	△
M6 × 0.75	6H	ITDM66.0J	62	8.9	3.8	2.3	26	33	6	4.5	7	1	△
M7 × 1	6H	ITDM67.0M	70	11.9	5	3	34	36	6.2	5	8	2	△
M7 × 0.75	6H	ITDM67.0J	70	13.8	3.8	2.3	34	36	6.2	5	8	2	△
M8 × 1.25	6H	ITDM68.0N	70	8.9	6.3	3.8	34	36	6.2	5	8	2	△
M8 × 1	6H	ITDM68.0M	70	11	5	3	34	36	6.2	5	8	2	△
M8 × 0.75	6H	ITDM68.0J	70	12.9	3.8	2.3	34	36	6.2	5	8	2	△
M9 × 1.25	6H	ITDM69.0N	75	13.8	6.3	3.8	37	38	7	5.5	8	2	△
M9 × 1	6H	ITDM69.0M	75	15.9	5	3	37	38	7	5.5	8	2	△
M9 × 0.75	6H	ITDM69.0J	75	17.8	3.8	2.3	37	38	7	5.5	8	2	△
M10 × 1.5	6H	ITDM60100	75	11	7.5	4.5	37	38	7	5.5	8	2	△
M10 × 1.25	6H	ITDM6010N	75	12.9	6.3	3.8	37	38	7	5.5	8	2	△
M10 × 1	6H	ITDM6010M	75	15	5	3	37	38	7	5.5	8	2	△
M10 × 0.75	6H	ITDM6010J	75	16.9	3.8	2.3	37	38	7	5.5	8	2	△
M11 × 1.5	6H	ITDM60110	82	14.9	7.5	4.5	40	42	8.5	6.5	9	2	△
M11 × 1	6H	ITDM6011M	82	18.9	5	3	40	42	8.5	6.5	9	2	△
M11 × 0.75	6H	ITDM6011J	82	20.8	3.8	2.3	40	42	8.5	6.5	9	2	△
M12 × 1.75	6H	ITDM6012P	82	11.9	8.8	5.3	40	42	8.5	6.5	9	2	△
M12 × 1.5	6H	ITDM6012O	82	14	7.5	4.5	40	42	8.5	6.5	9	2	△
M12 × 1.25	6H	ITDM6012N	82	15.9	6.3	3.8	40	42	8.5	6.5	9	2	△
M12 × 1	6H	ITDM6012M	82	18	5	3	40	42	8.5	6.5	9	2	△
M14 × 2	6H	ITDM6014Q	88	10	10	6	43	45	10.5	8	11	2	△
M14 × 1.5	6H	ITDM6014O	88	14	7.5	4.5	43	45	10.5	8	11	2	△
M14 × 1.25	6H	ITDM6014N	88	15.9	6.3	3.8	43	45	10.5	8	11	2	△
M14 × 1	6H	ITDM6014M	88	18	5	3	43	45	10.5	8	11	2	△
M15 × 1.5	6H	ITDM6015O	95	14.9	7.5	4.5	47	48	12.5	10	13	2	△

Spiral Fluted Taps (for blind hole)
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Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	GO part	NOT-GO part	Recess length	Thread+Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ ₁	ℓ ₂	ℓ ₃	ℓ _n	ℓ _s	D _s	K	ℓ _k

SITD Simple Thread Inspection Tools, Tandem Type

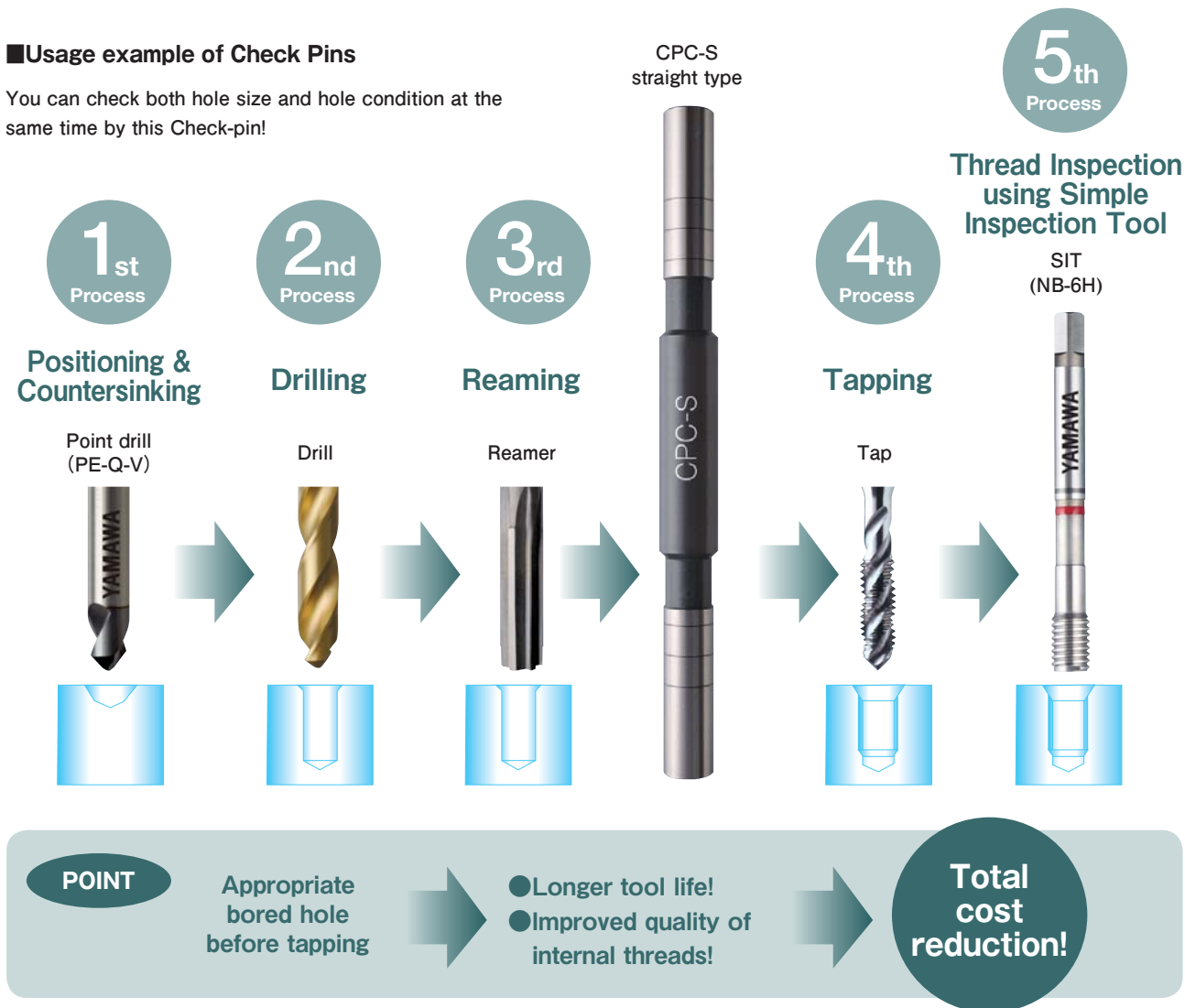
Size	Class	Code	L (mm)	ℓ ₁ (mm)	ℓ ₂ (mm)	ℓ ₃ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Type	Stock
M15 × 1	6H	ITDM6015M	95	18.9	5	3	47	48	12.5	10	13	2	△
M16 × 2	6H	ITDM6016Q	95	10	10	6	47	48	12.5	10	13	2	△
M16 × 1.5	6H	ITDM6016O	95	14	7.5	4.5	47	48	12.5	10	13	2	△
M16 × 1	6H	ITDM6016M	95	18	5	3	47	48	12.5	10	13	2	△
M17 × 1.5	6H	ITDM6017O	100	21.9	7.5	4.5	49	51	14	11	14	2	△
M17 × 1	6H	ITDM6017M	100	25.9	5	3	49	51	14	11	14	2	△
M18 × 2.5	6H	ITDM6018R	100	13	12.5	7.5	49	51	14	11	14	2	△
M18 × 2	6H	ITDM6018Q	100	17	10	6	49	51	14	11	14	2	△
M18 × 1.5	6H	ITDM6018O	100	21	7.5	4.5	49	51	14	11	14	2	△
M18 × 1	6H	ITDM6018M	100	25	5	3	49	51	14	11	14	2	△
For Unified Threads													
Size	Class	Code	L (mm)	ℓ ₁ (mm)	ℓ ₂ (mm)	ℓ ₃ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Type	Stock
No.2-56UNC	2B	ITDM2UN2E	42	4.4	2.3	1.4	12	26	3	2.5	5	1	△
No.2-64UNF	2B	ITDM2UN2D	42	4.9	2	1.2	12	26	3	2.5	5	1	△
No.3-48UNC	2B	ITDM2UN3F	46	3.9	2.6	1.6	14	28	3	2.5	5	1	△
No.3-56UNF	2B	ITDM2UN3E	46	4.4	2.3	1.4	14	28	3	2.5	5	1	△
No.4-40UNC	2B	ITDM2UN4H	46	3.9	3.2	1.9	14	25	4	3.2	6	1	△
No.4-48UNF	2B	ITDM2UN4F	46	4.8	2.6	1.6	14	25	4	3.2	6	1	△
No.5-40UNC	2B	ITDM2UN5H	52	5.9	3.2	1.9	16	28	5	4	7	1	△
No.5-44UNF	2B	ITDM2UN5G	52	6.4	2.9	1.7	16	28	5	4	7	1	△
No.6-32UNC	2B	ITDM2UN6J	52	4.6	4	2.4	16	28	5	4	7	1	△
No.6-40UNF	2B	ITDM2UN6H	52	5.9	3.2	1.9	16	28	5	4	7	1	△
No.8-32UNC	2B	ITDM2UN8J	60	6.6	4	2.4	21	32	5.5	4.5	7	1	△
No.8-36UNF	2B	ITDM2UN8I	60	7.4	3.5	2.1	21	32	5.5	4.5	7	1	△
No.10-24UNC	2B	ITDM2UNAM	62	7.5	5.3	3.2	26	32	6	4.5	7	1	△
No.10-32UNF	2B	ITDM2UNAJ	62	9.6	4	2.4	26	32	6	4.5	7	1	△
No.12-24UNC	2B	ITDM2UNCM	62	6.5	5.3	3.2	26	32	6	4.5	7	1	△
No.12-28UNF	2B	ITDM2UNCK	62	7.8	4.5	2.7	26	32	6	4.5	7	1	△
1/4-20UNC	2B	ITDM2U04N	70	10.2	6.4	3.8	34	36	6.2	5	8	2	△
1/4-28UNF	2B	ITDM2U04K	70	13.2	4.5	2.7	34	36	6.2	5	8	2	△
5/16-18UNC	2B	ITDM2U05O	70	7.7	7.1	4.2	34	36	6.2	5	8	2	△
5/16-24UNF	2B	ITDM2U05M	70	10.5	5.3	3.2	34	36	6.2	5	8	2	△
3/8-16UNC	2B	ITDM2U06P	75	10.7	7.9	4.8	37	38	7	5.5	8	2	△
3/8-24UNF	2B	ITDM2U06M	75	14.9	5.3	3.2	37	38	7	5.5	8	2	△
7/16-14UNC	2B	ITDM2U07Q	82	12.3	9.1	5.4	40	42	8.5	6.5	9	2	△
7/16-20UNF	2B	ITDM2U07N	82	16.6	6.4	3.8	40	42	8.5	6.5	9	2	△
1/2-13UNC	2B	ITDM2U08R	88	11.4	9.8	5.9	43	45	10.5	8	11	2	△
1/2-20UNF	2B	ITDM2U08N	88	16.9	6.4	3.8	43	45	10.5	8	11	2	△
9/16-12UNC	2B	ITDM2U09S	95	10.5	10.6	6.4	47	48	12.5	10	13	2	△
9/16-18UNF	2B	ITDM2U09O	95	16.2	7.1	4.2	47	48	12.5	10	13	2	△
5/8-11UNC	2B	ITDM2U10U	100	16.4	11.5	6.9	49	51	14	11	14	2	△
5/8-18UNF	2B	ITDM2U10O	100	23.5	7.1	4.2	49	51	14	11	14	2	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple inspection tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

CHECK PINS

Usage example of Check Pins

You can check both hole size and hole condition at the same time by this Check-pin!



It is important to check the hole condition before tapping!

Hole condition can be inappropriate before tapping.

Set efficient hole size and bore holes correctly, and you can get the longer tool life and keep away from any tapping troubles. Let's check the hole before tapping.



CHECK PINS



Obtainable from
Video site shown in right

Please check the hole size before tapping!

Let's check the hole size before tapping 6H class internal threads of M6×1 by using Check-pin for cutting taps.

How to use CPC-S (Straight type)

STEP
1

Check the minor dia. for M6×1 6H internal thread

STEP
2

Size of the Check-pin for M6×1

Size	L	ℓ	DS	d1		d2	
				(Percentage of thread engagement)	(Percentage of thread engagement)	(Percentage of thread engagement)	(Percentage of thread engagement)
M6 × 1	73	16.5	6	4.917 (100%)	5.026 (90%)	4.917 (100%)	5.026 (90%)
				4.972 (95%)	5.080 (85%)	4.972 (95%)	5.080 (85%)
				5.026 (90%)	5.134 (80%)	5.026 (90%)	5.134 (80%)
				5.080 (85%)	5.188 (75%)	5.080 (85%)	5.188 (75%)
				5.134 (80%)	5.242 (70%)	5.134 (80%)	5.242 (70%)

Select the nearest sizes of the Check-pins to the max and min size of minor dia of 6H internal thread by checking the table listed on the left side.

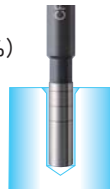
⇒ ① 4.917 (100%) and ② 5.134 (80%)

Depending on the feature of work-piece materials, it is beneficial to tapping to make the hole size before tapping as large as possible and within the tolerance.

STEP
3

Insert the Check-pins ① and ②, selected in step 2.

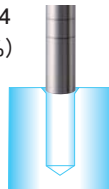
① 4.917 (100%)



Check-pin smoothly goes into the bottom of the hole.



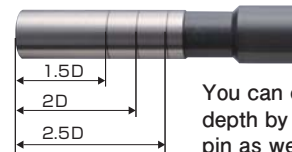
② 5.134 (80%)



Check-pin doesn't go into the hole.

GOOD

The hole is finished within minor dia of 6H class internal threads.



You can easily check hole depth by the three lines on its pin as well.

How to use CPC-T (Taper type)

Size	L	ℓ	DS	d1	d2	Product code	(ℓ1)	(ℓ2)
				(Percentage of thread engagement)	(Percentage of thread engagement)			
M6 × 1	61.5	17	6	4.917 (100%)	5.153 (78%)	CPCT6.0M	3.8	12.8

BAD



Bad hole : Check-pin doesn't go into the hole over the minimum line.

BAD



Bad hole : Check-pin goes into the hole over the maximum line.



GOOD



Minimum line 4.917 (100%)
Maximum line 5.153 (78%)



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
ST-14

Think threads with
YAMAWA

For improvement, spec may change without advance notice.

537

CPC-S



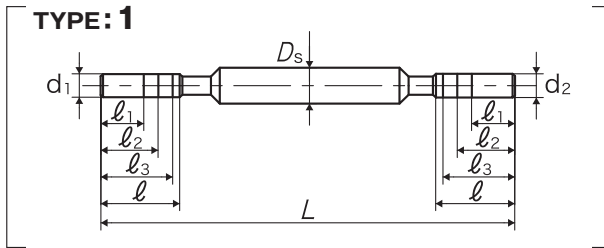
Check Pins for Bored Hole in thread cut tapping (Straight Type)

Specification

HSS

For icon explanation, refer to P.50

■CPC-S consisting of 5 piece pins enables checking of several kinds of bored hole dia. and checking of depth of bored hole(for cutting taps, straight type). CPC-S is made from wear resistant HSS material and is applicable for both through hole and blind hole.



Segment : 7C

Size	Code	L (mm)	ℓ (mm)	d ₁ (Thread engagement ratio)	d ₂ (Thread engagement ratio)	ℓ ₁ (mm)	ℓ ₂ (mm)	ℓ ₃ (mm)	D _s (mm)	Type	Stock
For Metric Threads											
M2 × 0.4	CPCS2.0EA	41.5	5.5	1.567 (100%)	1.610 (90%)	3	4	5	3	1	○
	CPCS2.0EB			1.589 (95%)	1.632 (85%)						
	CPCS2.0EC			1.610 (90%)	1.654 (80%)						
	CPCS2.0ED			1.632 (85%)	1.675 (75%)						
	CPCS2.0EE			1.654 (80%)	1.697 (70%)						
	CPCS2.0EF			1.675 (75%)	1.719 (65%)						
	CPCS2.0ES			※5 piece set consists of CPCS2.0EA ~ CPCS2.0EE.							
M2.5 × 0.45	CPCS2.5FA	45	7.5	2.013 (100%)	2.062 (90%)	3.75	5	6.25	3	1	○
	CPCS2.5FB			2.037 (95%)	2.086 (85%)						
	CPCS2.5FC			2.062 (90%)	2.110 (80%)						
	CPCS2.5FD			2.086 (85%)	2.135 (75%)						
	CPCS2.5FE			2.110 (80%)	2.159 (70%)						
	CPCS2.5FF			2.135 (75%)	2.183 (65%)						
	CPCS2.5FS			※5 piece set consists of CPCS2.5FA ~ CPCS2.5FE.							
M3 × 0.5	CPCS3.0GA	49	9	2.459 (100%)	2.513 (90%)	4.5	6	7.5	4	1	○
	CPCS3.0GB			2.486 (95%)	2.540 (85%)						
	CPCS3.0GC			2.513 (90%)	2.567 (80%)						
	CPCS3.0GD			2.540 (85%)	2.594 (75%)						
	CPCS3.0GE			2.567 (80%)	2.621 (70%)						
	CPCS3.0GF			2.594 (75%)	2.648 (65%)						
	CPCS3.0GS			※5 piece set consists of CPCS3.0GA ~ CPCS3.0GE.							
M4 × 0.7	CPCS4.0IA	57	11	3.242 (100%)	3.318 (90%)	6	8	10	5	1	○
	CPCS4.0IB			3.280 (95%)	3.356 (85%)						
	CPCS4.0IC			3.318 (90%)	3.394 (80%)						
	CPCS4.0ID			3.356 (85%)	3.432 (75%)						
	CPCS4.0IE			3.394 (80%)	3.470 (70%)						
	CPCS4.0IF			3.432 (75%)	3.507 (65%)						
	CPCS4.0IS			※5 piece set consists of CPCS4.0IA ~ CPCS4.0IE.							

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Pin length	Bored hole dia. (GO)	Bored hole dia. (NOT-GO)	Bored hole depth (1.5D)	Bored hole depth (2D)	Bored hole depth (2.5D)	Shank dia.
L	ℓ	d ₁	d ₂	ℓ ₁	ℓ ₂	ℓ ₃	Ds

CPC-S Check Pins for Bored Hole in thread cut tapping (Straight Type)

Size	Code	L (mm)	ℓ (mm)	d ₁ (Thread engagement ratio)	d ₂ (Thread engagement ratio)	ℓ ₁ (mm)	ℓ ₂ (mm)	ℓ ₃ (mm)	Ds (mm)	Type	Stock
M5 × 0.8	CPCS5.0KA	65	14	4.134 (100%)	4.221 (90%)	7.5	10	12.5	5.5	1	○
	CPCS5.0KB			4.177 (95%)	4.264 (85%)						
	CPCS5.0KC			4.221 (90%)	4.307 (80%)						
	CPCS5.0KD			4.264 (85%)	4.350 (75%)						
	CPCS5.0KE			4.307 (80%)	4.394 (70%)						
	CPCS5.0KF			4.350 (75%)	4.437 (65%)						
	CPCS5.0KS			※5 piece set consists of CPCS5.0KA ~ CPCS5.0KE.							
M6 × 1	CPCS6.0MA	73	16.5	4.917 (100%)	5.026 (90%)	9	12	15	6	1	○
	CPCS6.0MB			4.972 (95%)	5.080 (85%)						
	CPCS6.0MC			5.026 (90%)	5.134 (80%)						
	CPCS6.0MD			5.080 (85%)	5.188 (75%)						
	CPCS6.0ME			5.134 (80%)	5.242 (70%)						
	CPCS6.0MF			5.188 (75%)	5.296 (65%)						
	CPCS6.0MS			※5 piece set consists of CPCS6.0MA ~ CPCS6.0ME.							
M8 × 1.25	CPCS8.0NA	99	22	6.647 (100%)	6.782 (90%)	12	16	20	8	1	○
	CPCS8.0NB			6.714 (95%)	6.850 (85%)						
	CPCS8.0NC			6.782 (90%)	6.917 (80%)						
	CPCS8.0ND			6.850 (85%)	6.985 (75%)						
	CPCS8.0NE			6.917 (80%)	7.053 (70%)						
	CPCS8.0NF			6.985 (75%)	7.120 (65%)						
	CPCS8.0NS			※5 piece set consists of CPCS8.0NA ~ CPCS8.0NE.							
M10 × 1.5	CPCS0100A	110	27.5	8.376 (100%)	8.538 (90%)	15	20	25	10	1	○
	CPCS0100B			8.457 (95%)	8.620 (85%)						
	CPCS0100C			8.538 (90%)	8.701 (80%)						
	CPCS0100D			8.620 (85%)	8.782 (75%)						
	CPCS0100E			8.701 (80%)	8.863 (70%)						
	CPCS0100F			8.782 (75%)	8.944 (65%)						
	CPCS0100S			※5 piece set consists of CPCS0100A ~ CPCS0100E.							
M12 × 1.75	CPCS012PA	121	33	10.105 (100%)	10.295 (90%)	18	24	30	12	1	○
	CPCS012PB			10.200 (95%)	10.390 (85%)						
	CPCS012PC			10.295 (90%)	10.484 (80%)						
	CPCS012PD			10.390 (85%)	10.579 (75%)						
	CPCS012PE			10.484 (80%)	10.674 (70%)						
	CPCS012PF			10.579 (75%)	10.769 (65%)						
	CPCS012PS			※5 piece set consists of CPCS012PA ~ CPCS012PE.							

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Pin length	Bored hole dia. (GO)	Bored hole dia. (NOT-GO)	d ₁ length	d ₂ length	Shank dia.	Size of square	Length of square
L	ℓ	d ₁	d ₂	ℓ ₁	ℓ ₂	D _s	K	ℓ _k

CPC-T



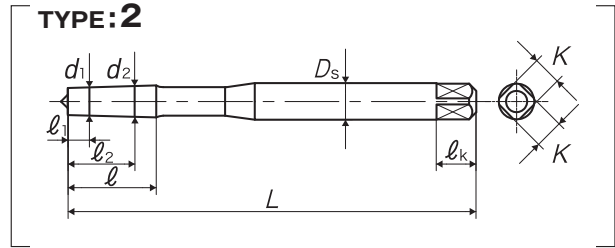
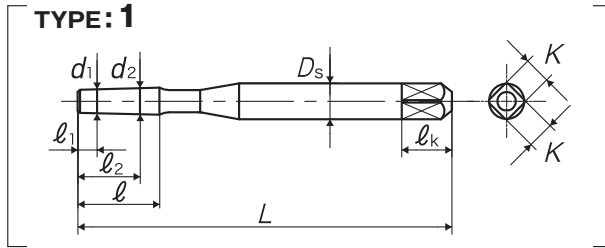
Check Pins for Bored Holes in thread cut tapping (Taper Type)

Specification

HSS

For icon explanation, refer to P.50

- One CPC-T enables simple checking of bored hole dia. (for cutting taps, taper type). CPC-T is made from wear resistant HSS material and is applicable for through hole and for blind hole having enough space in the bottom.



Segment : 7C

Size	Code	L (mm)	ℓ (mm)	d ₁ (Thread engagement ratio)	d ₂ (Thread engagement ratio)	ℓ ₁ (mm)	ℓ ₂ (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Type	Stock
For Metric Threads												
M2 × 0.4	CPCT2.OE	42	7	1.567 (100%)	1.679 (74%)	1	6	3	2.5	5	1	○
M2.5 × 0.45	CPCT2.5F	46	8	2.013 (100%)	2.138 (74%)	1.5	6.5	3	2.5	5	1	○
M3 × 0.5	CPCT3.OG	46	8.5	2.459 (100%)	2.599 (74%)	1.5	7	4	3.2	6	1	○
M4 × 0.7	CPCT4.OI	52	10.5	3.242 (100%)	3.422 (76%)	2.25	8.25	5	4	7	1	○
M5 × 0.8	CPCT5.OK	59.5	12.5	4.134 (100%)	4.334 (77%)	2.5	10	5.5	4.5	7	1	○
M6 × 1	CPCT6.OM	61.5	16.5	4.917 (100%)	5.153 (78%)	3.75	12.75	6	4.5	7	1	○
M8 × 1.25	CPCT8.ON	90	19.4	6.647 (100%)	6.912 (80%)	4.7	14.7	8	6	9	2	○
M10 × 1.5	CPCT0100	100	23.4	8.376 (100%)	8.676 (82%)	6.7	16.7	10	8	11	2	○
M12 × 1.75	CPCT012P	110	27.4	10.106 (100%)	10.441 (82%)	7.7	19.7	12	9	12	2	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Pin length	Bored hole dia. (G0)	Bored hole dia. (NOT-G0)	Bored hole depth (1.5D)	Bored hole depth (2D)	Bored hole depth (2.5D)	Shank dia.
L	ℓ	d ₁	d ₂	ℓ ₁	ℓ ₂	ℓ ₃	Ds

CPR-S



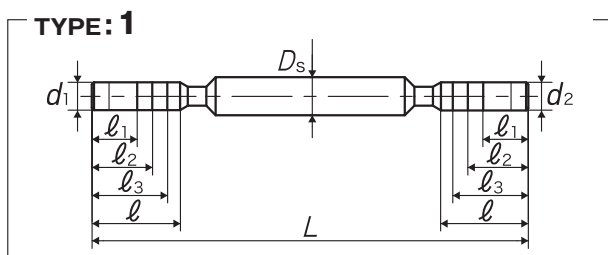
Check Pins for Bored Hole in thread form tapping (Straight Type)

Specification

HSS

For icon explanation, refer to P.50

■CPR-S enables checking of several kinds of bored hole dia. and checking of depth of bored hole(for thread forming taps, straight type). CPR-S is made from wear resistant HSS material and is applicable for blind hole.



Segment : 7C

Size	Code	L (mm)	ℓ (mm)	d ₁ (mm)	d ₂ (mm)	ℓ ₁ (mm)	ℓ ₂ (mm)	ℓ ₃ (mm)	Ds (mm)	Type	Stock
For Metric Threads											
M2 × 0.4	CPRS2.0E	41.5	5.5	1.79	1.84	3	4	5	3	1	○
M2.5 × 0.45	CPRS2.5F	41.5	5.5	2.27	2.34	3.75	5	6.25	3	1	○
M2.6 × 0.45	CPRS2.6F	41.5	5.5	2.37	2.44	3.9	5.2	6.5	3	1	○
M3 × 0.5	CPRS3.0G	49	9	2.75	2.82	4.5	6	7.5	4	1	○
M4 × 0.7	CPRS4.0I	57	11	3.65	3.72	6	8	10	5	1	○
M5 × 0.8	CPRS5.0K	65	14	4.59	4.67	7.5	10	12.5	5.5	1	○
M6 × 1	CPRS6.0M	73	16.5	5.49	5.59	9	12	5	6	1	○
M8 × 1.25	CPRS8.0N	99	22	7.36	7.49	12	16	20	8	1	○
M10 × 1.5	CPRS10.0	110	27.5	9.22	9.34	15	20	25	10	1	○
M10 × 1.25	CPRS10.1N	110	27.5	9.35	9.49	15	20	25	10	1	○
M12 × 1.75	CPRS12.1P	121	33	11.09	11.23	18	24	30	12	1	○
M12 × 1.5	CPRS12.2O	121	33	11.22	11.34	18	24	30	12	1	○
M12 × 1.25	CPRS12.3N	121	33	11.36	11.50	18	24	30	12	1	○
For Unified Threads											
No.2-56UNC	CPRSUN2E	41.5	5.5	1.96	2.04	3.3	4.4	5.5	3	1	○
No.2-64UNF	CPRSUN2D	41.5	5.5	1.98	2.06	3.3	4.4	5.5	3	1	○
No.3-48UNC	CPRSUN3F	45	7.5	2.25	2.35	3.8	5	6.3	3	1	○
No.3-56UNF	CPRSUN3E	45	7.5	2.29	2.37	3.8	5	6.3	3	1	○
No.4-40UNC	CPRSUN4H	49	9	2.54	2.64	4.3	5.7	7.1	4	1	○
No.4-48UNF	CPRSUN4F	49	9	2.59	2.68	4.3	5.7	7.1	4	1	○
No.5-40UNC	CPRSUN5H	49	9	2.87	2.97	4.8	6.4	7.9	4	1	○
No.5-44UNF	CPRSUN5G	49	9	2.90	2.99	4.8	6.4	7.9	4	1	○
No.6-32UNC	CPRSUN6J	57	11	3.11	3.22	5.3	7	8.8	5	1	○
No.6-40UNF	CPRSUN6H	57	11	3.19	3.29	5.3	7	8.8	5	1	○
No.8-32UNC	CPRSUN8J	57	11	3.78	3.89	6.3	8.3	10.4	5	1	○
No.8-36UNF	CPRSUN8I	57	11	3.81	3.91	6.3	8.3	10.4	5	1	○
No.10-24UNC	CPRSUNAM	65	14	4.30	4.44	7.2	9.7	12.1	5.5	1	○
No.10-32UNF	CPRSUNAJ	65	14	4.44	4.53	7.2	9.7	12.1	5.5	1	○
No.12-24UNC	CPRSUNCM	73	16.5	4.96	5.07	8.2	11	13.7	6	1	○
No.12-28UNF	CPRSUNCK	73	16.5	5.03	5.13	8.2	11	13.7	6	1	○
1/4-20UNC	CPRSU04N	73	16.5	5.73	5.86	9.5	12.7	15.9	6	1	○
1/4-28UNF	CPRSU04K	73	16.5	5.91	6.00	9.5	12.7	15.9	6	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

CPR-S Check Pins for Bored Hole in thread form tapping (Straight Type)

Size	Code	L (mm)	ℓ (mm)	d ₁ (mm)	d ₂ (mm)	ℓ ₁ (mm)	ℓ ₂ (mm)	ℓ ₃ (mm)	Ds (mm)	Type	Stock
5/16-18UNC	CPRSU050	99	22	7.23	7.38	12	16	20	8	1	○
5/16-24UNF	CPRSU05M	99	22	7.42	7.53	12	16	20	8	1	○
3/8-16UNC	CPRSU06P	110	27.5	8.72	8.89	14.3	19.1	23.8	10	1	○
3/8-24UNF	CPRSU06M	110	27.5	8.99	9.10	14.3	19.1	23.8	10	1	○
7/16-14UNC	CPRSU070	121	33	10.20	10.40	16.7	22.2	27.8	12	1	○
7/16-20UNF	CPRSU07N	121	33	10.48	10.62	16.7	22.2	27.8	12	1	○
1/2-13UNC	CPRSU08R	121	33	11.70	11.92	19.1	25.4	31.8	12	1	○
1/2-20UNF	CPRSU08N	121	33	12.06	12.20	19.1	25.4	31.8	12	1	○

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Pin length	Bored hole dia. (GO)	Bored hole dia. (NOT-GO)	d ₁ length	d ₂ length	Shank dia.	Size of square	Length of square
L	ℓ	d ₁	d ₂	ℓ ₁	ℓ ₂	D _s	K	ℓ _k

CPR-T



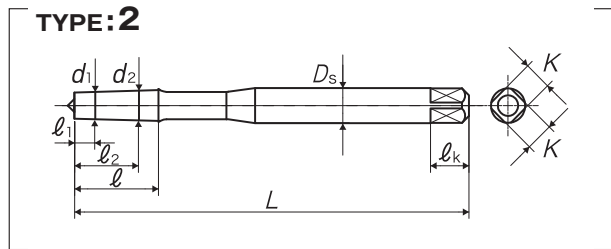
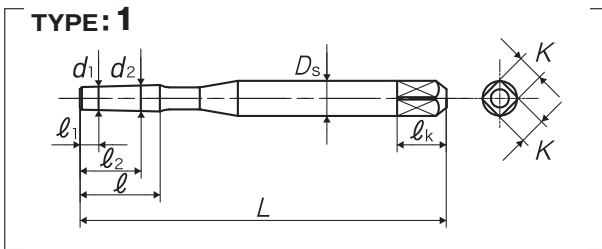
Check Pins for Bored Holes in thread form tapping (Taper Type)

Specification

HSS

For icon explanation, refer to P.50

■ One CPR-T enables simple checking of bored hole dia. (for thread forming taps, taper type). CPR-T is made from wear resistant HSS material is applicable for through hole and for blind hole having enough space in the bottom.



Segment : 7C

Size	Code	L (mm)	ℓ (mm)	d ₁ (mm)	d ₂ (mm)	ℓ ₁ (mm)	ℓ ₂ (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Type	Stock
For Metric Threads												
M2 × 0.4	CPRT2.0E	42	7	1.79	1.84	1	6	3	2.5	5	1	○
M2.5 × 0.45	CPRT2.5F	46	8	2.27	2.34	1.5	6.5	3	2.5	5	1	○
M2.6 × 0.45	CPRT2.6F	46	8	2.37	2.44	1.5	6.5	3	2.5	5	1	○
M3 × 0.5	CPRT3.0G	46	8.5	2.75	2.82	1.5	7	4	3.2	6	1	○
M4 × 0.7	CPRT4.0I	52	10.5	3.65	3.72	2.25	8.25	5	4	7	1	○
M5 × 0.8	CPRT5.0K	59.5	12.5	4.59	4.67	2.5	10	5.5	4.5	7	1	○
M6 × 1	CPRT6.0M	61.5	16.5	5.49	5.59	3.75	12.75	6	4.5	7	1	○
M8 × 1.25	CPRT8.0N	90	19.4	7.36	7.49	4.7	14.7	8	6	9	2	○
M10 × 1.5	CPRT0100	100	23.4	9.22	9.34	6.7	16.7	10	8	11	2	○
M10 × 1.25	CPRT010N	100	23.4	9.35	9.49	6.7	16.7	10	8	11	2	○
M12 × 1.75	CPRT012P	110	27.4	11.09	11.23	7.7	19.7	12	9	12	2	○
M12 × 1.5	CPRT0120	110	27.4	11.22	11.34	7.7	19.7	12	9	12	2	○
M12 × 1.25	CPRT012N	110	27.4	11.36	11.50	7.7	19.7	12	9	12	2	○
For Unified Threads												
No.2-56UNC	CPRTUN2E	46	8	1.96	2.04	1.5	6.5	3	2.5	5	1	○
No.2-64UNF	CPRTUN2D	46	8	1.98	2.06	1.5	6.5	3	2.5	5	1	○
No.3-48UNC	CPRTUN3F	46	8	2.25	2.35	1.5	6.5	3	2.5	5	1	○
No.3-56UNF	CPRTUN3E	46	8	2.29	2.37	1.5	6.5	3	2.5	5	1	○
No.4-40UNC	CPRTUN4H	46	8.5	2.54	2.64	1.5	7	4	3.2	6	1	○
No.4-48UNF	CPRTUN4F	46	8.5	2.59	2.68	1.5	7	4	3.2	6	1	○
No.5-40UNC	CPRTUN5H	46	8.5	2.87	2.97	1.5	7	4	3.2	6	1	○
No.5-44UNF	CPRTUN5G	46	8.5	2.90	2.99	1.5	7	4	3.2	6	1	○
No.6-32UNC	CPRTUN6J	52	10.5	3.11	3.22	2.25	8.25	5	4	7	1	○
No.6-40UNF	CPRTUN6H	52	10.5	3.19	3.29	2.25	8.25	5	4	7	1	○
No.8-32UNC	CPRTUN8J	52	10.5	3.78	3.89	2.25	8.25	5	4	7	1	○
No.8-36UNF	CPRTUN8I	52	10.5	3.81	3.91	2.25	8.25	5	4	7	1	○
No.10-24UNC	CPRTUNAM	59.5	12.5	4.30	4.44	2.5	10	5.5	4.5	7	1	○
No.10-32UNF	CPRTUNAJ	59.5	12.5	4.44	4.53	2.5	10	5.5	4.5	7	1	○
No.12-24UNC	CPRTUNCM	61.5	16.5	4.96	5.07	3.75	12.75	6	4.5	7	1	○
No.12-28UNF	CPRTUNCK	61.5	16.5	5.03	5.13	3.75	12.75	6	4.5	7	1	○
1/4-20UNC	CPRTU04N	61.5	16.5	5.73	5.86	3.75	12.75	6	4.5	7	1	○
1/4-28UNF	CPRTU04K	61.5	16.5	5.91	6.00	3.75	12.75	6	4.5	7	1	○

CPR-T Check Pins for Bored Holes in thread form tapping (Taper Type)

Size	Code	L (mm)	ℓ (mm)	d ₁ (mm)	d ₂ (mm)	ℓ ₁ (mm)	ℓ ₂ (mm)	Ds (mm)	K (mm)	ℓk (mm)	Type	Stock
5/16-18UNC	CPRTU050	90	19.4	7.23	7.38	4.7	14.7	8	6	9	2	○
5/16-24UNF	CPRTU05M	90	19.4	7.42	7.53	4.7	14.7	8	6	9	2	○
3/8-16UNC	CPRTU06P	100	23.4	8.72	8.89	6.7	16.7	10	8	11	2	○
3/8-24UNF	CPRTU06M	100	23.4	8.99	9.10	6.7	16.7	10	8	11	2	○
7/16-14UNC	CPRTU07Q	110	27.4	10.20	10.40	7.7	19.7	12	9	12	2	○
7/16-20UNF	CPRTU07N	110	27.4	10.48	10.62	7.7	19.7	12	9	12	2	○
1/2-13UNC	CPRTU08R	110	27.4	11.70	11.92	7.7	19.7	12	9	12	2	○
1/2-20UNF	CPRTU08N	110	27.4	12.06	12.20	7.7	19.7	12	9	12	2	○

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

-	-	Shank dia.	Overall length	Size of square	Length of square
L	D	Ds	ℓ	K	ℓk

SA

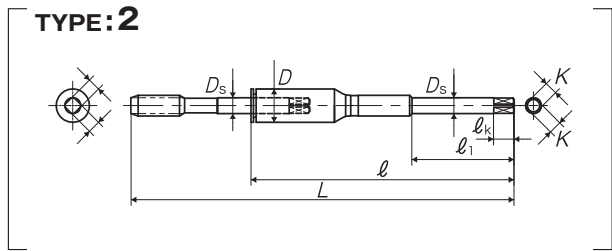
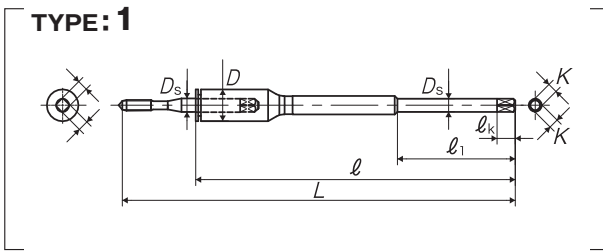
Shank Adjusters Specification

Alloy steel

For icon explanation, refer to P.50



■ Shank Adjuster is a Tap Holder in order to use the tap in the desired longer length.



Segment : 5A

Size	Code	L (mm)	D (mm)	Ds (mm)	ℓ (mm)	ℓ ₁ (mm)	K (mm)	ℓk (mm)	Type	Stock
M3-150	SA3.0M	150	11	4	127	45	3.2	6	1	△
M4-150	SA4.0M	150	12	5	122	45	4	7	1	△
M5-150	SA5.0M	150	12.5	5.5	114	45	4.5	7	1	△
M6-150	SA6.0M	150	13	6	115	45	4.5	7	1	△
M8-150	SA8.0M	150	13	6.2	108	45	5	8	2	△
M10-150	SA010M	150	14	7	103	45	5.5	8	2	△

※By using SA, you can lengthen your I series taps and standard taps.

(For ISP, refer to product page SP-1.
For IPO, refer to product page PO-1.
For IHT, refer to product page HT-1.)

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

TA

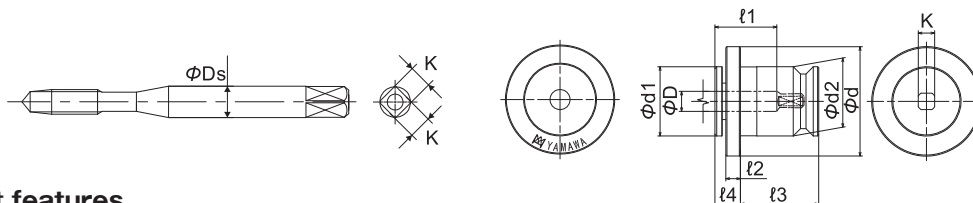


Tap Adapter

Tool steel

For icon explanation, refer to P.50

- Choose the YAMAWA tap adapter suitable for the shank diameter (ϕD_s) and the size of square (K) of your JIS, ANSI or DIN tap.



Product features

- The YAMAWA quick change tap adapters allow the use of JIS style taps, ANSI style taps and DIN style taps in one tool holder, reducing tool holder inventories.
 - You can attach or detach the tap from the adapter easily with one smooth motion.
 - The YAMAWA quick change tap adapter is interchangeable with other brands of tap adapter and tool holder manufacturers.
- * For details, please refer to the operation manual of your holders.

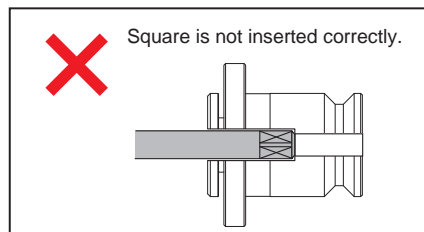
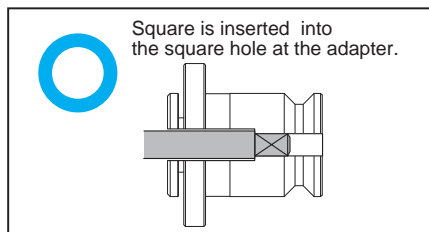
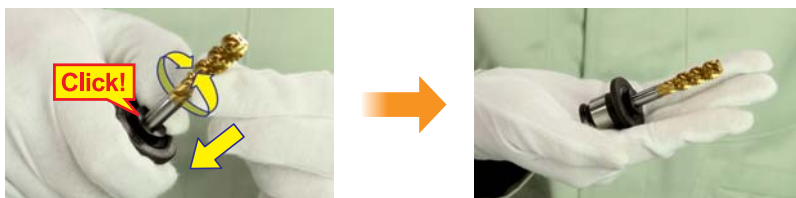
[How to attach and detach]

• How to attach

- ① Depress the ball lock bushing collar and insert the tap square shank into the center hole of the tap adapter.



- ② While rotating the tap in the adapter, continue inserting the tap all the way to the bottom of the center hole. Be sure the adapter clicks and the tap square is inserted into the square hole at the end of tap adapter, which prevents the tap from turning in the adapter. Next, release the ball lock bushing collar and the tap is securely fastened.



- Remark ■ If square is not inserted correctly into the square hole at the end of tap adapter, your idling tap may cause defects of internal threads, or the tap may fall out and cause unexpected accident. Before use, insert your tap firmly by following "How to attach" stated above.

• How to detach

Reversing the way of "How to attach", depress and hold the ball lock bushing collar in, and pull out the tap.



• For JIS style taps •



• For ANSI style taps •



• For DIN style taps •

Overall length	Thread length	Thread+Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

Model : WE1 Segment : 5A

Tap specification	Product code	Shank dia (φ Ds) × size of square (K)	Adaptable tap size		φ D	K	φ d	φ d2	φ d1	ℓ1	ℓ2	ℓ3	ℓ4	Stock
			(DIN371)	(DIN374, DIN376)										
JIS	6711320	4 × 3.2	M3		4	3.2	30	19	19	17	4	21.5	7	○
	6711260	5 × 4	M4		5	4	30	19	19	17	4	21.5	7	○
	6711313	5.5 × 4.5	M5		5.5	4.5	30	19	19	17	4	21.5	7	○
	6711266	6 × 4.5	M6		6	4.5	30	19	19	17	4	21.5	7	○
	6711317	6.2 × 5	M8		6.2	5	30	19	19	17	4	21.5	7	○
	6711279(*)	7 × 5.5	M10		7	5.5	30	19	19	17	4	21.5	7	○
	6711292	8.5 × 6.5	M12		8.5	6.5	30	19	19	17	4	21.5	7	○
	6711304	10.5 × 8	M14		10.5	8	30	19	19	17	4	21.5	7	○
ANSI	6711246	3.58 × 2.79	No.0 - No.6		3.58	2.79	30	19	19	17	4	21.5	7	○
	6711251	4.27 × 3.33	No.8		4.27	3.33	30	19	19	17	4	21.5	7	○
	6711257	4.93 × 3.86	No.10		4.93	3.86	30	19	19	17	4	21.5	7	○
	6711276	6.48 × 4.85	U1/4		6.48	4.85	30	19	19	17	4	21.5	7	○
	6711289	8.08 × 6.05	U5/16		8.08	6.05	30	19	19	17	4	21.5	7	○
	6711301	9.68 × 7.26	U3/8		9.68	7.26	30	19	19	17	4	21.5	7	○
	6711291	8.2 × 6.15	U7/16		8.2	6.15	30	19	19	17	4	21.5	7	○
	6711298	9.32 × 6.99	U1/2		9.32	6.99	30	19	19	17	4	21.5	7	○
6711305	10.9 × 8.18	U9/16		10.9	8.18	30	19	19	17	4	21.5	7	○	
IDIN	6711244	3.5 × 2.7	M3	M5	3.5	2.7	30	19	19	17	4	21.5	7	○
	6711253	4.5 × 3.4	M4	M6	4.5	3.4	30	19	19	17	4	21.5	7	○
	6711268	6 × 4.9	M5, M6	M8	6	4.9	30	19	19	17	4	21.5	7	○
	6711279(*)	7 × 5.5		M10	7	5.5	30	19	19	17	4	21.5	7	○
	6711287	8 × 6.2	M8		8	6.2	30	19	19	17	4	21.5	7	○
	6711294	9 × 7		M12	9	7	30	19	19	17	4	21.5	7	○
	6711302	10 × 8	M10		10	8	30	19	19	17	4	21.5	7	○
	6711308	11 × 9		M14	11	9	30	19	19	17	4	21.5	7	○

(*)Same product (The shank diameter and the size of square of a M10 tap are the same in both the JIS specifications and the DIN specifications.)

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

DIN ANSI JIS
ST-24

JIS LINE UP

PIPE TAP SERIES



Rc	JIS/Pipe-1	PS	JIS/Pipe-27
PT	JIS/Pipe-2	PS LH	JIS/Pipe-28
PT LH	JIS/Pipe-3	LS-PS	JIS/Pipe-29
PT-X	JIS/Pipe-4	SP-PS	JIS/Pipe-30
S-PT	JIS/Pipe-5	LS-SP-PS	JIS/Pipe-31
S-PT LH	JIS/Pipe-6	CT-PS	JIS/Pipe-32
LS-PT	JIS/Pipe-7	G	JIS/Pipe-33
LS-S-PT	JIS/Pipe-8	PF	JIS/Pipe-34
SP-PT	JIS/Pipe-9	PF LH	JIS/Pipe-35
SP-S-PT	JIS/Pipe-10	LS-PF	JIS/Pipe-36
SP-PT-X	JIS/Pipe-11	SP-PF	JIS/Pipe-37
LS-SP-PT	JIS/Pipe-12	LS-SP-PF	JIS/Pipe-38
LS-SP-S-PT	JIS/Pipe-13	SU-PF	JIS/Pipe-39
INT-PT	JIS/Pipe-14	FC-PF	JIS/Pipe-40
INT-S-PT	JIS/Pipe-15	CT-PF	JIS/Pipe-41
LS-INT-PT	JIS/Pipe-16	NPT	JIS/Pipe-42
LS-INT-S-PT	JIS/Pipe-17	S-NPT	JIS/Pipe-43
LC-PT	JIS/Pipe-18	LS-NPT	JIS/Pipe-44
LC-S-PT	JIS/Pipe-19	SP-NPT	JIS/Pipe-45
SU-PT	JIS/Pipe-20	LS-SP-S-NPT	JIS/Pipe-46
SU-S-PT	JIS/Pipe-21	INT-NPT	JIS/Pipe-47
FC-PT	JIS/Pipe-22	INT-S-NPT	JIS/Pipe-48
FC-S-PT	JIS/Pipe-23	NPTF	JIS/Pipe-49
CT-PT	JIS/Pipe-24	LS-NPTF	JIS/Pipe-50
CT-S-PT	JIS/Pipe-25	NPS	JIS/Pipe-51
Rp	JIS/Pipe-26	NPSF	JIS/Pipe-52

Rc

Hand Taps for Taper Pipe Threads

Specification



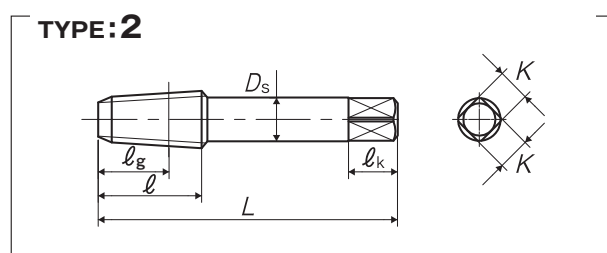
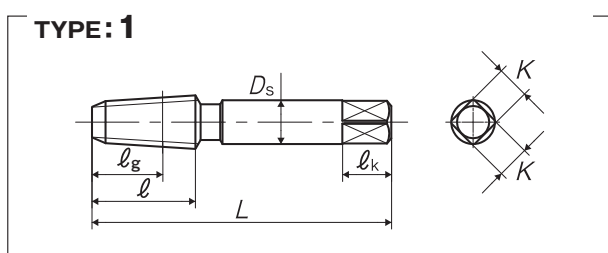
Rc 3/4~



Recommended Tapping Speeds depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	lg (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads													
Rc 1/16-28	II	TH2RC01K	2.5P	7.723	59	14	10.1	8	6	9	4	1	○
Rc 1/8-28	II	TH2RC02K	2.5P	9.728	59	15	10.1	8	6	9	4	2	○
Rc 1/4-19	II	TH2RC04-	2.5P	13.157	67	19	15	11	9	12	4	2	○
Rc 3/8-19	II	TH2RC06-	2.5P	16.662	75	21	15.4	14	11	14	4	2	○
Rc 1/2-14	II	TH2RC08Q	2.5P	20.955	87	26	20.5	18	14	17	4	2	○
Rc 3/4-14	II	TH2RC12Q	2.5P	26.441	96	28	21.8	23	17	20	4	2	○
Rc 1-11	II	TH2RC16U	2.5P	33.249	109	33	26	26	21	24	5	2	○
Rc 1 1/4-11	II	TH2RC20U	2.5P	41.910	119	36	28.3	32	26	30	5	2	○
Rc 1 1/2-11	II	TH2RC24U	2.5P	47.803	125	37	28.3	38	29	32	6	2	○
Rc 2-11	II	TH2RC32U	2.5P	59.614	140	41	32.7	46	35	38	6	2	○

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

PT

Hand Taps for Taper Pipe Threads, Long (ℓ_g) Type Specification

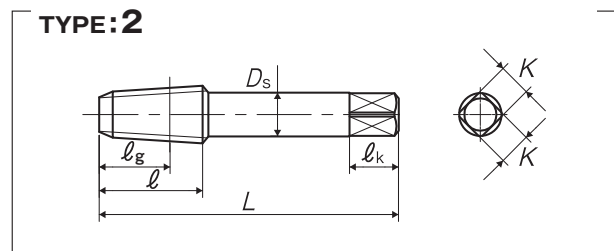
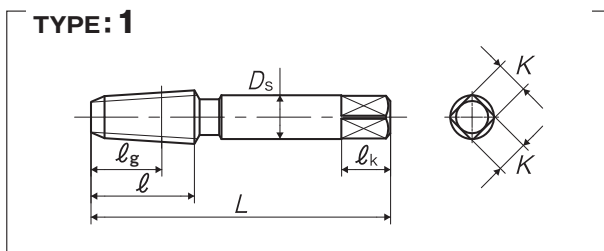


PT 3/4~

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/16-28	II	TH2T01K-8	2.5P	7.723	55	19	13	8	6	9	4	1	◎
PT 1/8-28	II	TH2T02K	2.5P	9.728	55	19	13	8	6	9	4	2	◎
PT 1/4-19	II	TH2T04-	2.5P	13.157	62	28	21	11	9	12	4	2	◎
PT 3/8-19	II	TH2T06-	2.5P	16.662	65	28	21	14	11	14	4	2	◎
PT 1/2-14	II	TH2T08Q	2.5P	20.955	80	35	25	18	14	17	4	2	◎
PT 5/8-14	II	TH2T10Q	2.5P	22.911	82	35	25	19	15	18	4	2	△
PT 3/4-14	II	TH2T12Q	2.5P	26.441	85	35	25	23	17	20	4	2	◎
PT 7/8-14	II	TH2T14Q	2.5P	30.201	90	40	28	24	19	22	4	2	△
PT 1 -11	II	TH2T16U	2.5P	33.249	95	45	32	26	21	24	5	2	◎
PT 1 1/8-11	II	TH2T18U	2.5P	37.897	100	45	32	28	21	24	5	2	△
PT 1 1/4-11	II	TH2T20U	2.5P	41.910	105	45	32	32	26	30	5	2	◎
PT 1 1/2-11	II	TH2T24U	2.5P	47.803	110	45	32	38	29	32	6	2	◎
PT 1 3/4-11	II	TH2T28U	2.5P	53.746	115	45	32	42	32	35	6	2	△
PT 2 -11	II	TH2T32U	2.5P	59.614	120	50	35	46	35	38	6	2	◎
PT 2 1/4-11	II	TH2T36U	2.5P	65.710	145	65	50	50	38	42	6	2	△
PT 2 1/2-11	II	TH2T40U	2.5P	75.184	145	65	50	55	41	44	8	2	△
PT 3 -11	II	TH2T48U	2.5P	87.884	155	65	52	65	50	52	8	2	△
PT 3 1/2-11	II	TH2T56U	2.5P	100.330	165	68	52	70	54	58	8	2	△
PT 4 -11	II	TH2T64U	2.5P	113.030	170	70	55	75	58	62	10	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PT LH



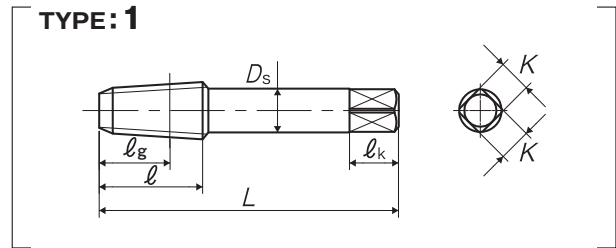
Hand Taps for Taper Pipe Threads, Long (ℓ_g) Type, for LH Threads
Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	lg (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TH2T02K--L	2.5P	9.728	55	19	13	8	6	9	4	1	△
PT 1/4-19	II	TH2T04---L	2.5P	13.157	62	28	21	11	9	12	4	1	△
PT 3/8-19	II	TH2T06---L	2.5P	16.662	65	28	21	14	11	14	4	1	△
PT 1/2-14	II	TH2T08Q--L	2.5P	20.955	80	35	25	18	14	17	4	1	△
PT 3/4-14	II	TH2T12Q--L	2.5P	26.441	85	35	25	23	17	20	4	1	△
PT 1 -11	II	TH2T16U--L	2.5P	33.249	95	45	32	26	21	24	5	1	△
PT 1 1/4-11	II	TH2T20U--L	2.5P	41.910	105	45	32	32	26	30	5	1	△
PT 1 1/2-11	II	TH2T24U--L	2.5P	47.803	110	45	32	38	29	32	6	1	△
PT 2 -11	II	TH2T32U--L	2.5P	59.614	120	50	35	46	35	38	6	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓg	Ds	K	ℓk

PT-X

X Series Hand Taps for Taper Pipe Threads, Short (ℓg) Type

Specification

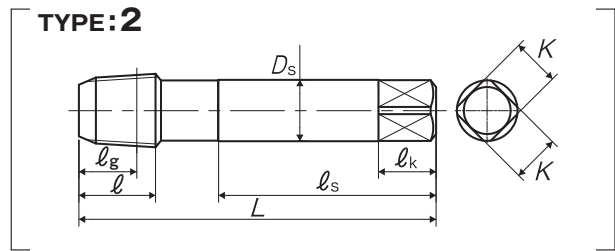
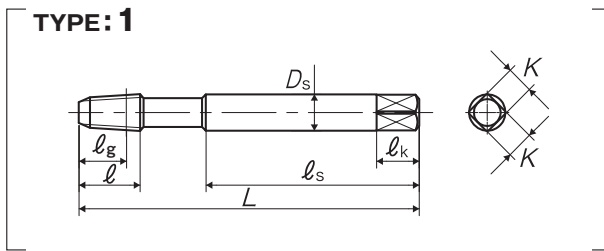


■PT-X Hand Tap, adopting new tap blank, ensures properly long projection length of the tool. Having short thread length, this tap is suitable for tapping of such machine components as have the limit in their thickness.

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓg (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Pipe Threads														
PT 1/16-28	II	THX2T01K-8	2.5P	7.723	75	13.5	10.5	47	8	6	9	4	1	○
PT 1/8-28	II	THX2T02K	2.5P	9.728	75	13.5	10.5	48	8	6	9	4	2	○
PT 1/4-19	II	THX2T04-	2.5P	13.157	85	16.5	12.5	54	11	9	12	4	2	○
PT 3/8-19	II	THX2T06-	2.5P	16.662	95	18	14	60	14	11	14	4	2	○
PT 1/2-14	II	THX2T08Q	2.5P	20.955	105	22.5	17	64	18	14	17	4	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

S-PT

Hand Taps for Taper Pipe Threads, Short (l_g) Type
Specification

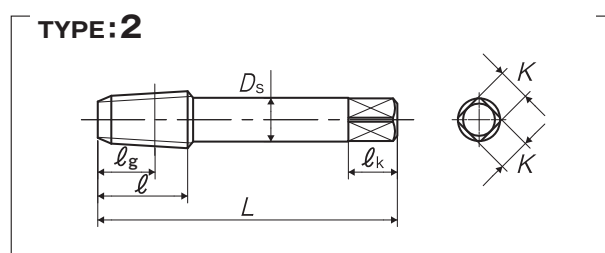
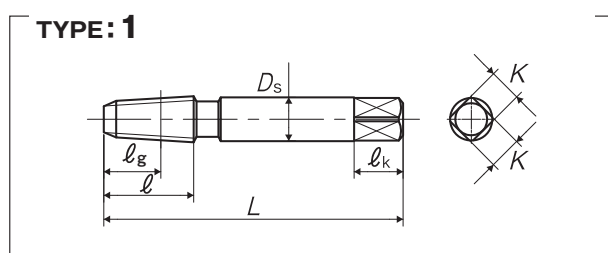


PT 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l_g (mm)	D_s (mm)	K (mm)	l_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/16-28	II	TSPT01K-8	2.5P	7.723	55	16.5	10.5	8	6	9	4	1	○
PT 1/8-28	II	TSPT02K	2.5P	9.728	55	16.5	10.5	8	6	9	4	2	◎
PT 1/4-19	II	TSPT04-	2.5P	13.157	62	19.5	12.5	11	9	12	4	2	◎
PT 3/8-19	II	TSPT06-	2.5P	16.662	65	21	14	14	11	14	4	2	◎
PT 1/2-14	II	TSPT08Q	2.5P	20.955	80	27	17	18	14	17	4	2	◎
PT 3/4-14	II	TSPT12Q	2.5P	26.441	85	29	19	23	17	20	4	2	◎
PT 1 -11	II	TSPT16U	2.5P	33.249	95	35	22	26	21	24	5	2	◎
PT 1 1/4-11	II	TSPT20U	2.5P	41.910	105	37.5	24.5	32	26	30	5	2	○
PT 1 1/2-11	II	TSPT24U	2.5P	47.803	110	38.5	25.5	38	29	32	6	2	○
PT 1 3/4-11	II	TSPT28U	2.5P	53.746	115	39.5	26.5	42	32	35	6	2	△
PT 2 -11	II	TSPT32U	2.5P	59.614	120	42.5	27.5	46	35	38	6	2	○
PT 2 1/2-11	II	TSPT40U	2.5P	75.184	145	47	32	55	41	44	8	2	△
PT 3 -11	II	TSPT48U	2.5P	87.884	155	51	36	65	50	52	8	2	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓg	Ds	K	ℓk

S-PT LH

Hand Taps for Taper Pipe Threads, Short (ℓg) Type, for LH Threads

Specification

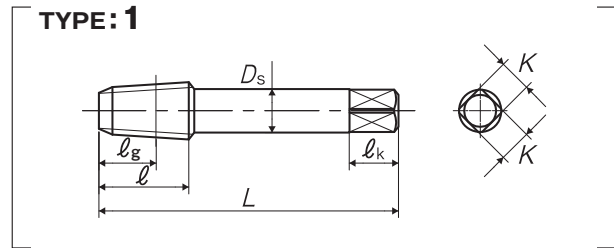


PT 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓg (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TSPT02K--L	2.5P	9.728	55	16.5	10.5	8	6	9	4	1	△
PT 1/4-19	II	TSPT04---L	2.5P	13.157	62	19.5	12.5	11	9	12	4	1	△
PT 3/8-19	II	TSPT06---L	2.5P	16.662	65	21	14	14	11	14	4	1	△
PT 1/2-14	II	TSPT08Q--L	2.5P	20.955	80	27	17	18	14	17	4	1	△
PT 3/4-14	II	TSPT12Q--L	2.5P	26.441	85	29	19	23	17	20	4	1	△
PT 1 -11	II	TSPT16U--L	2.5P	33.249	95	35	22	26	21	24	5	1	△
PT 1 1/4-11	II	TSPT20U--L	2.5P	41.910	105	37.5	24.5	32	26	30	5	1	△
PT 1 1/2-11	II	TSPT24U--L	2.5P	47.803	110	38.5	25.5	38	29	32	6	1	△
PT 2 -11	II	TSPT32U--L	2.5P	59.614	120	42.5	27.5	46	35	38	6	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-PT



Long Shank Hand Taps for Taper Pipe Threads, Long (l_g) Type
Specification

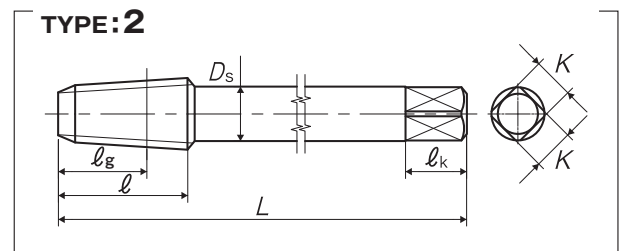
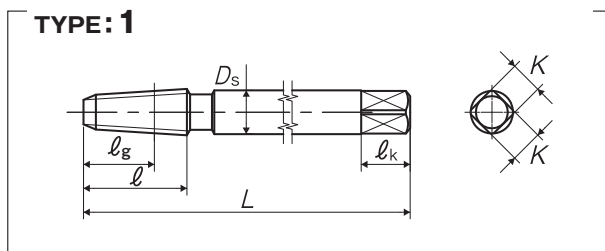


PT 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	lg (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/16-28	II	L10T01K-8	2.5P	7.723	100	19	13	8	6	9	4	1	△
		L10T02K			100								◎
PT 1/8-28	II	L15T02K	2.5P	9.728	150	19	13	8	6	9	4	2	◎
		L20T02K			200								△
PT 1/4-19	II	L10T04-	2.5P	13.157	100	28	21	11	9	12	4	2	◎
		L15T04-			150								△
		L20T04-			200								△
PT 3/8-19	II	L10T06-	2.5P	16.662	100	28	21	14	11	14	4	2	◎
		L12T06-			120								△
		L15T06-			150								◎
		L20T06-			200								△
PT 1/2-14	II	L15T08Q	2.5P	20.955	150	35	25	18	14	17	4	2	◎
		L20T08Q			200								△
PT 3/4-14	II	L15T12Q	2.5P	26.441	150	35	25	23	17	20	4	2	◎
		L20T12Q			200								△
PT 1 -11	II	L15T16U	2.5P	33.249	150	45	32	26	21	24	5	2	◎
		L20T16U			200								△
PT 1 1/4-11	II	-	2.5P	41.910	200	45	32	32	26	30	5	2	△
PT 1 1/2-11	II	-	2.5P	47.803	200	45	32	38	29	32	6	2	△

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

LS-S-PT



Long Shank Hand Taps for Taper Pipe Threads, Short (ℓ_g) Type

Specification

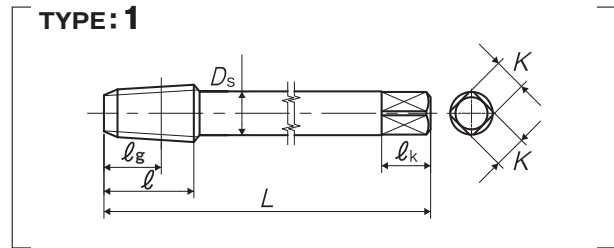


PT 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TSPT02KL10	2.5P	9.728	100	16.5	10.5	8	6	9	4	1	○
		TSPT02KL15			150								△
		TSPT02KL20			200								△
PT 1/4-19	II	TSPT04-L10	2.5P	13.157	100	19.5	12.5	11	9	12	4	1	○
		TSPT04-L15			150								△
		TSPT04-L20			200								△
PT 3/8-19	II	TSPT06-L10	2.5P	16.662	100	21	14	14	11	14	4	1	○
		TSPT06-L12			120								△
		TSPT06-L15			150								○
		TSPT06-L20			200								△
PT 1/2-14	II	TSPT08QL15	2.5P	20.955	150	27	17	18	14	17	4	1	○
		TSPT08QL20			200								△
PT 3/4-14	II	TSPT12QL15	2.5P	26.441	150	29	19	23	17	20	4	1	○
		TSPT12QL20			200								△
PT 1 -11	II	TSPT16UL15	2.5P	33.249	150	35	22	26	21	24	5	1	○
		TSPT16UL20			200								△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SP-PT



Spiral Fluted Taps for Taper Pipe Threads, Long (ℓ_g) Type

Specification



PT 3/4~

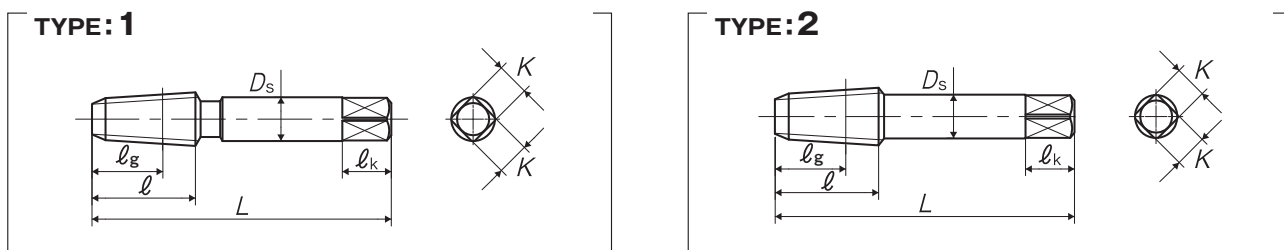
Recommended Tapping Speeds depending on Materials

Low carbon steels

~5

(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/16-28	II	SH2T01K-8	2.5P	7.723	55	19	13	8	6	9	3	1	△
PT 1/8-28	II	SH2T02K	2.5P	9.728	55	19	13	8	6	9	3	2	◎
PT 1/4-19	II	SH2T04-	2.5P	13.157	62	28	21	11	9	12	3	2	◎
PT 3/8-19	II	SH2T06-	2.5P	16.662	65	28	21	14	11	14	3	2	◎
PT 1/2-14	II	SH2T08Q	2.5P	20.955	80	35	25	18	14	17	4	2	○
PT 3/4-14	II	SH2T12Q	2.5P	26.441	85	35	25	23	17	20	4	2	○
PT 1 -11	II	SH2T16U	2.5P	33.249	95	45	32	26	21	24	4	2	○
PT 1 1/4-11	II	SH2T20U	2.5P	41.910	105	45	32	32	26	30	4	2	△
PT 1 1/2-11	II	SH2T24U	2.5P	47.803	110	45	32	38	29	32	4	2	△
PT 2 -11	II	SH2T32U	2.5P	59.614	120	50	35	46	35	38	4	2	△

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

SP-S-PT

Spiral Fluted Taps for Taper Pipe Threads, Short (ℓ_g) Type

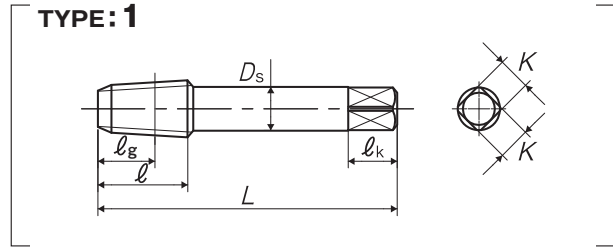
Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	SSPT02K	2.5P	9.728	55	16.5	10.5	8	6	9	3	1	○
PT 1/4-19	II	SSPT04-	2.5P	13.157	62	19.5	12.5	11	9	12	3	1	○
PT 3/8-19	II	SSPT06-	2.5P	16.662	65	21	14	14	11	14	3	1	○
PT 1/2-14	II	SSPT08Q	2.5P	20.955	80	27	17	18	14	17	4	1	○
PT 3/4-14	II	SSPT12Q	2.5P	26.441	85	29	19	23	17	20	4	1	○
PT 1 -11	II	SSPT16U	2.5P	33.249	95	35	22	26	21	24	4	1	○
PT 1 1/4-11	II	SSPT20U	2.5P	41.910	105	37.5	24.5	32	26	30	4	1	△
PT 1 1/2-11	II	SSPT24U	2.5P	47.803	110	38.5	25.5	38	29	32	4	1	△
PT 2 -11	II	SSPT32U	2.5P	59.614	120	42.5	27.5	46	35	38	4	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SP-PT-X



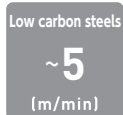
X Series Spiral Fluted Taps for Taper Pipe Threads, Short (l_g) Type

Specification

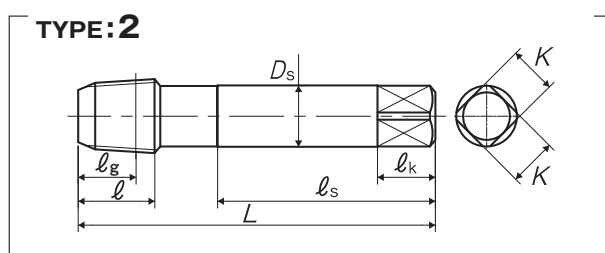
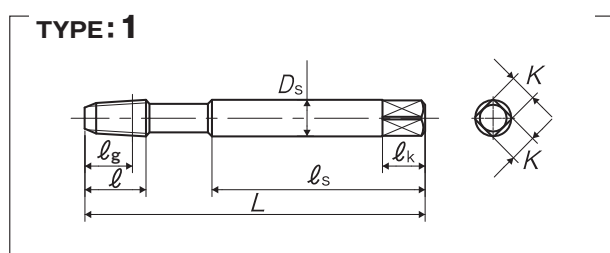


■SP-PT-X Spiral Fluted Tap, adopting new blank, ensures properly long projection length of the tool. Having short thread length, this tap is suitable for tapping of such machine components as have the limit in their thickness.

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l _g (mm)	l _s (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Pipe Threads														
PT 1/16-28	II	SHX2T01K-8	2.5P	7.723	75	13.5	10.5	47	8	6	9	3	1	○
PT 1/8-28	II	SHX2T02K	2.5P	9.728	75	13.5	10.5	48	8	6	9	3	2	○
PT 1/4-19	II	SHX2T04-	2.5P	13.157	85	16.5	12.5	54	11	9	12	3	2	○
PT 3/8-19	II	SHX2T06-	2.5P	16.662	95	18	14	60	14	11	14	3	2	○
PT 1/2-14	II	SHX2T08Q	2.5P	20.955	105	22.5	17	64	18	14	17	4	2	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

LS-SP-PT



Long Shank Spiral Fluted Taps for Taper Pipe Threads, Long (ℓ_g) Type
Specification

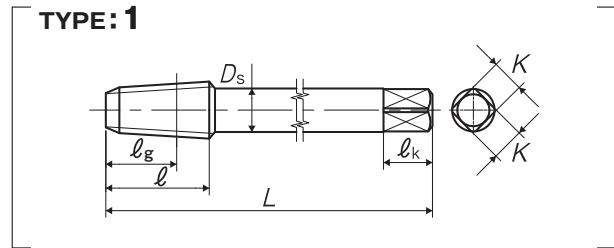


PT 3/4~

Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	SH2T02KL10	2.5P	9.728	100	19	13	8	6	9	3	1	△
		SH2T02KL12			120								
		SH2T02KL15			150								
PT 1/4-19	II	SH2T04-L10	2.5P	13.157	100	28	21	11	9	12	3	1	△
		SH2T04-L12			120								
		SH2T04-L15			150								
PT 3/8-19	II	SH2T06-L12	2.5P	16.662	120	28	21	14	11	14	3	1	△
		SH2T06-L15			150								
PT 1/2-14	II	SH2T08QL15	2.5P	20.955	150	35	25	18	14	17	4	1	△
PT 3/4-14	II	SH2T12QL15	2.5P	26.441	150	35	25	23	17	20	4	1	△
PT 1 -11	II	SH2T16UL15	2.5P	33.249	150	45	32	26	21	24	4	1	△
		SH2T16UL20			200								

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-SP-S-PT



Long Shank Spiral Fluted Taps for Taper Pipe Threads, Short (l_g) Type
Specification

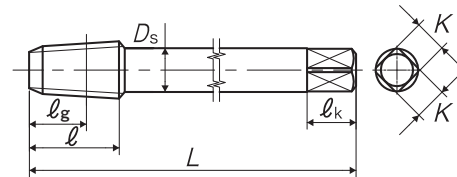


Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50

TYPE: 1



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l_g (mm)	D_s (mm)	K (mm)	l_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	SSPT02KL10	2.5P	9.728	100	16.5	10.5	8	6	9	3	1	△
		SSPT02KL12			120								
		SSPT02KL15			150								
PT 1/4-19	II	SSPT04-L10	2.5P	13.157	100	19.5	12.5	11	9	12	3	1	△
		SSPT04-L12			120								
		SSPT04-L15			150								
PT 3/8-19	II	SSPT06-L12	2.5P	16.662	120	21	14	14	11	14	3	1	△
		SSPT06-L15			150								
PT 1/2-14	II	SSPT08QL15	2.5P	20.955	150	27	17	18	14	17	4	1	△
PT 3/4-14	II	SSPT12QL15	2.5P	26.441	150	29	19	23	17	20	4	1	△
PT 1 -11	II	SSPT16UL15	2.5P	33.249	150	35	22	26	21	24	4	1	△
		SSPT16UL20			200								

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓg	Ds	K	ℓk

INT-PT



Interrupted Taps for Taper Pipe Threads, Long (ℓg) Type

Specification

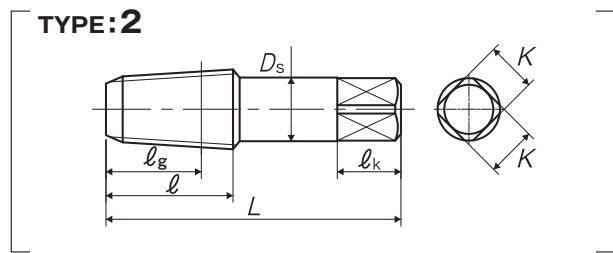
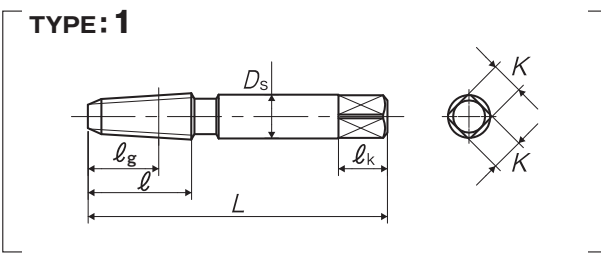


■INT-PT having low left-hand spiral flutes and having every other thread ground off, reduces cutting torque. INT-PT is suitable for such sticky materials as stainless steels and chrome molybdenum steels.

Recommended Tapping Speeds depending on Materials

Stainless steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓg (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/16-28	II	TINT01K-8	3P	7.723	55	19	13	8	6	9	3	1	△
PT 1/8-28	II	TINT02K	3P	9.728	55	19	13	8	6	9	5	2	○
PT 1/4-19	II	TINT04-	3P	13.157	62	28	21	11	9	12	5	2	○
PT 3/8-19	II	TINT06-	3P	16.662	65	28	21	14	11	14	5	2	○
PT 1/2-14	II	TINT08Q	3P	20.955	80	35	25	18	14	17	5	2	○
PT 3/4-14	II	TINT12Q	3P	26.441	85	35	25	23	17	20	5	2	○
PT 1 -11	II	TINT16U	3P	33.249	95	45	32	26	21	24	5	2	○
PT 1 1/4-11	II	TINT20U	3P	41.910	105	45	32	32	26	30	5	2	○
PT 1 1/2-11	II	TINT24U	3P	47.803	110	45	32	38	29	32	7	2	○
PT 2 -11	II	TINT32U	3P	59.614	120	50	35	46	35	38	7	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

INT-S-PT



Interrupted Taps for Taper Pipe Threads, Short (l_g) Type

Specification



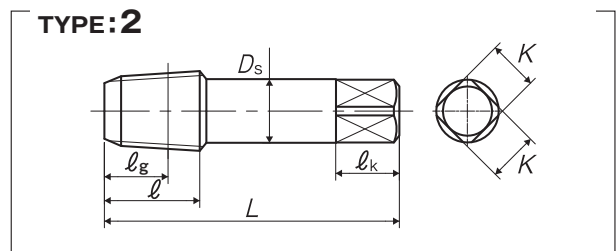
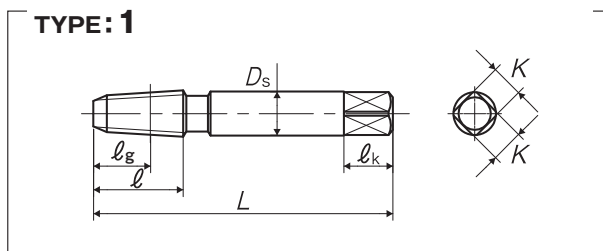
PT 3/4~

■INT-S-PT Short Spiral Fluted Tap, having low left-hand spiral flutes and having every other thread ground off, reduces cutting torque.
INT-S-PT is suitable for such sticky materials as stainless steels and chrome molybdenum steels.

Recommended Tapping Speeds depending on Materials

Stainless steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l _g (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/16-28	II	TIST01K-8	3P	7.723	55	16.5	10.5	8	6	9	3	1	△
PT 1/8-28	II	TIST02K	3P	9.728	55	16.5	10.5	8	6	9	5	2	○
PT 1/4-19	II	TIST04-	3P	13.157	62	19.5	12.5	11	9	12	5	2	○
PT 3/8-19	II	TIST06-	3P	16.662	65	21	14	14	11	14	5	2	○
PT 1/2-14	II	TIST08Q	3P	20.955	80	27	17	18	14	17	5	2	○
PT 3/4-14	II	TIST12Q	3P	26.441	85	29	19	23	17	20	5	2	○
PT 1 -11	II	TIST16U	3P	33.249	95	35	22	26	21	24	5	2	○
PT 1 1/4-11	II	TIST20U	3P	41.910	105	37.5	24.5	32	26	30	5	2	○
PT 1 1/2-11	II	TIST24U	3P	47.803	110	38.5	25.5	38	29	32	7	2	○
PT 2 -11	II	TIST32U	3P	59.614	120	42.5	27.5	46	35	38	7	2	○

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

LS-INT-PT



Long Shank Interrupted Taps for Taper Pipe Threads, Long (ℓ_g) Type

Specification



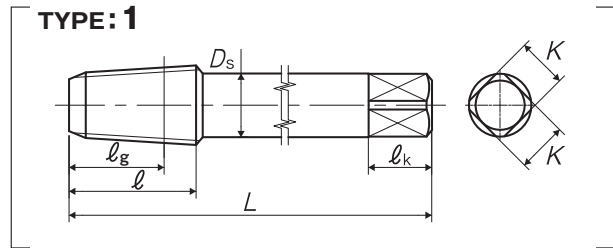
PT 3/4~

Recommended Tapping Speeds depending on Materials

Stainless steels
~5
(m/min)

For icon explanation, refer to P.50

- LS-INT-PT Long Shank Spiral Fluted Tap, having low left-hand spiral flutes and having every other thread ground off, reduces cutting torque. LS-INT-PT is suitable for such sticky materials as stainless steels and chrome molybdenum steels.



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TINT02KL10	3P	9.728	100	19	13	8	6	9	5	1	△
		TINT02KL12			120								
		TINT02KL15			150								
PT 1/4-19	II	TINT04-L10	3P	13.157	100	28	21	11	9	12	5	1	△
		TINT04-L12			120								
		TINT04-L15			150								
PT 3/8-19	II	TINT06-L10	3P	16.662	100	28	21	14	11	14	5	1	△
		TINT06-L12			120								
		TINT06-L15			150								
PT 1/2-14	II	TINT08QL15	3P	20.955	150	35	25	18	14	17	5	1	△
PT 3/4-14	II	TINT12QL15	3P	26.441	150	35	25	23	17	20	5	1	△
PT 1 -11	II	TINT16UL15	3P	33.249	150	45	32	26	21	24	5	1	△
		TINT16UL20			200								

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
Pipe-16

LS-INT-S-PT



Long Shank Interrupted Taps for Taper Pipe Threads, Short (l_g) Type

Specification

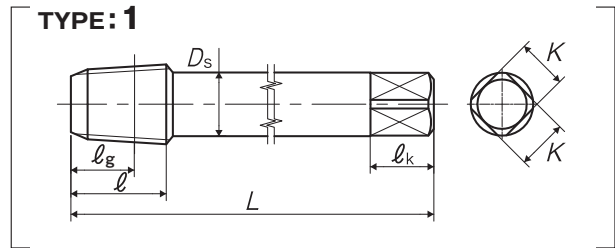


■LS-INT-S-PT Long Shank Short Spiral Fluted Tap, having low left-hand spiral flutes and having every other thread ground off, reduces cutting torque. LS-INT-S-PT is suitable for such sticky materials as stainless steels and chrome molybdenum steels.

Recommended Tapping Speeds depending on Materials

Stainless steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l_g (mm)	D_s (mm)	K (mm)	l_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TIST02KL10	3P	9.728	100	16.5	10.5	8	6	9	5	1	△
		TIST02KL12			120								
		TIST02KL15			150								
PT 1/4-19	II	TIST04-L10	3P	13.157	100	19.5	12.5	11	9	12	5	1	△
		TIST04-L12			120								
		TIST04-L15			150								
PT 3/8-19	II	TIST06-L10	3P	16.662	100	21	14	14	11	14	5	1	△
		TIST06-L12			120								
		TIST06-L15			150								
PT 1/2-14	II	TIST08QL15	3P	20.955	150	27	17	18	14	17	5	1	△
PT 3/4-14	II	TIST12QL15	3P	26.441	150	29	19	23	17	20	5	1	△
PT 1 -11	II	TIST16UL15	3P	33.249	150	35	22	26	21	24	5	1	△
		TIST16UL20			200								

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

LC-PT



Hand Taps for Taper Pipe Threads, Long (ℓ_g) Type, for Low Carbon Steels

Specification

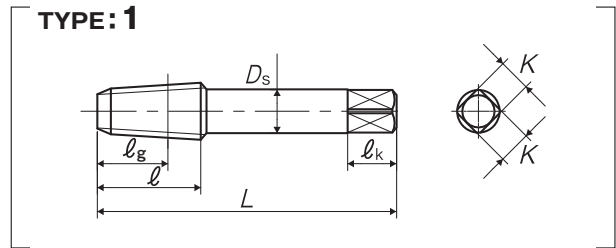


■ Tap suitable for such soft steels (Low Carbon Steels) as SS400 and S25C.

Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	LCPT02K	2.5P	9.728	55	19	13	8	6	9	4	1	△
PT 1/4-19	II	LCPT04-	2.5P	13.157	62	28	21	11	9	12	4	1	△
PT 3/8-19	II	LCPT06-	2.5P	16.662	65	28	21	14	11	14	4	1	△
PT 1/2-14	II	LCPT08Q	2.5P	20.955	80	35	25	18	14	17	4	1	△
PT 3/4-14	II	LCPT12Q	2.5P	26.441	85	35	25	23	17	20	4	1	△
PT 1 -11	II	LCPT16U	2.5P	33.249	95	45	32	26	21	24	5	1	△
PT 1 1/4-11	II	LCPT20U	2.5P	41.910	105	45	32	32	26	30	5	1	△
PT 1 1/2-11	II	LCPT24U	2.5P	47.803	110	45	32	38	29	32	6	1	△
PT 2 -11	II	LCPT32U	2.5P	59.614	120	50	35	46	35	38	6	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LC-S-PT



Hand Taps for Taper Pipe Threads, Short (l_g) Type, for Low Carbon Steels

Specification

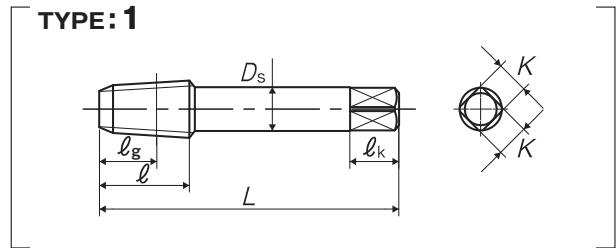


■ Tap, having short thread portion, suitable for such soft steels (Low Carbon Steels) as SS400 and S25C.

Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	lg (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	LCSPT02K	2.5P	9.728	55	16.5	10.5	8	6	9	4	1	△
PT 1/4-19	II	LCSPT04-	2.5P	13.157	62	19.5	12.5	11	9	12	4	1	△
PT 3/8-19	II	LCSPT06-	2.5P	16.662	65	21	14	14	11	14	4	1	△
PT 1/2-14	II	LCSPT08Q	2.5P	20.955	80	27	17	18	14	17	4	1	△
PT 3/4-14	II	LCSPT12Q	2.5P	26.441	85	29	19	23	17	20	4	1	△
PT 1 -11	II	LCSPT16U	2.5P	33.249	95	35	22	26	21	24	5	1	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

SU-PT



Hand Taps for Taper Pipe Threads, Long (ℓ_g) Type, for Stainless Steels

Specification



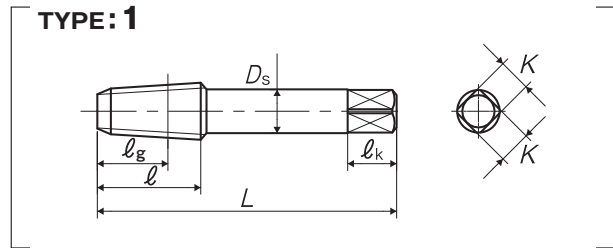
PT 3/4~

■SU-PT is the hand tap suitable for stainless steels which tend to work-harden and sticky, as well as chrome steels and molybdenum steels.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Stainless steels
~5 (m/min)	~5 (m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TU2T02K	2.5P	9.728	55	19	13	8	6	9	4	1	△
PT 1/4-19	II	TU2T04-	2.5P	13.157	62	28	21	11	9	12	4	1	△
PT 3/8-19	II	TU2T06-	2.5P	16.662	65	28	21	14	11	14	4	1	△
PT 1/2-14	II	TU2T08Q	2.5P	20.955	80	35	25	18	14	17	4	1	△
PT 3/4-14	II	TU2T12Q	2.5P	26.441	85	35	25	23	17	20	4	1	△
PT 1 -11	II	TU2T16U	2.5P	33.249	95	45	32	26	21	24	4	1	△
PT 1 1/4-11	II	TU2T20U	2.5P	41.910	105	45	32	32	26	30	5	1	△
PT 1 1/2-11	II	TU2T24U	2.5P	47.803	110	45	32	38	29	32	6	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SU-S-PT



Hand Taps for Taper Pipe Threads, Short (l_g) Type, for Stainless Steels

Specification



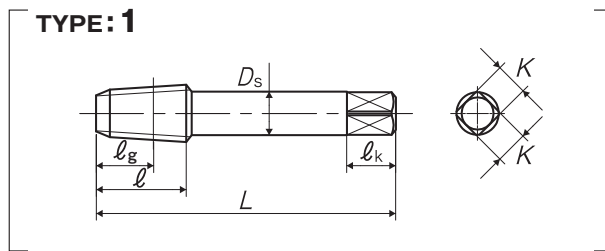
PT 3/4~

■SU-S-PT is the hand tap with short thread portion, suitable for stainless steels which tend to work-harden and sticky, as well as chrome steels and molybdenum steels.

Recommended Tapping Speeds depending on Materials

Low carbon steels	Stainless steels
~5 (m/min)	~5 (m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l _g (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TUST02K	2.5P	9.728	55	16.5	10.5	8	6	9	4	1	△
PT 1/4-19	II	TUST04-	2.5P	13.157	62	19.5	12.5	11	9	12	4	1	△
PT 3/8-19	II	TUST06-	2.5P	16.662	65	21	14	14	11	14	4	1	△
PT 1/2-14	II	TUST08Q	2.5P	20.955	80	27	17	18	14	17	4	1	△
PT 3/4-14	II	TUST12Q	2.5P	26.441	85	29	19	23	17	20	4	1	△
PT 1 -11	II	TUST16U	2.5P	33.249	95	35	22	26	21	24	4	1	△
PT 1 1/4-11	II	TUST20U	2.5P	41.910	105	37.5	24.5	32	26	30	5	1	△
PT 1 1/2-11	II	TUST24U	2.5P	47.803	110	38.5	25.5	38	29	32	6	1	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓg	Ds	K	ℓk

FC-PT



Hand Taps for Taper Pipe Threads, Long (ℓg) Type, for Cast Irons

Specification

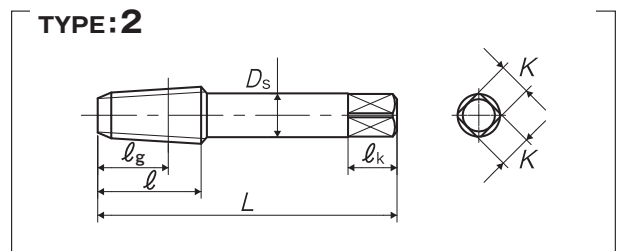
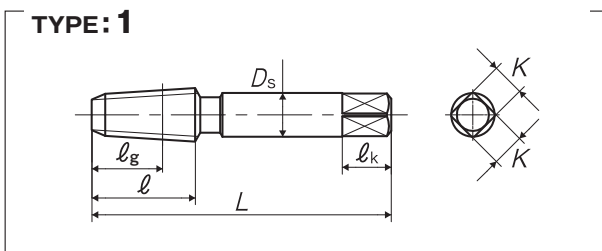


■FC-PT is suitable for hard and abrasive materials such as cast irons.

Recommended Tapping Speeds depending on Materials

Cast irons ~5 (m/min)	Ductile cast irons ~5 (m/min)
-----------------------------	-------------------------------------

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓg (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/16-28	II	FCPT01K-8	2.5P	7.723	55	19	13	8	6	9	4	1	△
PT 1/8-28	II	FCPT02K	2.5P	9.728	55	19	13	8	6	9	4	2	△
PT 1/4-19	II	FCPT04-	2.5P	13.157	62	28	21	11	9	12	4	2	△
PT 3/8-19	II	FCPT06-	2.5P	16.662	65	28	21	14	11	14	4	2	△
PT 1/2-14	II	FCPT08Q	2.5P	20.955	80	35	25	18	14	17	4	2	△
PT 3/4-14	II	FCPT12Q	2.5P	26.441	85	35	25	23	17	20	4	2	△
PT 1 -11	II	FCPT16U	2.5P	33.249	95	45	32	26	21	24	5	2	△
PT 1 1/4-11	II	FCPT20U	2.5P	41.910	105	45	32	32	26	30	5	2	△
PT 1 1/2-11	II	FCPT24U	2.5P	47.803	110	45	32	38	29	32	6	2	△
PT 2 -11	II	FCPT32U	2.5P	59.614	120	50	35	46	35	38	6	2	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

FC-S-PT



Hand Taps for Taper Pipe Threads, Short (l_g) Type, for Cast Irons

Specification



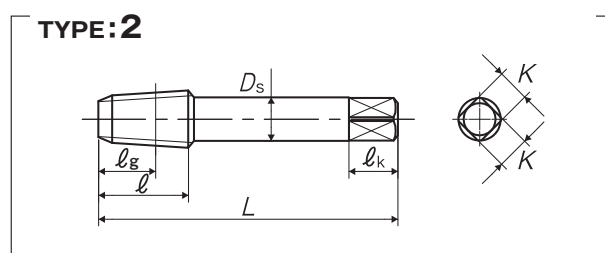
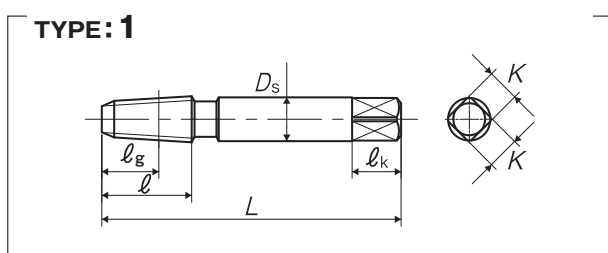
PT 3/4~

■FC-S-PT is the tap with short thread portion, suitable for hard and abrasive materials such as cast irons.

Recommended Tapping Speeds depending on Materials

Cast irons ~5 (m/min)	Ductile cast irons ~5 (m/min)
-----------------------------	-------------------------------------

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l _g (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/16-28	II	FCSP01K-8	2.5P	7.723	55	16.5	10.5	8	6	9	4	1	△
PT 1/8-28	II	FCSP02K	2.5P	9.728	55	16.5	10.5	8	6	9	4	2	△
PT 1/4-19	II	FCSP04-	2.5P	13.157	62	19.5	12.5	11	9	12	4	2	△
PT 3/8-19	II	FCSP06-	2.5P	16.662	65	21	14	14	11	14	4	2	△
PT 1/2-14	II	FCSP08Q	2.5P	20.955	80	27	17	18	14	17	4	2	△
PT 3/4-14	II	FCSP12Q	2.5P	26.441	85	29	19	23	17	20	4	2	△
PT 1 -11	II	FCSP16U	2.5P	33.249	95	35	22	26	21	24	5	2	△
PT 1 1/4-11	II	FCSP20U	2.5P	41.910	105	37.5	24.5	32	26	30	5	2	△
PT 1 1/2-11	II	FCSP24U	2.5P	47.803	110	38.5	25.5	38	29	32	6	2	△
PT 2 -11	II	FCSP32U	2.5P	59.614	120	42.5	27.5	46	35	38	6	2	△

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓg	Ds	K	ℓk

CT-PT

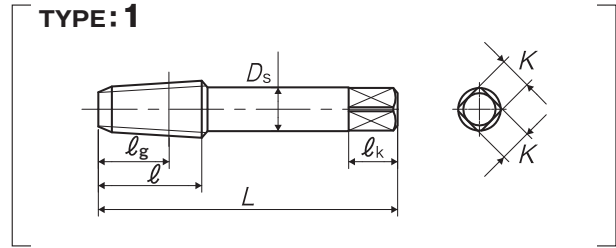
Carbide Taps for Taper Pipe Threads, Long (ℓg) Type, for Cast Irons
Specification



Recommended Tapping Speeds depending on Materials

Cast irons ~5 (m/min)	Ductile cast irons ~5 (m/min)	Brass castings ~5 (m/min)
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For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓg (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TCPT02K	2.5P	9.728	55	19	13	8	6	9	4	1	△
PT 1/4-19	II	TCPT04-	2.5P	13.157	62	28	21	11	9	12	4	1	△
PT 3/8-19	II	TCPT06-	2.5P	16.662	65	28	21	14	11	14	4	1	△
PT 1/2-14	II	TCPT08Q	2.5P	20.955	80	35	25	18	14	17	4	1	△
PT 3/4-14	II	TCPT12Q	2.5P	26.441	85	35	25	23	17	20	4	1	△
PT 1 -11	II	TCPT16U	2.5P	33.249	95	45	32	26	21	24	5	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

CT-S-PT



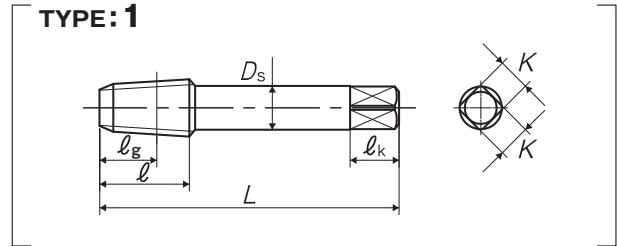
Carbide Taps for Taper Pipe Threads, Short (ℓ_g) Type, for Cast Irons
Specification



Recommended Tapping Speeds depending on Materials

Cast irons ~5 (m/min)	Ductile cast irons ~5 (m/min)	Brass castings ~5 (m/min)
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For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads													
PT 1/8-28	II	TCST02K	2.5P	9.728	55	16.5	10.5	8	6	9	4	1	△
PT 1/4-19	II	TCST04-	2.5P	13.157	62	19.5	12.5	11	9	12	4	1	△
PT 3/8-19	II	TCST06-	2.5P	16.662	65	21	14	14	11	14	4	1	△
PT 1/2-14	II	TCST08Q	2.5P	20.955	80	27	17	18	14	17	4	1	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

Rp

Hand Taps for Parallel Pipe Threads

Specification

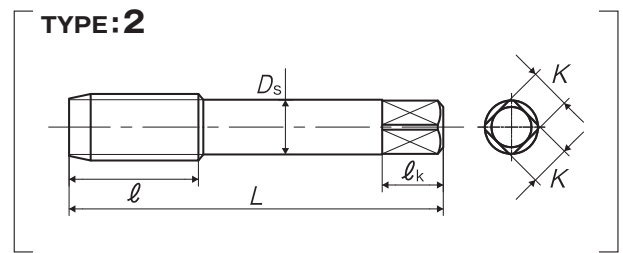
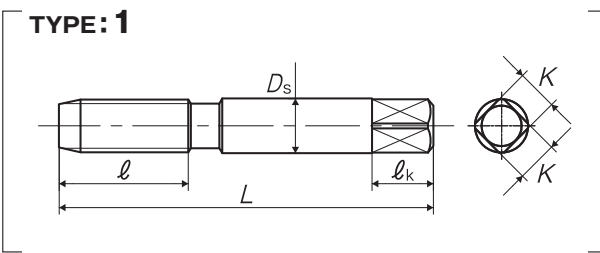


Rp 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads												
Rp 1/16-28	II	TH2RP01K	3.5P	7.723	59	14	8	6	9	4	1	○
Rp 1/8-28	II	TH2RP02K	3.5P	9.728	59	15	8	6	9	4	2	○
Rp 1/4-19	II	TH2RP04-	3.5P	13.157	67	19	11	9	12	4	2	○
Rp 3/8-19	II	TH2RP06-	3.5P	16.662	75	21	14	11	14	4	2	○
Rp 1/2-14	II	TH2RP08Q	3.5P	20.955	87	26	18	14	17	4	2	○
Rp 3/4-14	II	TH2RP12Q	3.5P	26.441	96	28	23	17	20	4	2	○
Rp 1-11	II	TH2RP16U	3.5P	33.249	109	33	26	21	24	5	2	○
Rp 1 1/4-11	II	TH2RP20U	3.5P	41.910	119	36	32	26	30	5	2	○
Rp 1 1/2-11	II	TH2RP24U	3.5P	47.803	125	37	38	29	32	6	2	○
Rp 2-11	II	TH2RP32U	3.5P	59.614	140	41	46	35	38	6	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PS

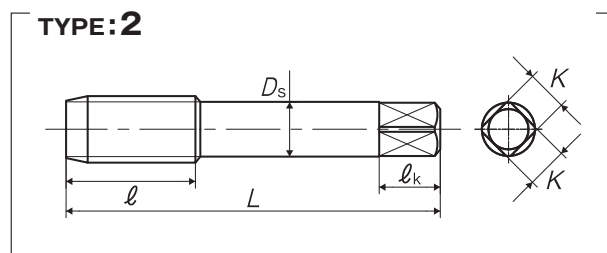
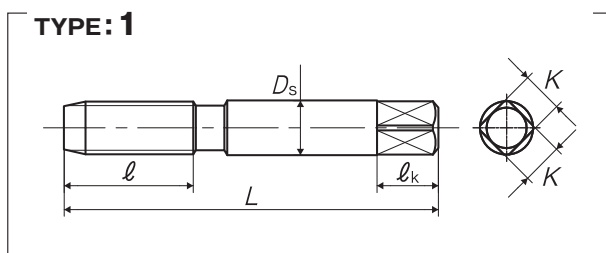
Hand Taps for Parallel Pipe Threads Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PS 1/16-28	II	TH2P01K-8	3.5P	7.723	55	19	8	6	9	4	1	△
		TH2P02K	3.5P	9.728								◎
PS 1/8-28	II	TH2P02K1	1.5P	9.728	55	19	8	6	9	4	2	△
		TH2P04-	3.5P	13.157								◎
PS 1/4-19	II	TH2P04-1	1.5P	13.157	62	28	11	9	12	4	2	△
		TH2P06-	3.5P	16.662								◎
PS 3/8-19	II	TH2P06-1	1.5P	16.662	65	28	14	11	14	4	2	△
		TH2P08Q	3.5P	20.955								◎
PS 1/2-14	II	TH2P08Q1	1.5P	20.955	80	35	18	14	17	4	2	△
		TH2P10Q	3.5P	22.911								△
PS 5/8-14	II	TH2P12Q	3.5P	26.441	85	35	23	17	20	4	2	◎
		TH2P12Q1	1.5P	26.441								△
PS 7/8-14	II	TH2P14Q	3.5P	30.201	90	40	24	19	22	4	2	△
		TH2P16U	3.5P	33.249								◎
PS 1-11	II	TH2P16U1	1.5P	33.249	95	45	26	21	24	5	2	△
		TH2P20U	3.5P	41.910								◎
PS 1 1/4-11	II	TH2P20U1	1.5P	41.910	105	45	32	26	30	5	2	△
		TH2P24U	3.5P	47.803								◎
PS 1 1/2-11	II	TH2P24U1	1.5P	47.803	110	45	38	29	32	6	2	△
		TH2P32U	3.5P	59.614								◎
PS 2-11	II	TH2P32U	3.5P	59.614	120	50	46	35	38	6	2	◎
PS 2 1/2-11	II	TH2P40U	3.5P	75.184	145	65	55	41	44	8	2	△
PS 3-11	II	TH2P48U	3.5P	87.884	155	65	65	50	52	8	2	△
PS 4-11	II	TH2P64U	3.5P	113.030	170	70	75	58	62	10	2	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

PS LH

Hand Taps for Parallel Pipe Threads, for LH Threads
Specification

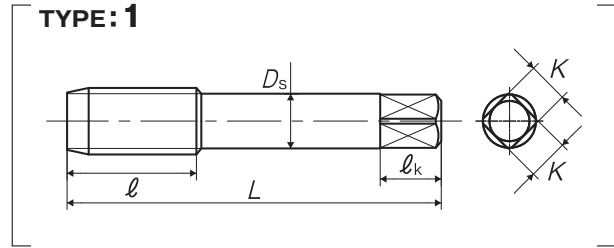


PS 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PS 1/8-28	II	TH2P02K--L	3.5P	9.728	55	19	8	6	9	4	1	△
PS 1/4-19	II	TH2P04---L	3.5P	13.157	62	28	11	9	12	4	1	△
PS 3/8-19	II	TH2P06---L	3.5P	16.662	65	28	14	11	14	4	1	△
PS 1/2-14	II	TH2P08Q--L	3.5P	20.955	80	35	18	14	17	4	1	△
PS 3/4-14	II	TH2P12Q--L	3.5P	26.441	85	35	23	17	20	4	1	△
PS 1 -11	II	TH2P16U--L	3.5P	33.249	95	45	26	21	24	5	1	△
PS 1 1/4-11	II	TH2P20U--L	3.5P	41.910	105	45	32	26	30	5	1	△
PS 1 1/2-11	II	TH2P24U--L	3.5P	47.803	110	45	38	29	32	6	1	△
PS 2 -11	II	TH2P32U--L	3.5P	59.614	120	50	46	35	38	6	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-PS

Long Shank Hand Taps for Parallel Pipe Threads
Specification



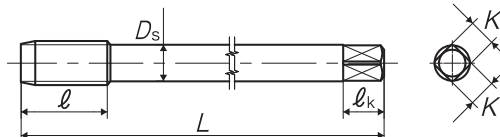
PS 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

TYPE: 1



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PS 1/8-28	II	L10P02K	3.5P	9.728	100	19	8	6	9	4	1	○
		L15P02K			150							△
		L20P02K			200							△
PS 1/4-19	II	L10P04-	3.5P	13.157	100	28	11	9	12	4	1	○
		L15P04-			150							△
		L20P04-			200							△
PS 3/8-19	II	L10P06-	3.5P	16.662	100	28	14	11	14	4	1	○
		L15P06-			150							△
		L20P06-			200							△
PS 1/2-14	II	L15P08Q	3.5P	20.955	150	35	18	14	17	4	1	○
		L20P08Q			200							△
PS 3/4-14	II	L15P12Q	3.5P	26.441	150	35	23	17	20	4	1	○
		L20P12Q			200							△
PS 1 -11	II	L15P16U	3.5P	33.249	150	45	26	21	24	5	1	○
		L20P16U			200							△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

SP-PS

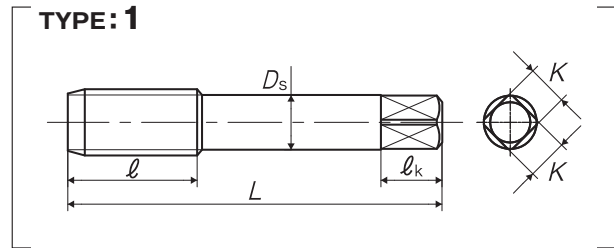
Spiral Fluted Taps for Parallel Pipe Threads Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PS 1/8-28	II	SH2P02K	2.5P	9.728	55	19	8	6	9	3	1	○
PS 1/4-19	II	SH2P04-	2.5P	13.157	62	28	11	9	12	3	1	○
PS 3/8-19	II	SH2P06-	2.5P	16.662	65	28	14	11	14	3	1	○
PS 1/2-14	II	SH2P08Q	2.5P	20.955	80	35	18	14	17	4	1	○
PS 3/4-14	II	SH2P12Q	2.5P	26.441	85	35	23	17	20	4	1	○
PS 1 -11	II	SH2P16U	2.5P	33.249	95	45	26	21	24	4	1	○
PS 1 1/4-11	II	SH2P20U	2.5P	41.910	105	45	32	26	30	4	1	△
PS 1 1/2-11	II	SH2P24U	2.5P	47.803	110	45	38	29	32	4	1	△
PS 2 -11	II	SH2P32U	2.5P	59.614	120	50	46	35	38	4	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

LS-SP-PS



Long Shank Spiral Fluted Taps for Parallel Pipe Threads

Specification



PS 3/4~

Recommended Tapping Speeds depending on Materials

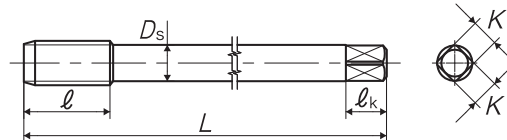
Medium carbon steels

5~10

(m/min)

For icon explanation, refer to P.50

TYPE: 1



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PS 1/8-28	II	SH2P02KL10	2.5P	9.728	100	19	8	6	9	3	1	△
		SH2P02KL15			150							
PS 1/4-19	II	SH2P04-L10	2.5P	13.157	100	28	11	9	12	3	1	△
		SH2P04-L15			150							
PS 3/8-19	II	SH2P06-L15	2.5P	16.662	150	28	14	11	14	3	1	△
PS 1/2-14	II	SH2P08QL15	2.5P	20.955	150	35	18	14	17	4	1	△
PS 3/4-14	II	SH2P12QL15	2.5P	26.441	150	35	23	17	20	4	1	△
PS 1 -11	II	SH2P16UL15	2.5P	33.249	150	45	26	21	24	4	1	△
		SH2P16UL20			200							

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

CT-PS

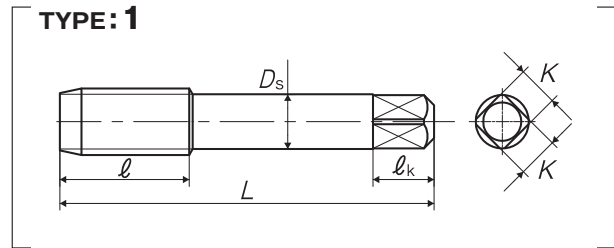
Carbide Taps for Parallel Pipe Threads Specification



Recommended Tapping Speeds depending on Materials

Cast irons 5~10 (m/min)	Ductile cast irons 5~10 (m/min)	Brass castings 5~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PS 1/8-28	II	TCPS02K	3.5P	9.728	55	19	8	6	9	4	1	△
PS 1/4-19	II	TCPS04-	3.5P	13.157	62	28	11	9	12	4	1	△
PS 3/8-19	II	TCPS06-	3.5P	16.662	65	28	14	11	14	4	1	△
PS 1/2-14	II	TCPS08Q	3.5P	20.955	80	35	18	14	17	4	1	△
PS 3/4-14	II	TCPS12Q	3.5P	26.441	85	35	23	17	20	4	1	△
PS 1 -11	II	TCPS16U	3.5P	33.249	95	45	26	21	24	5	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

G

Hand Taps for Parallel Pipe Threads

Specification

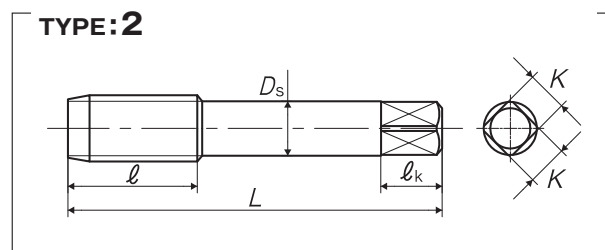
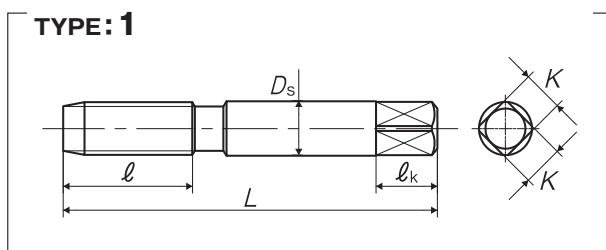


Recommended Tapping Speeds depending on Materials

Medium carbon steels

5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
G 1/16-28	II	TH2G01K	3.5P	7.723	59	14	8	6	9	4	1	○
G 1/8-28	II	TH2G02K	3.5P	9.728	59	15	8	6	9	4	2	○
G 1/4-19	II	TH2G04-	3.5P	13.157	67	19	11	9	12	4	2	○
G 3/8-19	II	TH2G06-	3.5P	16.662	75	21	14	11	14	4	2	○
G 1/2-14	II	TH2G08Q	3.5P	20.955	87	26	18	14	17	4	2	○
G 3/4-14	II	TH2G12Q	3.5P	26.441	96	28	23	17	20	4	2	○
G 1 -11	II	TH2G16U	3.5P	33.249	109	33	26	21	24	4	2	○
G 1 1/4-11	II	TH2G20U	3.5P	41.910	119	36	32	26	30	4	2	○
G 1 1/2-11	II	TH2G24U	3.5P	47.803	125	37	38	29	32	6	2	○
G 2 -11	II	TH2G32U	3.5P	59.614	140	41	46	35	38	6	2	○

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	D _s	K	ℓ _k

PF

Hand Taps for Parallel Pipe Threads Specification

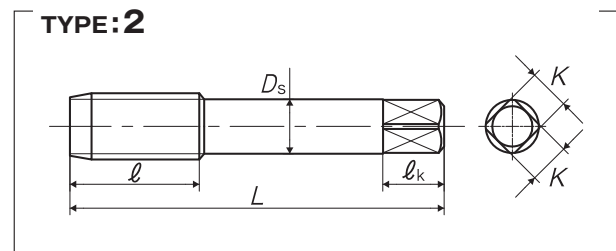
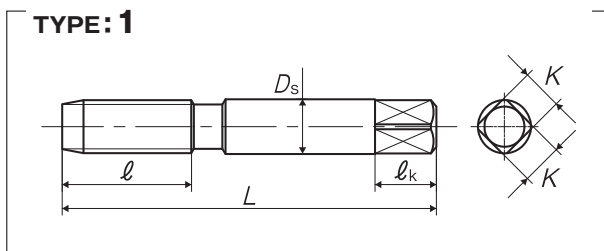


PF 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PF 1/16-28	II	TH2F01K-8	3.5P	7.723	55	19	8	6	9	4	1	△
PF 1/8-28	II	TH2F02K	3.5P	9.728	55	19	8	6	9	4	2	◎
		TH2F02K1	1.5P									△
PF 1/4-19	II	TH2F04-	3.5P	13.157	62	28	11	9	12	4	2	◎
		TH2F04-1	1.5P									△
PF 3/8-19	II	TH2F06-	3.5P	16.662	65	28	14	11	14	4	2	◎
		TH2F06-1	1.5P									△
PF 1/2-14	II	TH2F08Q	3.5P	20.955	80	35	18	14	17	4	2	◎
		TH2F08Q1	1.5P									△
PF 5/8-14	II	TH2F10Q	3.5P	22.911	82	35	19	15	18	4	2	△
PF 3/4-14	II	TH2F12Q	3.5P	26.441	85	35	23	17	20	4	2	◎
		TH2F12Q1	1.5P									△
PF 7/8-14	II	TH2F14Q	3.5P	30.201	90	40	24	19	22	4	2	△
PF 1 -11	II	TH2F16U	3.5P	33.249	95	45	26	21	24	4	2	◎
		TH2F16U1	1.5P									△
PF 1 1/4-11	II	TH2F20U	3.5P	41.910	105	45	32	26	30	4	2	◎
		TH2F20U1	1.5P									△
PF 1 1/2-11	II	TH2F24U	3.5P	47.803	110	45	38	29	32	6	2	◎
		TH2F24U1	1.5P									△
PF 2 -11	II	TH2F32U	3.5P	59.614	120	50	46	35	38	6	2	◎
		TH2F32U1	1.5P									△
PF 2 1/2-11	II	TH2F40U	3.5P	75.184	145	65	55	41	44	8	2	△
PF 3 -11	II	TH2F48U	3.5P	87.884	155	65	65	50	52	8	2	△
PF 3 1/2-11	II	TH2F56U	3.5P	100.330	165	68	70	54	58	8	2	△
PF 4 -11	II	TH2F64U	3.5P	113.030	170	70	75	58	62	10	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PF LH

Hand Taps for Parallel Pipe Threads, for LH Threads
Specification



PF 3/4~

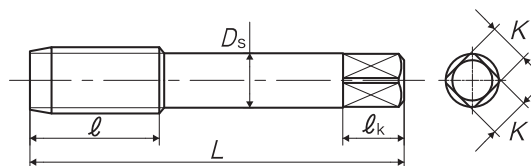


Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

TYPE: 1



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PF 1/8-28	II	TH2F02K--L	3.5P	9.728	55	19	8	6	9	4	1	△
PF 1/4-19	II	TH2F04---L	3.5P	13.157	62	28	11	9	12	4	1	△
PF 3/8-19	II	TH2F06---L	3.5P	16.662	65	28	14	11	14	4	1	△
PF 1/2-14	II	TH2F08Q--L	3.5P	20.955	80	35	18	14	17	4	1	△
PF 3/4-14	II	TH2F12Q--L	3.5P	26.441	85	35	23	17	20	4	1	△
PF 1 -11	II	TH2F16U--L	3.5P	33.249	95	45	26	21	24	4	1	△
PF 1 1/4-11	II	TH2F20U--L	3.5P	41.910	105	45	32	26	30	4	1	△
PF 1 1/2-11	II	TH2F24U--L	3.5P	47.803	110	45	38	29	32	6	1	△
PF 2 -11	II	TH2F32U--L	3.5P	59.614	120	50	46	35	38	6	1	△

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

LS-PF

Long Shank Hand Taps for Parallel Pipe Threads Specification

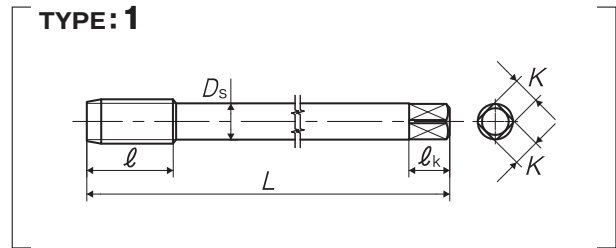


PF 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PF 1/8-28	II	L10F02K	3.5P	9.728	100	19	8	6	9	4	1	○
		L15F02K			150							△
		L20F02K			200							△
PF 1/4-19	II	L10F04-	3.5P	13.157	100	28	11	9	12	4	1	○
		L15F04-			150							△
		L20F04-			200							△
PF 3/8-19	II	L10F06-	3.5P	16.662	100	28	14	11	14	4	1	○
		L15F06-			150							△
		L20F06-			200							△
PF 1/2-14	II	L15F08Q	3.5P	20.955	150	35	18	14	17	4	1	○
		L20F08Q			200							△
PF 3/4-14	II	L15F12Q	3.5P	26.441	150	35	23	17	20	4	1	○
		L20F12Q			200							△
PF 1 -11	II	L15F16U	3.5P	33.249	150	45	26	21	24	4	1	○
		L20F16U			200							△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SP-PF

Spiral Fluted Taps for Parallel Pipe Threads Specification



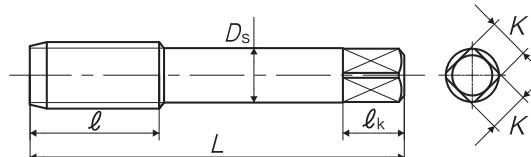
PF 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50

TYPE: 1



Segment: 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PF 1/8-28	II	SH2F02K	2.5P	9.728	55	19	8	6	9	3	1	○
PF 1/4-19	II	SH2F04-	2.5P	13.157	62	28	11	9	12	3	1	○
PF 3/8-19	II	SH2F06-	2.5P	16.662	65	28	14	11	14	3	1	○
PF 1/2-14	II	SH2F08Q	2.5P	20.955	80	35	18	14	17	4	1	○
PF 3/4-14	II	SH2F12Q	2.5P	26.441	85	35	23	17	20	4	1	○
PF 1 -11	II	SH2F16U	2.5P	33.249	95	45	26	21	24	4	1	○
PF 1 1/4-11	II	SH2F20U	2.5P	41.910	105	45	32	26	30	4	1	△
PF 1 1/2-11	II	SH2F24U	2.5P	47.803	110	45	38	29	32	4	1	△
PF 2 -11	II	SH2F32U	2.5P	59.614	120	50	46	35	38	4	1	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

LS-SP-PF



Long Shank Spiral Fluted Taps for Parallel Pipe Threads

Specification

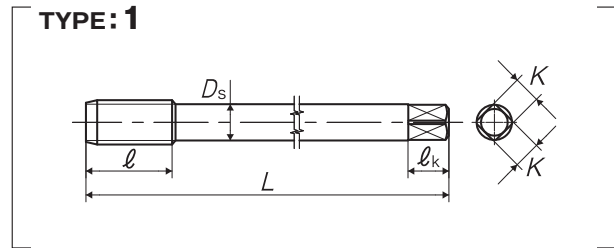


PF 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PF 1/8-28	II	SH2F02KL10	2.5P	9.728	100	19	8	6	9	3	1	△
		SH2F02KL12			120							
		SH2F02KL15			150							
PF 1/4-19	II	SH2F04-L10	2.5P	13.157	100	28	11	9	12	3	1	△
		SH2F04-L12			120							
		SH2F04-L15			150							
PF 3/8-19	II	SH2F06-L12	2.5P	16.662	120	28	14	11	14	3	1	△
		SH2F06-L15			150							
PF 1/2-14	II	SH2F08QL15	2.5P	20.955	150	35	18	14	17	4	1	△
PF 3/4-14	II	SH2F12QL15	2.5P	26.441	150	35	23	17	20	4	1	△
PF 1 -11	II	SH2F16UL15	2.5P	33.249	150	45	26	21	24	4	1	△
		SH2F16UL20			200							

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SU-PF



Hand Taps for Parallel Pipe Threads, for Stainless Steels

Specification

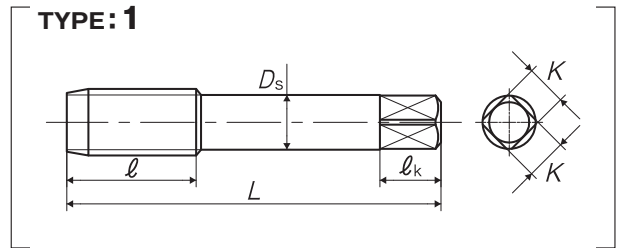


■SU-PF is the hand tap suitable for stainless steels which tend to work-harden and sticky, as well as chrome steels, and molybdenum steels.

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PF 1/8-28	II	TU2F02K	3.5P	9.728	55	19	8	6	9	4	1	△
PF 1/4-19	II	TU2F04-	3.5P	13.157	62	28	11	9	12	4	1	△
PF 3/8-19	II	TU2F06-	3.5P	16.662	65	28	14	11	14	4	1	△
PF 1/2-14	II	TU2F08Q	3.5P	20.955	80	35	18	14	17	4	1	△
PF 3/4-14	II	TU2F12Q	3.5P	26.441	85	35	23	17	20	4	1	△
PF 1 -11	II	TU2F16U	3.5P	33.249	95	45	26	21	24	4	1	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

FC-PF

Hand Taps for Parallel Pipe Threads, for Cast Irons

Specification



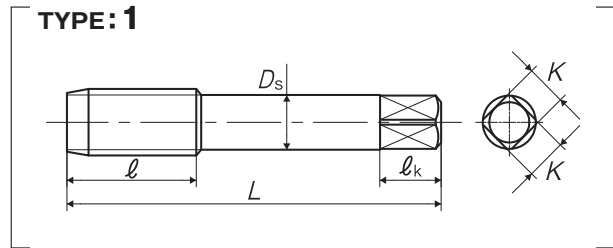
PF 3/4~

■FC-PF is suitable for hard and abrasive materials such as cast irons.

Recommended Tapping Speeds depending on Materials

Cast irons 5~10 (m/min)	Ductile cast irons 5~10 (m/min)
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For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PF 1/8-28	II	FCPF02K	3.5P	9.728	55	19	8	6	9	4	1	△
PF 1/4-19	II	FCPF04-	3.5P	13.157	62	28	11	9	12	4	1	△
PF 3/8-19	II	FCPF06-	3.5P	16.662	65	28	14	11	14	4	1	△
PF 1/2-14	II	FCPF08Q	3.5P	20.955	80	35	18	14	17	4	1	△
PF 3/4-14	II	FCPF12Q	3.5P	26.441	85	35	23	17	20	4	1	△
PF 1 -11	II	FCPF16U	3.5P	33.249	95	45	26	21	24	4	1	△
PF 1 1/4-11	II	FCPF20U	3.5P	41.910	105	45	32	26	30	4	1	△
PF 1 1/2-11	II	FCPF24U	3.5P	47.803	110	45	38	29	32	6	1	△
PF 2 -11	II	FCPF32U	3.5P	59.614	120	50	46	35	38	6	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓ_k

CT-PF

Carbide Taps for Parallel Pipe Threads Specification



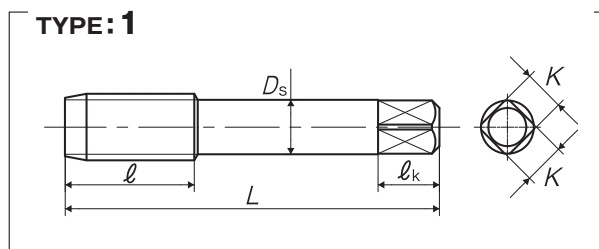
■CT-PF is suitable for hard and abrasive materials such as cast irons.



Recommended Tapping Speeds depending on Materials

Cast irons 5~10 (m/min)	Ductile cast irons 5~10 (m/min)	Brass castings 5~10 (m/min)
--------------------------------------	--	--

For icon explanation, refer to P.50



Segment : 1L

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For Pipe Threads												
PF 1/8-28	II	TCPF02K	3.5P	9.728	55	19	8	6	9	4	1	△
PF 1/4-19	II	TCPF04-	3.5P	13.157	62	28	11	9	12	4	1	△
PF 3/8-19	II	TCPF06-	3.5P	16.662	65	28	14	11	14	4	1	△
PF 1/2-14	II	TCPF08Q	3.5P	20.955	80	35	18	14	17	4	1	△
PF 3/4-14	II	TCPF12Q	3.5P	26.441	85	35	23	17	20	4	1	△
PF 1 -11	II	TCPF16U	3.5P	33.249	95	45	26	21	24	4	1	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

NPT

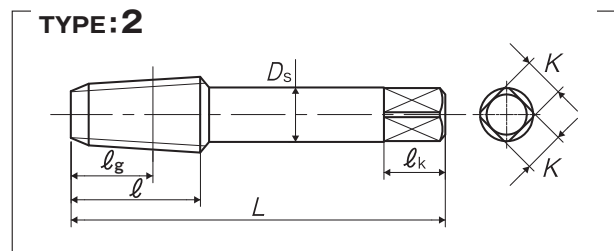
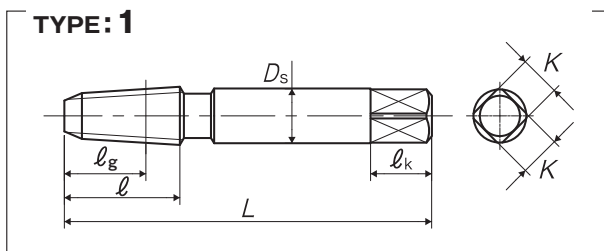
Hand Taps for American Taper Pipe Threads Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPT 1/16-27	ANSI G	TNPT01L	3P	7.770	54	17	12	8	6	9	4	1	◎
NPT 1/8-27	ANSI G	TNPT02L	3P	10.117	55	19	12.05	8	6	9	4	2	◎
NPT 1/4-18	ANSI G	TNPT040	3P	13.426	62	28	17.45	11	9	12	4	2	◎
NPT 3/8-18	ANSI G	TNPT060	3P	16.866	65	28	17.65	14	11	14	4	2	◎
NPT 1/2-14	ANSI G	TNPT08Q	3P	20.980	80	35	22.85	18	14	17	4	2	◎
NPT 3/4-14	ANSI G	TNPT12Q	3P	26.325	85	35	22.95	23	17	20	4	2	◎
NPT 1 -11.5	ANSI G	TNPT16T	3P	32.934	95	45	27.4	26	21	24	5	2	◎
NPT 1 1/4-11.5	ANSI G	TNPT20T	3P	41.689	105	45	28.1	32	26	30	5	2	△
NPT 1 1/2-11.5	ANSI G	TNPT24T	3P	47.760	110	45	28.4	38	29	32	6	2	△
NPT 2 -11.5	ANSI G	TNPT32T	3P	59.797	120	50	28	46	35	38	6	2	△
NPT 2 1/2-8	ANSI G	TNPT40X	3P	72.273	145	65	40.8	55	41	44	8	2	△
NPT 3 -8	ANSI G	TNPT48X	3P	88.184	155	65	42.95	65	50	52	8	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
Pipe-42

S-NPT



Hand Taps for American Taper Pipe Threads, Short (ℓ) Type

Specification

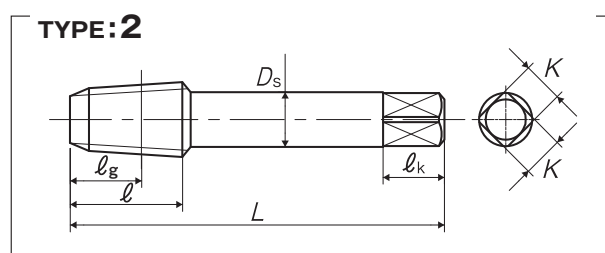
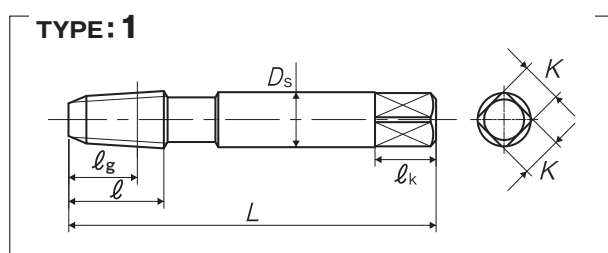


NPT 3/4~

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	D_s (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPT 1/16-27	ANSI G	TSNPT01L	3P	7.770	54	14	10.1	8	6	9	4	1	△
NPT 1/8-27	ANSI G	TSNPT02L	3P	10.117	55	16.5	10.5	8	6	9	4	2	△
NPT 1/4-18	ANSI G	TSNPT040	3P	13.426	62	19.5	12.5	11	9	12	4	2	△
NPT 3/8-18	ANSI G	TSNPT060	3P	16.866	65	21	14	14	11	14	4	2	△
NPT 1/2-14	ANSI G	TSNPT08Q	3P	20.980	80	27	17	18	14	17	4	2	△
NPT 3/4-14	ANSI G	TSNPT12Q	3P	26.325	85	29	19	23	17	20	4	2	△
NPT 1 -11.5	ANSI G	TSNPT16T	3P	32.934	95	35	22	26	21	24	5	2	△
NPT 1 1/4-11.5	ANSI G	TSNPT20T	3P	41.689	105	37.5	24.5	32	26	30	5	2	△
NPT 1 1/2-11.5	ANSI G	TSNPT24T	3P	47.760	110	38.5	25.5	38	29	32	6	2	△
NPT 2 -11.5	ANSI G	TSNPT32T	3P	59.797	120	42.5	27.5	46	35	38	6	2	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

LS-NPT



Long Shank Hand Taps for American Taper Pipe Threads

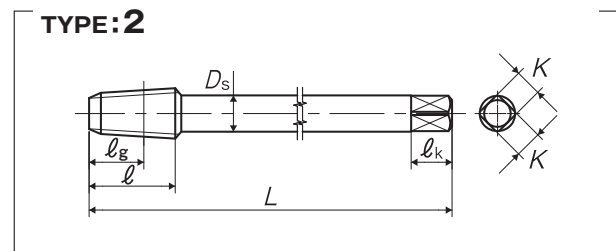
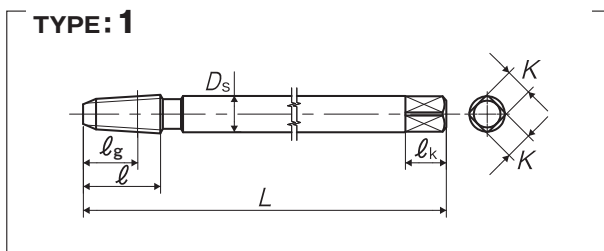
Specification



Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPT 1/16-27	ANSI G	TNPT01LL10	3P	7.770	100	17	12	8	6	9	4	1	△
NPT 1/8-27	ANSI G	TNPT02LL10	3P	10.117	100	19	12.05	8	6	9	4	2	△
		TNPT02LL15			150								
NPT 1/4-18	ANSI G	TNPT04OL10	3P	13.426	100	28	17.45	11	9	12	4	2	△
		TNPT04OL15			150								
NPT 3/8-18	ANSI G	TNPT06OL10	3P	16.866	100	28	17.65	14	11	14	4	2	△
		TNPT06OL15			150								
NPT 1/2-14	ANSI G	TNPT08QL15	3P	20.980	150	35	22.85	18	14	17	4	2	△
NPT 3/4-14	ANSI G	TNPT12QL15	3P	26.325	150	35	22.95	23	17	20	4	2	△
NPT 1 -11.5	ANSI G	TNPT16TL15	3P	32.934	150	45	27.4	26	21	24	5	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

SP-NPT

Spiral Fluted Taps for American Taper Pipe Threads

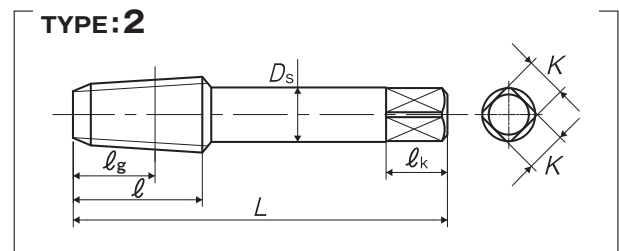
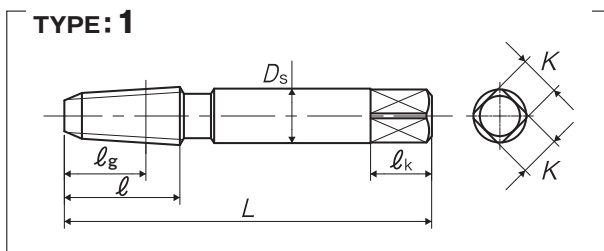
Specification



Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l _g (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPT 1/16-27	ANSI G	SNPT01L	2.5P	7.770	54	17	12	8	6	9	3	1	△
NPT 1/8-27	ANSI G	SNPT02L	2.5P	10.117	55	19	12.05	8	6	9	3	2	△
NPT 1/4-18	ANSI G	SNPT040	2.5P	13.426	62	28	17.45	11	9	12	3	2	△
NPT 3/8-18	ANSI G	SNPT060	2.5P	16.866	65	28	17.65	14	11	14	3	2	△
NPT 1/2-14	ANSI G	SNPT08Q	2.5P	20.980	80	35	22.85	18	14	17	4	2	△
NPT 3/4-14	ANSI G	SNPT12Q	2.5P	26.325	85	35	22.95	23	17	20	4	2	△
NPT 1 -11.5	ANSI G	SNPT16T	2.5P	32.934	95	45	27.4	26	21	24	4	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓg	Ds	K	ℓk

LS-SP-S-NPT



Long Shank Spiral Fluted Taps for American Taper Pipe Threads, Short (ℓg) Type Specification

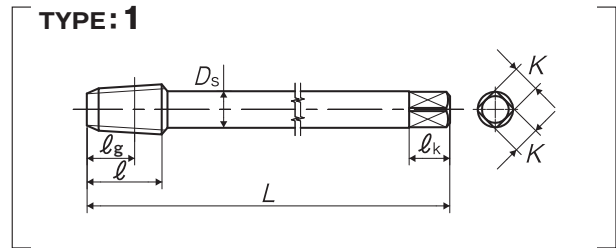


NPT 3/4~

Recommended Tapping Speeds depending on Materials

Low carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓg (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPT 1/8-27	ANSI G	SSNPT02LL10	2.5P	10.117	100	16.5	10.5	8	6	9	3	1	△
NPT 1/4-18	ANSI G	SSNPT04OL15	2.5P	13.426	150	19.5	12.5	11	9	12	3	1	△
NPT 3/8-18	ANSI G	SSNPT06OL15	2.5P	16.866	150	21	14	14	11	14	3	1	△
NPT 1/2-14	ANSI G	SSNPT08QL15	2.5P	20.980	150	27	17	18	14	17	4	1	△
NPT 3/4-14	ANSI G	SSNPT12QL15	2.5P	26.325	150	29	19	23	17	20	4	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

INT-NPT



Interrupted Taps for American Taper Pipe Threads

Specification

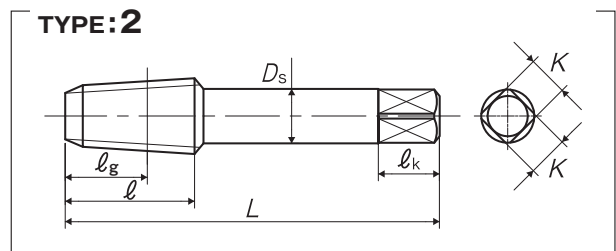
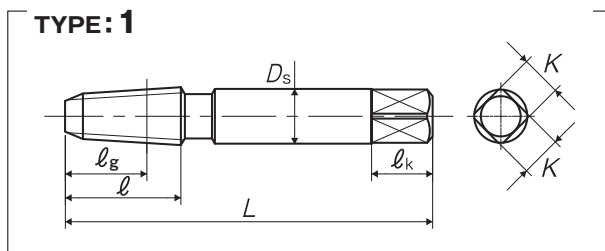


■ INT-NPT having low left-hand spiral flutes and having every other thread ground off, reduces cutting torque. INT-NPT is suitable for such sticky materials as stainless steels and chrome molybdenum steels.

Recommended Tapping Speeds depending on Materials

Stainless steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	lg (mm)	Ds (mm)	K (mm)	lk (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPT 1/16-27	ANSI G	TINPT01L	3P	7.770	54	17	12	8	6	9	3	1	△
NPT 1/8-27	ANSI G	TINPT02L	3P	10.117	55	19	12.05	8	6	9	5	2	△
NPT 1/4-18	ANSI G	TINPT040	3P	13.426	62	28	17.45	11	9	12	5	2	△
NPT 3/8-18	ANSI G	TINPT060	3P	16.866	65	28	17.65	14	11	14	5	2	△
NPT 1/2-14	ANSI G	TINPT08Q	3P	20.980	80	35	22.85	18	14	17	5	2	△
NPT 3/4-14	ANSI G	TINPT12Q	3P	26.325	85	35	22.95	23	17	20	5	2	△
NPT 1 -11.5	ANSI G	TINPT16T	3P	32.934	95	45	27.4	26	21	24	5	2	△
NPT 1 1/4-11.5	ANSI G	TINPT20T	3P	41.689	105	45	28.1	32	26	30	5	2	△
NPT 1 1/2-11.5	ANSI G	TINPT24T	3P	47.760	110	45	28.4	38	29	32	7	2	△
NPT 2 -11.5	ANSI G	TINPT32T	3P	59.797	120	50	28	46	35	38	7	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

INT-S-NPT



Interrupted Taps for American Taper Pipe Threads, Short (ℓ_g) Type

Specification

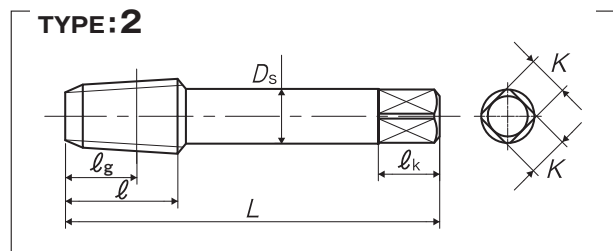
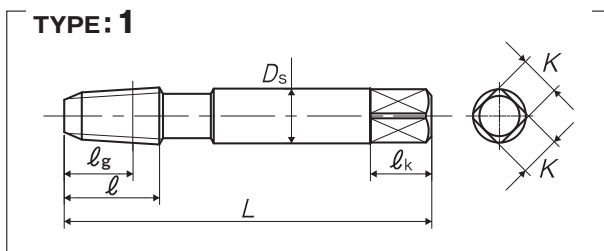


■INT-S-NPT is the tap with short thread portion, and, having low left-hand spiral flutes and having every other thread ground off, reduces cutting torque. INT-S-NPT is suitable for such sticky materials as stainless steels and chrome molybdenum steels.

Recommended Tapping Speeds depending on Materials

Stainless steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPT 1/16-27	ANSI G	TISNT01L	3P	7.770	54	14	10.1	8	6	9	3	1	△
NPT 1/8-27	ANSI G	TISNT02L	3P	10.117	55	16.5	10.5	8	6	9	5	2	△
NPT 1/4-18	ANSI G	TISNT040	3P	13.426	62	19.5	12.5	11	9	12	5	2	△
NPT 3/8-18	ANSI G	TISNT060	3P	16.866	65	21	14	14	11	14	5	2	△
NPT 1/2-14	ANSI G	TISNT08Q	3P	20.980	80	27	17	18	14	17	5	2	△
NPT 3/4-14	ANSI G	TISNT12Q	3P	26.325	85	29	19	23	17	20	5	2	△
NPT 1 -11.5	ANSI G	TISNT16T	3P	32.934	95	35	22	26	21	24	5	2	△
NPT 1 1/4-11.5	ANSI G	TISNT20T	3P	41.689	105	37.5	24.5	32	26	30	5	2	△
NPT 1 1/2-11.5	ANSI G	TISNT24T	3P	47.760	110	38.5	25.5	38	29	32	7	2	△
NPT 2 -11.5	ANSI G	TISNT32T	3P	59.797	120	42.5	27.5	46	35	38	7	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

NPTF

Hand Taps for American Dryseal Taper Pipe Threads
Specification

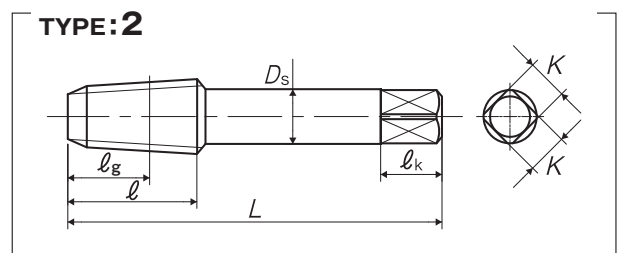
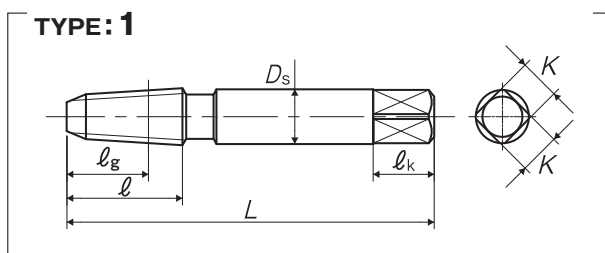


NPTF 3/4~

Recommended Tapping Speeds depending on Materials

Medium carbon steels
~5
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	l _g (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPTF 1/16-27	ANSI G	TNTF01L	3P	7.770	54	17	12	8	6	9	4	1	○
NPTF 1/8-27	ANSI G	TNTF02L	3P	10.117	55	19	12.05	8	6	9	4	2	○
NPTF 1/4-18	ANSI G	TNTF040	3P	13.426	62	28	17.45	11	9	12	4	2	○
NPTF 3/8-18	ANSI G	TNTF060	3P	16.866	65	28	17.65	14	11	14	4	2	○
NPTF 1/2-14	ANSI G	TNTF08Q	3P	20.980	80	35	22.85	18	14	17	4	2	○
NPTF 3/4-14	ANSI G	TNTF12Q	3P	26.325	85	35	22.95	23	17	20	4	2	○
NPTF 1 -11.5	ANSI G	TNTF16T	3P	32.934	95	45	27.4	26	21	24	5	2	○
NPTF 1 1/4-11.5	ANSI G	TNTF20T	3P	41.689	105	45	28.1	32	26	30	5	2	△
NPTF 1 1/2-11.5	ANSI G	TNTF24T	3P	47.760	110	45	28.4	38	29	32	6	2	△
NPTF 2 -11.5	ANSI G	TNTF32T	3P	59.797	120	50	28	46	35	38	6	2	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Overall length	Thread length	Position on basic dia.	Shank dia.	Size of square	Length of square
L	ℓ	ℓ_g	Ds	K	ℓ_k

LS-NPTF



Long Shank Hand Taps for American Dryseal Taper Pipe Threads

Specification

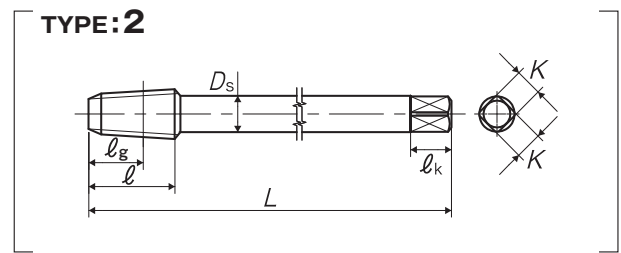
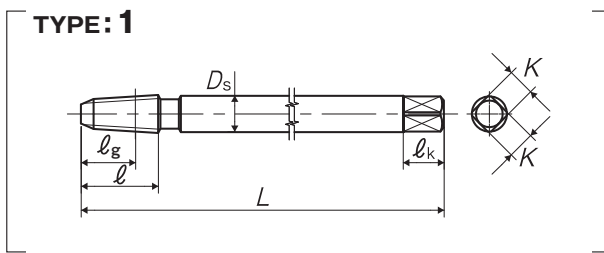


NPTF 3/4~

Recommended Tapping Speeds depending on Materials



For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	ℓ_g (mm)	Ds (mm)	K (mm)	ℓ_k (mm)	No. of flutes	Type	Stock
For American Pipe Threads													
NPTF 1/16-27	ANSI G	TNTF01LL10	3P	7.770	100	17	12	8	6	9	4	1	△
NPTF 1/8-27	ANSI G	TNTF02LL10	3P	10.117	100	19	12.05	8	6	9	4	2	△
		TNTF02LL15			150								
NPTF 1/4-18	ANSI G	TNTF04OL10	3P	13.426	100	28	17.45	11	9	12	4	2	△
		TNTF04OL15			150								
NPTF 3/8-18	ANSI G	TNTF06OL10	3P	16.866	100	28	17.65	14	11	14	4	2	△
		TNTF06OL15			150								
NPTF 1/2-14	ANSI G	TNTF08QL15	3P	20.980	150	35	22.85	18	14	17	4	2	△
NPTF 3/4-14	ANSI G	TNTF12QL15	3P	26.325	150	35	22.95	23	17	20	4	2	△
NPTF 1-11.5	ANSI G	TNTF16TL15	3P	32.934	150	45	27.4	26	21	24	5	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

NPS

Hand Taps for American Parallel Pipe Threads

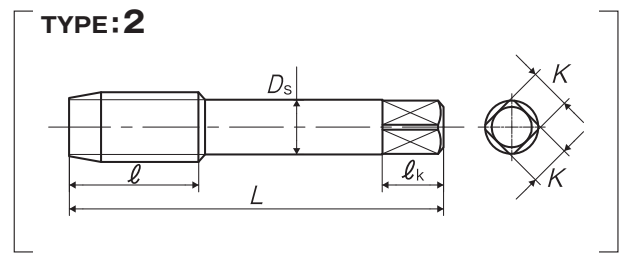
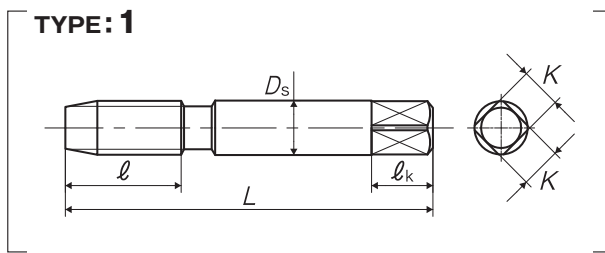
Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	l (mm)	D _s (mm)	K (mm)	l _k (mm)	No. of flutes	Type	Stock
For American Pipe Threads												
NPS 1/16-27	ANSI G	TNPS01L	5P	7.770	54	17	8	6	9	4	1	△
NPS 1/8-27	ANSI G	TNPS02L	5P	10.117	55	19	8	6	9	4	2	△
NPS 1/4-18	ANSI G	TNPS040	5P	13.426	62	28	11	9	12	4	2	△
NPS 3/8-18	ANSI G	TNPS060	5P	16.866	65	28	14	11	14	4	2	△
NPS 1/2-14	ANSI G	TNPS08Q	5P	20.980	80	35	18	14	17	4	2	△
NPS 3/4-14	ANSI G	TNPS12Q	5P	26.325	85	35	23	17	20	4	2	△
NPS 1 -11.5	ANSI G	TNPS16T	5P	32.934	95	45	26	21	24	5	2	△
NPS 1 1/4-11.5	ANSI G	TNPS20T	5P	41.689	105	45	32	26	30	5	2	△
NPS 1 1/2-11.5	ANSI G	TNPS24T	5P	47.760	110	45	38	29	32	6	2	△
NPS 2 -11.5	ANSI G	TNPS32T	5P	59.797	120	50	46	35	38	6	2	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple Inspection Tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

NPSF

Hand Taps for American Dryseal Parallel Pipe Threads

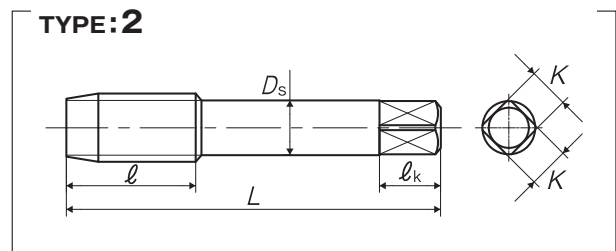
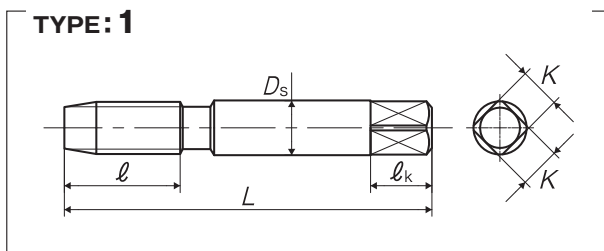
Specification



Recommended Tapping Speeds depending on Materials

Medium carbon steels
5~10
(m/min)

For icon explanation, refer to P.50



Segment : 1G

Size	Class	Code	Chamfer	Basic major dia (mm)	L (mm)	ℓ (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	Type	Stock
For American Pipe Threads												
NPSF 1/16-27	ANSI G	TNSF01L	5P	7.770	54	17	8	6	9	4	1	△
NPSF 1/8-27	ANSI G	TNSF02L	5P	10.117	55	19	8	6	9	4	2	△
NPSF 1/4-18	ANSI G	TNSF040	5P	13.426	62	28	11	9	12	4	2	△
NPSF 3/8-18	ANSI G	TNSF060	5P	16.866	65	28	14	11	14	4	2	△
NPSF 1/2-14	ANSI G	TNSF08Q	5P	20.980	80	35	18	14	17	4	2	△
NPSF 3/4-14	ANSI G	TNSF12Q	5P	26.325	85	35	23	17	20	4	2	△
NPSF 1 -11.5	ANSI G	TNSF16T	5P	32.934	95	45	26	21	24	5	2	△
NPSF 1 1/4-11.5	ANSI G	TNSF20T	5P	41.689	105	45	32	26	30	5	2	△
NPSF 1 1/2-11.5	ANSI G	TNSF24T	5P	47.760	110	45	38	29	32	6	2	△
NPSF 2 -11.5	ANSI G	TNSF32T	5P	59.797	120	50	46	35	38	6	2	△



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS LINE UP

THREAD MILLS



MC-CSLC

JIS/MC-1

MC-HLC

JIS/MC-4

MC-CSLC

Carbide Thread Mills for Metric Internal Threads

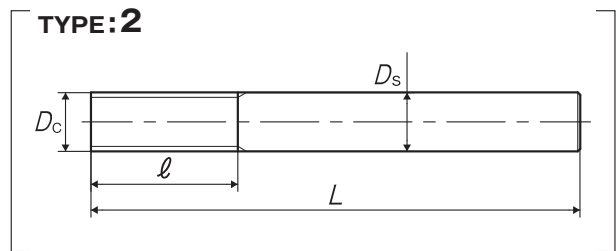
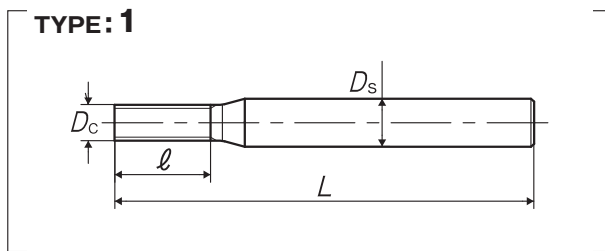
Specification



For icon explanation, refer to P.50



■MC-CSLC is the tool cutting threads by using helical interpolating process. One MC-CSLC can produce internal threads of different diameter, both right hand threads and left hand threads, as far as the thread pitch is same.



Segment : 1L

Tool No.	Code	Outside diameter Dc (mm)	Pitch (mm)	L (mm)	ℓ (mm)	Ds (mm)	No. of flutes	Min.size	Type	Stock
For Metric Threads										
035083N080M	CSLCN3.5K	3.5	0.8	50	8	6	3	5	1	△
035083N075M	CSLCN3.5J	3.5	0.75	50	8	6	3	5	1	△
040123N100M	CSLCN4.0M	4	1	60	12	6	3	6	1	△
060163N125M	CSLCN6.0N	6	1.25	70	16	8	3	8	1	○
060163N100M	CSLCN6.0M	6	1	70	16	8	3	8	1	○
060163N050M	CSLCN6.0G	6	0.5	70	16	8	3	8	1	○
075203N150M	CSLCN7.5O	7.5	1.5	70	20	8	3	10	2	○
075203N125M	CSLCN7.5N	7.5	1.25	70	20	8	3	10	2	△
080203N100M	CSLCN8.0M	8	1	70	20	8	3	12	2	△
080203N050M	CSLCN8.0G	8	0.5	70	20	8	3	12	2	△
090244N175M	CSLCN9.0P	9	1.75	90	24	10	4	12	2	○
090244N125M	CSLCN9.0N	9	1.25	90	24	10	4	12	2	○
100254N200M	CSLCN010Q	10	2	90	25	10	4	14	2	○
100254N150M	CSLCN010O	10	1.5	90	25	10	4	14	2	○
100254N100M	CSLCN010M	10	1	90	25	10	4	14	2	○
100254N050M	CSLCN010G	10	0.5	90	25	10	4	14	2	○
120304N200M	CSLCN012Q	12	2	100	30	12	4	17	2	○
120304N150M	CSLCN012O	12	1.5	100	30	12	4	17	2	○
120304N100M	CSLCN012M	12	1	100	30	12	4	17	2	○
160404N250M	CSLCN016R	16	2.5	110	40	16	4	23	2	○
160404N200M	CSLCN016Q	16	2	110	40	16	4	23	2	○
160404N150M	CSLCN016O	16	1.5	110	40	16	4	23	2	○
200505N300M	CSLCN020S	20	3	140	50	20	5	28	2	○
200505N200M	CSLCN020Q	20	2	140	50	20	5	28	2	○
200505N150M	CSLCN020O	20	1.5	140	50	20	5	28	2	○

Outside dia.	Overall length	Cut length	Shank dia.
Dc	L	ℓ	Ds

MC-CSLC

Carbide Thread Mills for Taper Pipe Threads

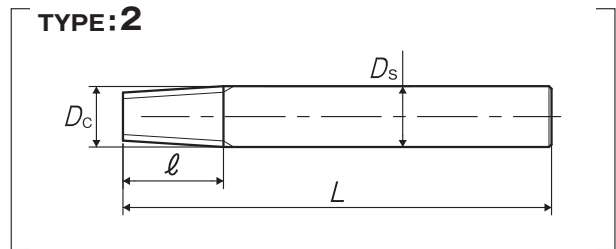
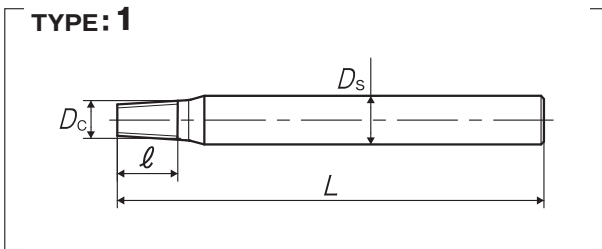
Specification



For icon explanation, refer to P.50



■MC-CSLC is the tool cutting threads by using helical interpolating process. One MC-CSLC can produce external and internal threads of different diameter, and both right hand threads and left hand threads, as far as the thread pitch is same.



Segment : 1L

Tool No.	Code	Outside diameter Dc (mm)	Number of threads	L (mm)	ℓ (mm)	Ds (mm)	No. of flutes	Processable thread size	Type	Stock
For PT Threads										
065103X28R	CSLCX6.5KR	6.5	28	70	10	8	3	1/8	1	○
080153X19R	CSLCX8.0-R	8	19	70	15	8	3	1/4 · 3/8	2	○
120204X14R	CSLCX012QR	12	14	80	20	12	4	1/2 · 3/4	2	○
160264X11R	CSLCX016UR	16	11	90	26	16	4	1 ~	2	○
200305X11R	CSLCX020UR	20	11	110	30	20	5	1 ~	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

MC-CSLC

Carbide Thread Mills for Parallel Pipe Threads

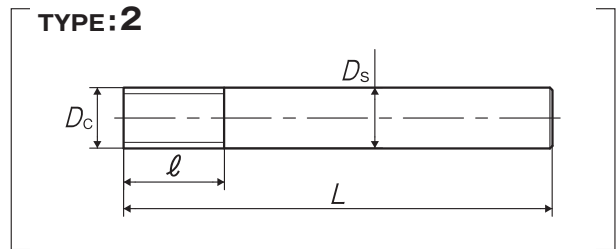
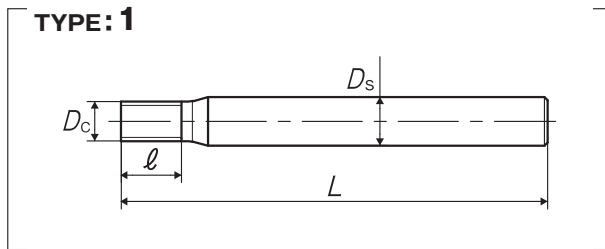
Specification



For icon explanation, refer to P.50



■MC-CSLC is the tool cutting threads by using helical interpolating process. One MC-CSLC can produce external and internal threads of different diameter, and both right hand threads and left hand threads, as far as the thread pitch is same.



Segment : 1L

Tool No.	Code	Outside diameter Dc (mm)	Number of threads	L (mm)	ℓ (mm)	Ds (mm)	No. of flutes	Processable thread size	Type	Stock
For PF Threads										
065103X28G	CSLCX6.5KG	6.5	28	70	10	8	3	1/8	1	○
080153X19G	CSLCX8.0-G	8	19	70	15	8	3	1/4 · 3/8	2	○
120204X14G	CSLCX012QG	12	14	80	20	12	4	1/2 · 3/4	2	○
160264X11G	CSLCX016UG	16	11	90	26	16	4	1 ~	2	○
200305X11G	CSLCX020UG	20	11	110	30	20	5	1 ~	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Outside dia.	Overall length	Cut length	Shank dia.
Dc	L	ℓ	Ds

MC-HLC

Thread Mills for Metric Internal Threads

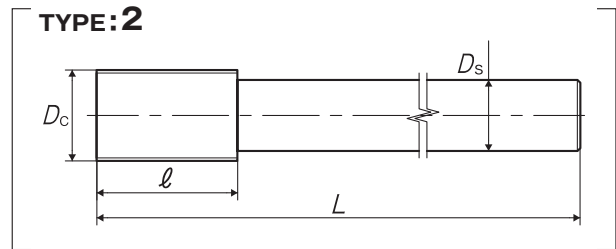
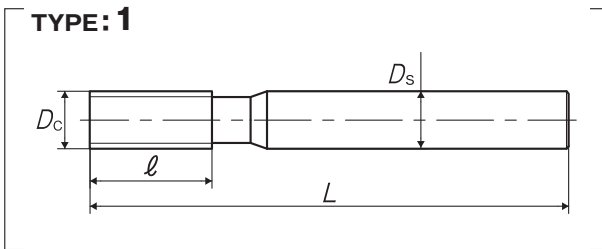
Specification



For icon explanation, refer to P.50



■MC-HLC is the tool cutting threads by using helical interpolating process. One MC-HLC can produce internal threads of different diameter, both right hand threads and left hand threads, as far as the thread pitch is same.



Segment : 57

Tool No.	Code	Outside diameter Dc (mm)	Pitch (mm)	L (mm)	ℓ (mm)	Ds (mm)	No. of flutes	Min.size	Type	Stock
For Metric Threads										
10204N150M	HLCN0100	10	1.5	90	20	10	4	14	1	△
10204N100M	HLCN010M	10	1	90	20	10	4	14	1	△
12254N200M	HLCN012Q	12	2	100	25	12	4	17	1	△
12254N150M	HLCN0120	12	1.5	100	25	12	4	17	1	△
12254N100M	HLCN012M	12	1	100	25	12	4	17	1	△
16304N250M	HLCN016R	16	2.5	110	30	16	4	23	1	△
16304N200M	HLCN016Q	16	2	110	30	16	4	23	1	△
16304N150M	HLCN0160	16	1.5	110	30	16	4	23	1	△
16304N100M	HLCN016M	16	1	110	30	16	4	23	1	△
20505N350M	HLCN020T	20	3.5	140	50	20	5	28	1	△
20505N300M	HLCN020S	20	3	140	50	20	5	28	1	△
20505N200M	HLCN020Q	20	2	140	50	20	5	28	1	△
20505N150M	HLCN0200	20	1.5	140	50	20	5	28	1	△
20505N100M	HLCN020M	20	1	140	50	20	5	28	1	△
25506N350M	HLCN025T	25	3.5	160	50	20	6	36	2	△
25506N300M	HLCN025S	25	3	160	50	20	6	36	2	△
25506N200M	HLCN025Q	25	2	160	50	20	6	36	2	△
25506N150M	HLCN0250	25	1.5	160	50	20	6	36	2	△
25506N100M	HLCN025M	25	1	160	50	20	6	36	2	△
32506N300M	HLCN032S	32	3	200	50	25	6	45	2	△
32506N200M	HLCN032Q	32	2	200	50	25	6	45	2	△
32506N150M	HLCN0320	32	1.5	200	50	25	6	45	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

MC-HLC

Thread Mills for Taper Pipe Threads

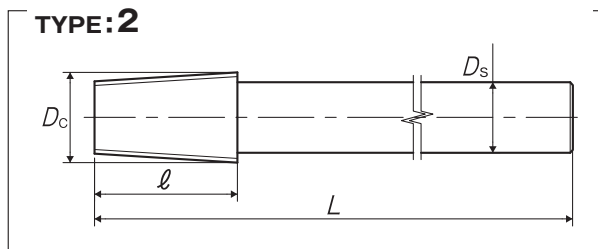
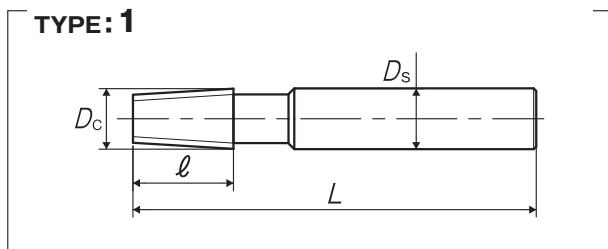
Specification



For icon explanation, refer to P.50



■MC-HLC is the tool cutting threads by using helical interpolating process. One MC-HLC can produce external and internal threads of different diameter, and both right hand threads and left hand threads, as far as the thread pitch is same.



Segment : 57

Tool No.	Code	Outside diameter Dc (mm)	Number of threads	L (mm)	l (mm)	Ds (mm)	No. of flutes	Processable thread size	Type	Stock
For PT Threads										
10154X19R	HLCX010-R	10	19	70	15	10	4	3/8	1	△
12204X14R	HLCX012QR	12	14	80	20	12	4	1/2 · 3/4	1	△
20305X11R	HLCX020UR	20	11	100	30	20	5	1 ~ 2	1	△
32506X11R	HLCX032UR	32	11	200	50	25	6	2 1/2 ~ 6	2	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Outside dia.	Overall length	Cut length	Shank dia.
Dc	L	ℓ	Ds

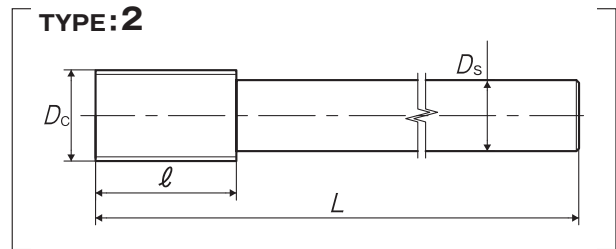
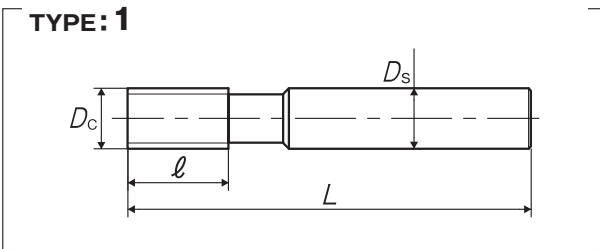
MC-HLC

Thread Mills for Parallel Pipe Threads

Specification



For icon explanation, refer to P.50



Segment : 57

Tool No.	Code	Outside diameter Dc (mm)	Number of threads	L (mm)	ℓ (mm)	Ds (mm)	No. of flutes	Processable thread size	Type	Stock
For PF Threads										
10154X19G	HLCX010-G	10	19	70	15	10	4	3/8	1	△
12204X14G	HLCX012QG	12	14	80	20	12	4	1/2 · 3/4	1	△
20305X11G	HLCX020UG	20	11	100	30	20	5	1 ~ 2	1	△
32506X11G	HLCX032UG	32	11	200	50	25	6	2 1/2 ~ 6	2	△

■MC-HLC is the tool cutting threads by using helical interpolating process. One MC-HLC can produce external and internal threads of different diameter, and both right hand threads and left hand threads, as far as the thread pitch is same.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS LINE UP

Dies



D	JIS/Di-1
D LH	JIS/Di-10
D PF	JIS/Di-13
D PF LH	JIS/Di-14
D NPSM	JIS/Di-15
D PT	JIS/Di-16
D PT LH	JIS/Di-17
D NPT	JIS/Di-18
D NPTF	JIS/Di-19
MS-RS-D/RS-D	JIS/Di-20
N-RSD	JIS/Di-22
RD-DH	JIS/Di-23
RD-DC	JIS/Di-24
RD-DA	JIS/Di-25

D

Solid Round Dies

Specification



For icon explanation, refer to P.50



Product features

New Solid Round Dies-D are born, with improved accuracy of run-out tolerance. The Solid Round Dies-D, realize consistent thread cutting by adopting HSS material.

- ① The side with markings on its bevel, is the front face. This makes it easy to determine the cutting direction.

■ Solid Round Dies-D Front face



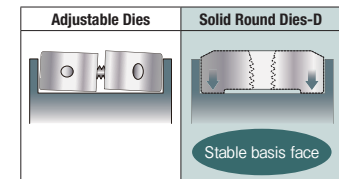
Above is the picture of RD-DA (refer to P.636)

- ② The rear face becomes the base for cutting. The rear face has a recess so that the die can fit tightly in the die holder when installing.
※Solid Round Dies-D cannot be used from Rear face.

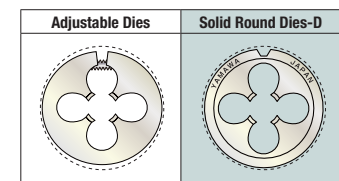
■ Solid Round Dies-D Rear face (basis for cutting)



Special tooling "RD-DA" is available at YAMAWA



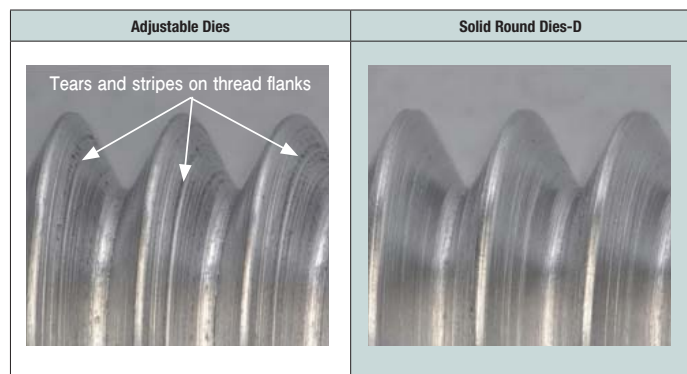
- ③ D is solid type and does not need the adjusting screw. Compared with adjustable type, accuracy of D's outside diameter has been greatly improved.



- ④ D has succeeded in solving difficult problems related to adjustable dies and achieved the high precision cutting of external threads.

Cutting condition

Die size	M6×1 φ20
Work material	Free cutting steel
Cutting speed	2.6m/min
Feed	Free
Machine	Engine lathe
Cutting fluid	Insoluble oil



※External threads cut by Solid Round Dies-D have less tears and stripes on thread flank face.

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

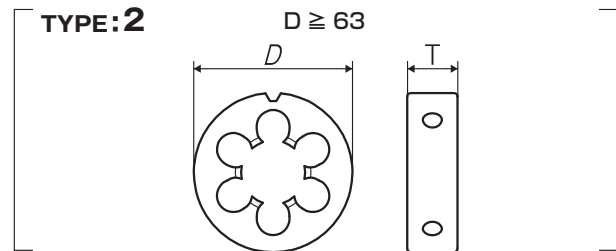
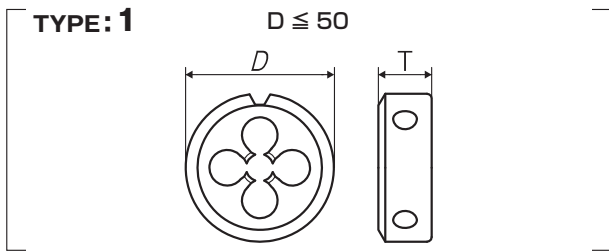
Thread Mills

Dies

Center Drills

Centering Tools

Outside diameter	Thickness
D	T



Segment : 30

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
For Metric Threads								
M1 × 0.25	TYD1.0BDNEBC	II	16	5	3	○	1	○
	TYE1.0BDNEBC		20	7				△
M1 × 0.2	TYE1.0ADNEBC	II	20	7	3	○	1	△
	TYD1.2BDNEBC	II	16	5	3	○	1	○
M1.2 × 0.25	TYE1.2BDNEBC		20	7				△
M1.2 × 0.2	TYE1.2ADNEBC	II	20	7	3	○	1	△
	TYD1.4CDNEBC	II	16	5	3	○	1	○
M1.4 × 0.3	TYE1.4CDNEBC		20	7				△
M1.4 × 0.2	TYE1.4ADNEBC	II	20	7	3	○	1	△
	TYD1.6DDNEBC	II	16	5	3	○	1	○
M1.6 × 0.35	TYE1.6DDNEBC		20	7				△
M1.6 × 0.2	TYE1.6ADNEBC	II	20	7	3	○	1	△
	TYD1.7DDNEBC	II	16	5	3	○	1	○
M1.7 × 0.35	TYE1.7DDNEBC		20	7				△
M1.7 × 0.2	TYE1.7ADNEBC	II	20	7	3	○	1	△
	TYD1.8DDNEBC	II	16	5	3	○	1	△
M1.8 × 0.35	TYE1.8DDNEBC		20	7				△
M1.8 × 0.2	TYE1.8ADNEBC	II	20	7	3	○	1	△
	M2 × 0.4	TYD2.0EDNEBC	II	16	5	3	○	1
TYE2.0EDNEBC		20		7	◎			
TYG2.0EDNEBC		25		9	△			
M2 × 0.25	TYD2.0BDNEBC	II	16	5	3	○	1	△
	TYE2.0BDNEBC		20	7				△
M2.2 × 0.45	TYD2.2FDNEBC	II	16	5	3	○	1	△
	TYE2.2FDNEBC		20	7				△
M2.2 × 0.25	TYD2.2BDNEBC	II	16	5	3	○	1	△
	TYD2.3EDNEBC		II	16				5
M2.3 × 0.4	TYE2.3EDNEBC	20		7	○			
M2.3 × 0.25	TYE2.3BDNEBC	II	20	7	3	○	1	△
	TYE2.5FDNEBC		II	20				7
M2.5 × 0.45	TYG2.5FDNEBC	25		9	△			
M2.5 × 0.35	TYE2.5DDNEBC	II	20	7	3	○	1	△
	TYE2.6FDNEBC		II	20				7
M2.6 × 0.45	TYG2.6FDNEBC	25		9	△			
M2.6 × 0.35	TYE2.6DDNEBC	II	20	7	3	○	1	△
	TYD3.0GDNEBC		II	16				5
M3 × 0.5	TYE3.0GDNEBC	20		7	◎			
	TYG3.0GDNEBC	25		9	○			
3M0.6	TYE3.0HDNEBC	II	20	7	3	○	1	△
	TYG3.0HDNEBC		25	9				○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

D Solid Round Dies

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
M3 × 0.35	TYE3.0DDNEBC	II	20	7	3	○	1	○
	TYG3.0DDNEBC		25	9				△
M3.5 × 0.6	TYE3.5HDNEBC	II	20	7	3	○	1	○
	TYG3.5HDNEBC		25	9				△
M3.5 × 0.5	TYE3.5GDNEBC	II	20	7	3		1	△
M3.5 × 0.35	TYE3.5DDNEBC	II	20	7	3	○	1	○
M4 × 0.7	TYE4.0IDNEBC	II	20	7	3		1	◎
	TYG4.0IDNEBC		25	9				△
	TYJ4.0IDNEBC		38	13				
4M0.75	TYE4.0JDNEBC	II	20	7	3		1	○
	TYG4.0JDNEBC		25	9				△
M4 × 0.5	TYE4.0GDNEBC	II	20	7	3	○	1	○
	TYG4.0GDNEBC		25	9				△
M4 × 0.35	TYE4.0DDNEBC	II	20	7	3	○	1	△
M4.5 × 0.75	TYE4.5JDNEBC	II	20	7	4		1	△
M4.5 × 0.5	TYE4.5GDNEBC	II	20	7	4		1	△
M5 × 0.8	TYE5.0KDNEBC	II	20	7	4		1	◎
	TYG5.0KDNEBC		25	9				△
	TYJ5.0KDNEBC		38	13				
5M0.9	TYE5.0LDNEBC	II	20	7	4		1	△
	TYG5.0LDNEBC		25	9				3
M5 × 0.75	TYE5.0JDNEBC	II	20	7	4		1	△
M5 × 0.5	TYE5.0GDNEBC	II	20	7	4	○	1	○
	TYG5.0GDNEBC		25	9				3
M5.5 × 0.9	TYE5.5LDNEBC	II	20	7	4		1	△
M5.5 × 0.5	TYE5.5GDNEBC	II	20	7	4		1	△
M6 × 1	TYE6.0MDNEBC	II	20	7	4		1	◎
	TYG6.0MDNEBC		25	9				○
	TYJ6.0MDNEBC		38	13				
M6 × 0.75	TYE6.0JDNEBC	II	20	7	4		1	○
	TYG6.0JDNEBC		25	9				△
	TYJ6.0JDNEBC		38	13				
M6 × 0.5	TYE6.0GDNEBC	II	20	7	4	○	1	○
	TYG6.0GDNEBC		25	9				○
M7 × 1	TYG7.0MDNEBC	II	25	9	4		1	○
M7 × 0.75	TYG7.0JDNEBC	II	25	9	4		1	○
M7 × 0.5	TYG7.0GDNEBC	II	25	9	4	○	1	○
M8 × 1.25	TYG8.0NDNEBC	II	25	9	4		1	◎
	TYJ8.0NDNEBC		38	13				○
	TYM8.0NDNEBC		50	16				
M8 × 1	TYG8.0MDNEBC	II	25	9	4		1	○
	TYJ8.0MDNEBC		38	13				
M8 × 0.75	TYG8.0JDNEBC	II	25	9	4		1	○
M8 × 0.5	TYG8.0GDNEBC	II	25	9	4	○	1	○
M9 × 1.25	TYG9.0NDNEBC	II	25	9	5		1	△
M9 × 1	TYG9.0MDNEBC	II	25	9	5		1	○
M9 × 0.75	TYG9.0JDNEBC	II	25	9	5		1	○
M9 × 0.5	TYG9.0GDNEBC	II	25	9	5	○	1	○

Outside diameter	Thickness
D	T

D Solid Round Dies

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
M10 × 1.5	TYG0100DNEBC	II	25	9	5		1	◎
	TYJ0100DNEBC		38	13	4			○
	TYM0100DNEBC		50	16				△
M10 × 1.25	TYG010NDNEBC	II	25	9	5		1	○
	TYJ010NDNEBC		38	13	4			△
	TYM010NDNEBC		50	16				
M10 × 1	TYG010MDNEBC	II	25	9	5		1	○
	TYJ010MDNEBC		38	13	4			
M10 × 0.75	TYG010JDNEBC	II	25	9	5		1	○
	TYJ010JDNEBC		38	13	4	○		
M10 × 0.5	TYG010GDNEBC	II	25	9	5	○	1	○
M11 × 1.5	TYJ0110DNEBC	II	38	13	4		1	△
M11 × 1.25	TYJ011NDNEBC	II	38	13	4		1	△
M11 × 1	TYJ011MDNEBC	II	38	13	4		1	○
M11 × 0.75	TYJ011JDNEBC	II	38	13	4	○	1	○
M11 × 0.5	TYJ011GDNEBC	II	38	13	4	○	1	△
M12 × 1.75	TYJ012PDNEBC	II	38	13	4		1	◎
	TYM012PDNEBC		50	16				○
M12 × 1.5	TYJ0120DNEBC	II	38	13	4		1	○
	TYM0120DNEBC		50	16				△
M12 × 1.25	TYJ012NDNEBC	II	38	13	4		1	○
	TYM012NDNEBC		50	16				△
M12 × 1	TYJ012MDNEBC	II	38	13	4		1	○
	TYM012MDNEBC		50	16				△
M12 × 0.75	TYJ012JDNEBC	II	38	13	4	○	1	○
M12 × 0.5	TYJ012GDNEBC	II	38	13	4	○	1	○
M13 × 1.5	TYJ0130DNEBC	II	38	13	5		1	△
M13 × 1.25	TYJ013NDNEBC	II	38	13	5		1	△
M13 × 1	TYJ013MDNEBC	II	38	13	5		1	△
M13 × 0.75	TYJ013JDNEBC	II	38	13	5	○	1	△
M13 × 0.5	TYJ013GDNEBC	II	38	13	5	○	1	△
M14 × 2	TYJ014QDNEBC	II	38	13	5		1	○
	TYM014QDNEBC		50	16	4			
M14 × 1.5	TYJ0140DNEBC	II	38	13	5		1	○
	TYM0140DNEBC		50	16	4			△
M14 × 1.25	TYJ014NDNEBC	II	38	13	5		1	○
M14 × 1	TYJ014MDNEBC	II	38	13	5		1	○
M14 × 0.75	TYJ014JDNEBC	II	38	13	5	○	1	△
M14 × 0.5	TYJ014GDNEBC	II	38	13	5	○	1	△
M15 × 2	TYJ015QDNEBC	II	38	13	5		1	△
M15 × 1.5	TYJ0150DNEBC	II	38	13	5		1	△
M15 × 1.25	TYJ015NDNEBC	II	38	13	5		1	△
M15 × 1	TYJ015MDNEBC	II	38	13	5		1	○
M15 × 0.75	TYJ015JDNEBC	II	38	13	5	○	1	△
M15 × 0.5	TYJ015GDNEBC	II	38	13	5	○	1	△
M16 × 2	TYJ016QDNEBC	II	38	13	5		1	◎
	TYM016QDNEBC		50	16	4			
M16 × 1.5	TYJ0160DNEBC	II	38	13	5		1	○
	TYM0160DNEBC		50	16	4			

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

D Solid Round Dies

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
M16 × 1.25	TYJ016NDNEBC	II	38	13	5		1	△
M16 × 1	TYJ016MDNEBC	II	38	13	5		1	○
	TYM016MDNEBC		50	16	4			
M16 × 0.75	TYJ016JDNEBC	II	38	13	5	○	1	△
M16 × 0.5	TYJ016GDNEBC	II	38	13	5	○	1	△
M17 × 2	TYM017QDNEBC	II	50	16	5		1	△
M17 × 1.5	TYM017ODNEBC	II	50	16	5		1	△
M17 × 1	TYM017MDNEBC	II	50	16	5		1	○
M17 × 0.5	TYM017GDNEBC	II	50	16	5	○	1	△
M18 × 2.5	TYM018RDNEBC	II	50	16	5		1	○
M18 × 2	TYM018QDNEBC	II	50	16	5		1	△
M18 × 1.5	TYM018ODNEBC	II	50	16	5		1	○
M18 × 1	TYM018MDNEBC	II	50	16	5		1	○
M18 × 0.5	TYM018GDNEBC	II	50	16	5	○	1	△
M19 × 1.5	TYM019ODNEBC	II	50	16	5		1	△
M19 × 1	TYM019MDNEBC	II	50	16	5		1	△
M20 × 2.5	TYM020RDNEBC	II	50	16	5		1	◎
M20 × 2	TYM020QDNEBC	II	50	16	5		1	○
M20 × 1.5	TYM020ODNEBC	II	50	16	5		1	○
M20 × 1.25	TYM020NDNEBC	II	50	16	5		1	△
M20 × 1	TYM020MDNEBC	II	50	16	5		1	○
M20 × 0.5	TYM020GDNEBC	II	50	16	5	○	1	△
M21 × 1.5	TYM021ODNEBC	II	50	16	5		1	△
M21 × 1	TYM021MDNEBC	II	50	16	5		1	△
M22 × 2.5	TYM022RDNEBC	II	50	16	6		1	○
M22 × 2	TYM022QDNEBC	II	50	16	6		1	△
M22 × 1.5	TYM022ODNEBC	II	50	16	6		1	○
M22 × 1.25	TYM022NDNEBC	II	50	16	6		1	△
M22 × 1	TYM022MDNEBC	II	50	16	6		1	○
M22 × 0.5	TYM022GDNEBC	II	50	16	6	○	1	△
M23 × 1.5	TYM023ODNEBC	II	50	16	6		1	△
M23 × 1	TYM023MDNEBC	II	50	16	6		1	△
M24 × 3	TYM024SDNEBC	II	50	16	6		1	○
M24 × 2	TYM024QDNEBC	II	50	16	6		1	○
M24 × 1.5	TYM024ODNEBC	II	50	16	6		1	○
M24 × 1.25	TYM024NDNEBC	II	50	16	6		1	△
M24 × 1	TYM024MDNEBC	II	50	16	6		1	○
M25 × 3	TYM025SDNEBC	II	50	16	6		1	△
M25 × 2	TYM025QDNEBC	II	50	16	6		1	△
M25 × 1.5	TYM025ODNEBC	II	50	16	6		1	○
M25 × 1.25	TYM025NDNEBC	II	50	16	6		1	△
M25 × 1	TYM025MDNEBC	II	50	16	6		1	△
M26 × 2	TYR026QDNEBC	II	63	20	6		2	△
M26 × 1.5	TYR026ODNEBC	II	63	20	6		2	○
M26 × 1	TYR026MDNEBC	II	63	20	6		2	△
M27 × 3	TYR027SDNEBC	II	63	20	6		2	○
M27 × 2	TYR027QDNEBC	II	63	20	6		2	△
M27 × 1.5	TYR027ODNEBC	II	63	20	6		2	○
M27 × 1	TYR027MDNEBC	II	63	20	6		2	△

Outside diameter	Thickness
D	T

D Solid Round Dies

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
M28 × 2	TYR028QDNEBC	II	63	20	6		2	△
M28 × 1.5	TYR028ODNEBC	II	63	20	6		2	△
M28 × 1	TYR028MDNEBC	II	63	20	6		2	△
M30 × 3.5	TYR030TDNEBC	II	63	20	6		2	○
M30 × 3	TYR030SDNEBC	II	63	20	6		2	△
M30 × 2	TYR030QDNEBC	II	63	20	6		2	△
M30 × 1.5	TYR030ODNEBC	II	63	20	6		2	○
M30 × 1	TYR030MDNEBC	II	63	20	6		2	△
M32 × 3	TYR032SDNEBC	II	63	20	6		2	△
M32 × 2	TYR032QDNEBC	II	63	20	6		2	△
M32 × 1.5	TYR032ODNEBC	II	63	20	6		2	△
M32 × 1	TYR032MDNEBC	II	63	20	6		2	△
M33 × 3.5	TYR033TDNEBC	II	63	20	6		2	△
M33 × 3	TYR033SDNEBC	II	63	20	6		2	△
M33 × 2	TYR033QDNEBC	II	63	20	6		2	△
M33 × 1.5	TYR033ODNEBC	II	63	20	6		2	△
M33 × 1	TYR033MDNEBC	II	63	20	6		2	△
M34 × 3	TYU034SDNEBC	II	75	25	6		2	△
M34 × 2	TYU034QDNEBC	II	75	25	6		2	△
M34 × 1.5	TYU034ODNEBC	II	75	25	6		2	△
M34 × 1	TYU034MDNEBC	II	75	25	6		2	△
M35 × 3	TYU035SDNEBC	II	75	25	6		2	△
M35 × 2	TYU035QDNEBC	II	75	25	6		2	△
M35 × 1.5	TYU035ODNEBC	II	75	25	6		2	△
M35 × 1	TYU035MDNEBC	II	75	25	6		2	△
M36 × 4	TYU036UDNEBC	II	75	25	6		2	△
M36 × 3	TYU036SDNEBC	II	75	25	6		2	△
M36 × 2	TYU036QDNEBC	II	75	25	6		2	△
M36 × 1.5	TYU036ODNEBC	II	75	25	6		2	△
M36 × 1	TYU036MDNEBC	II	75	25	6		2	△
M38 × 3	TYU038SDNEBC	II	75	25	6		2	△
M38 × 2	TYU038QDNEBC	II	75	25	6		2	△
M38 × 1.5	TYU038ODNEBC	II	75	25	6		2	△
M38 × 1	TYU038MDNEBC	II	75	25	6		2	△
M39 × 4	TYU039UDNEBC	II	75	25	6		2	△
M39 × 3	TYU039SDNEBC	II	75	25	6		2	△
M39 × 2	TYU039QDNEBC	II	75	25	6		2	△
M39 × 1.5	TYU039ODNEBC	II	75	25	6		2	△
M39 × 1	TYU039MDNEBC	II	75	25	6		2	△
M40 × 3	TYU040SDNEBC	II	75	25	8		2	△
M40 × 2	TYU040QDNEBC	II	75	25	8		2	△
M40 × 1.5	TYU040ODNEBC	II	75	25	8		2	△
M40 × 1	TYU040MDNEBC	II	75	25	8		2	△
M42 × 4.5	TYU042VDNEBC	II	75	25	8		2	△
M42 × 3	TYU042SDNEBC	II	75	25	8		2	△
M42 × 2	TYU042QDNEBC	II	75	25	8		2	△
M42 × 1.5	TYU042ODNEBC	II	75	25	8		2	△
M42 × 1	TYU042MDNEBC	II	75	25	8		2	△
M44 × 1.5	TYU044ODNEBC	II	75	25	8		2	△

Spiral Fluted Taps
(for blind hole)Spiral Fluted Taps
(for through hole)Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

D Solid Round Dies

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
M45 × 4.5	TYU045VDNEBC	II	75	25	8		2	△
M45 × 3	TYU045SDNEBC	II	75	25	8		2	△
M45 × 2	TYU045QDNEBC	II	75	25	8		2	△
M45 × 1.5	TYU045ODNEBC	II	75	25	8		2	△
M48 × 5	TYU048WDNEBC	II	75	25	8		2	△
M48 × 3	TYU048SDNEBC	II	75	25	8		2	△
M48 × 2	TYU048QDNEBC	II	75	25	8		2	△
M48 × 1.5	TYU048ODNEBC	II	75	25	8		2	△
M50 × 3	TYU050SDNEBC	II	75	25	8		2	△
M50 × 2	TYU050QDNEBC	II	75	25	8		2	△
M50 × 1.5	TYU050ODNEBC	II	75	25	8		2	△
For Unified Threads								
Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
NO.0-80UNF	TYDUN0BDNEBC	II	16	5	3	○	1	△
	TYEUN0BDNEBC		20	7				
NO.1-64UNC	TYEUN1DDNEBC	II	20	7	3	○	1	△
NO.1-72UNF	TYEUN1CDNEBC	II	20	7	3	○	1	△
NO.2-56UNC	TYDUN2EDNEBC	II	16	5	3	○	1	△
	TYEUN2EDNEBC		20	7				
NO.2-64UNF	TYEUN2DDNEBC	II	20	7	3	○	1	△
NO.3-48UNC	TYEUN3FDNEBC	II	20	7	3	○	1	△
NO.3-56UNF	TYEUN3EDNEBC	II	20	7	3	○	1	△
NO.4-40UNC	TYEUN4HDNEBC	II	20	7	3	○	1	○
NO.4-48UNF	TYEUN4FDNEBC	II	20	7	3	○	1	△
NO.5-40UNC	TYEUN5HDNEBC	II	20	7	3		1	△
NO.5-44UNF	TYEUN5GDNEBC	II	20	7	3		1	△
NO.6-32UNC	TYEUN6JDNEBC	II	20	7	3		1	○
NO.6-40UNF	TYEUN6HDNEBC	II	20	7	3		1	△
NO.8-32UNC	TYEUN8JDNEBC	II	20	7	3		1	○
NO.8-36UNF	TYEUN8IDNEBC	II	20	7	3		1	△
NO.10-24UNC	TYEUNAMDNEBC	II	20	7	4		1	△
NO.10-32UNF	TYEUNAJDNEBC	II	20	7	4		1	○
NO.12-24UNC	TYEUNCMDNEBC	II	20	7	4		1	△
NO.12-28UNF	TYEUNCKDNEBC	II	20	7	4		1	△
1/4-20UNC	TYEU04NDNEBC	II	20	7	4		1	○
	TYGU04NDNEBC		25	9				△
1/4-28UNF	TYEU04KDNEBC	II	20	7	4		1	○
	TYGU04KDNEBC		25	9				○
1/4-32UNEF	TYGU04JDNEBC	II	25	9	4		1	△
5/16-18UNC	TYGU05ODNEBC	II	25	9	4		1	△
	TYJU05ODNEBC		38	13				△
5/16-24UNF	TYGU05MDNEBC	II	25	9	4		1	○
	TYJU05MDNEBC		38	13				△
5/16-32UNEF	TYGU05JDNEBC	II	25	9	4		1	△
3/8-16UNC	TYGU06PDNEBC	II	25	9	5		1	○
	TYJU06PDNEBC		38	13				△
3/8-24UNF	TYGU06MDNEBC	II	25	9	5		1	○
	TYJU06MDNEBC		38	13				△
3/8-32UNEF	TYGU06JDNEBC	II	25	9	5		1	△

Outside diameter	Thickness
D	T

D Solid Round Dies

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
7/16-14UNC	TYJU07QDNEBC	II	38	13	4		1	△
7/16-20UNF	TYJU07NDNEBC	II	38	13	4		1	○
7/16-24UN	TYJU07MDNEBC	II	38	13	4		1	△
7/16-28UNEF	TYJU07KDNEBC	II	38	13	4		1	△
1/2-13UNC	TYJU08RDNEBC	II	38	13	4		1	○
	TYMU08RDNEBC		50	16		△		
1/2-20UNF	TYJU08NDNEBC	II	38	13	4		1	○
	TYMU08NDNEBC		50	16		△		
1/2-28UNEF	TYJU08KDNEBC	II	38	13	4		1	△
9/16-12UNC	TYJU09SDNEBC	II	38	13	5		1	△
9/16-18UNF	TYJU09DNEBC	II	38	13	5		1	○
9/16-20UN	TYJU09NDNEBC	II	38	13	5		1	△
9/16-24UNEF	TYJU09MDNEBC	II	38	13	5		1	△
5/8-11UNC	TYJU10UDNEBC	II	38	13	5		1	△
	TYMU10UDNEBC		50	16	4			
5/8-18UNF	TYJU100DNEBC	II	38	13	5		1	△
	TYMU100DNEBC		50	16	4			
5/8-24UNEF	TYJU10MDNEBC	II	38	13	5		1	△
3/4-10UNC	TYMU12VDNEBC	II	50	16	5		1	△
3/4-16UNF	TYMU12PDNEBC	II	50	16	5		1	○
3/4-20UNEF	TYMU12NDNEBC	II	50	16	5		1	△
7/8-9UNC	TYMU14WDNEBC	II	50	16	6		1	△
7/8-14UNF	TYMU14QDNEBC	II	50	16	6		1	○
1 -8UNC	TYMU16XDNEBC	II	50	16	6		1	△
1 -12UNF	TYMU16SDNEBC	II	50	16	6		1	△
1 -14UNS	TYMU16QDNEBC	II	50	16	6		1	△
1 -20UNEF	TYMU16NDNEBC	II	50	16	6		1	△
1 1/8-7UNC	TYRU18YDNEBC	II	63	20	6		2	△
1 1/8-8UN	TYRU18XDNEBC	II	63	20	6		2	△
1 1/8-12UNF	TYRU18SDNEBC	II	63	20	6		2	△
1 1/4-7UNC	TYRU20YDNEBC	II	63	20	6		2	△
1 1/4-8UN	TYRU20XDNEBC	II	63	20	6		2	△
1 1/4-12UNF	TYRU20SDNEBC	II	63	20	6		2	△
1 3/8-6UNC	TYUU22ZDNEBC	II	75	25	6		2	△
1 3/8-12UNF	TYUU22SDNEBC	II	75	25	6		2	△
1 1/2-6UNC	TYUU24ZDNEBC	II	75	25	6		2	△
1 1/2-8UN	TYUU24XDNEBC	II	75	25	6		2	△
1 1/2-12UNF	TYUU24SDNEBC	II	75	25	6		2	△
1 5/8-12UN	TYUU26SDNEBC	II	75	25	8		2	△
1 3/4-5UNC	TYUU287DNEBC	II	75	25	8		2	△
1 3/4-12UN	TYUU28SDNEBC	II	75	25	8		2	△
2 -12UN	TYUU32SDNEBC	II	75	25	8	○	2	△
For Whitworth Threads								
Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
1/16W60	TYEW019DNEBC	II	20	7	3	○	1	△
3/32W48	TYEW1HFDNEBC	II	20	7	3	○	1	△
1/8W40	TYEW02HDNEBC	II	20	7	3		1	○
5/32W32	TYEW2HJDNEBC	II	20	7	3		1	○

Spiral Fluted Taps (for blind hole)
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Hand Taps
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Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

D Solid Round Dies

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
3/16W24	TYEW03MDNEBC	II	20	7	4		1	○
	TYGW03MDNEBC		25	9	3		1	△
7/32W24	TYEW3HMDNEBC	II	20	7	4		1	△
1/4W20	TYEW04NDNEBC	II	20	7	4	○	1	○
	TYGW04NDNEBC		25	9				△
	TYJW04NDNEBC		38	13				
5/16W18	TYGW050DNEBC	II	25	9	4		1	○
	TYJW050DNEBC		38	13				△
3/8W16	TYGW06PDNEBC	II	25	9	5		1	○
	TYJW06PDNEBC		38	13	4			△
	TYMW06PDNEBC		50	16				
7/16W14	TYJW07QDNEBC	II	38	13	4		1	△
	TYMW07QDNEBC		50	16				
1/2W12	TYJW08SDNEBC	II	38	13	4		1	○
	TYMW08SDNEBC		50	16				△
9/16W12	TYJW09SDNEBC	II	38	13	5		1	△
5/8W11	TYJW10UDNEBC	II	38	13	5		1	○
	TYMW10UDNEBC		50	16	4			
3/4W10	TYMW12VDNEBC	II	50	16	5		1	○
7/8W9	TYMW14WDNEBC	II	50	16	6		1	○
1 W8	TYMW16XDNEBC	II	50	16	6		1	○
1 1/8W7	TYRW18YDNEBC	II	63	20	6		2	△
1 1/4W7	TYRW20YDNEBC	II	63	20	6		2	△
1 3/8W6	TYUW22ZDNEBC	II	75	25	6		2	△
1 1/2W6	TYUW24ZDNEBC	II	75	25	6		2	△
For Screw Threads used on Sewing Machines								
Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
3/32SM56	TYES06EDNEBC	II	20	7	3	○	1	△
1/8SM40	TYES08HDNEBC	II	20	7	3		1	△
1/8SM44	TYES08GDNEBC	II	20	7	3		1	△
9/64SM40	TYES09HDNEBC	II	20	7	3		1	△
11/64SM40	TYES11HDNEBC	II	20	7	4		1	△
3/16SM28	TYES12KDNEBC	II	20	7	4		1	△
3/16SM32	TYES12JDNEBC	II	20	7	4		1	△
7/32SM32	TYES14JDNEBC	II	20	7	4		1	△
15/64SM28	TYES15KDNEBC	II	20	7	4		1	△
1/4SM24	TYES16MDNEBC	II	20	7	4		1	△
1/4SM40	TYES16HDNEBC	II	20	7	4		1	△

Spiral Fluted Taps (for blind hole)
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 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Outside diameter	Thickness
D	T

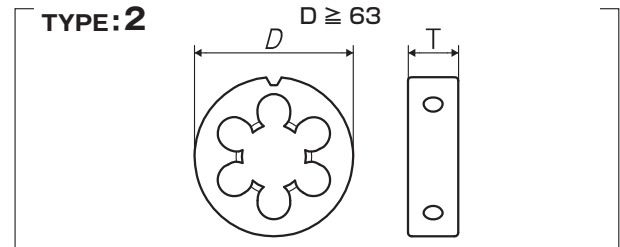
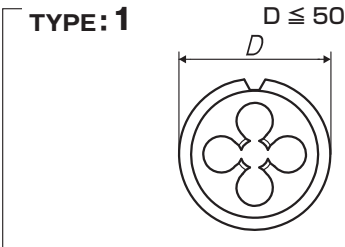
D LH

Solid Round Dies for Left Hand Threads

Specification



For icon explanation, refer to P.50



Segment : 30

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
For Metric Threads								
M1 × 0.25	GYE1.0BDNEBC	II	20	7	3	○	1	△
M1.4 × 0.3	GYE1.4CDNEBC	II	20	7	3	○	1	△
M1.6 × 0.35	GYE1.6DDNEBC	II	20	7	3	○	1	△
M1.7 × 0.35	GYE1.7DDNEBC	II	20	7	3	○	1	△
M2 × 0.4	GYE2.0EDNEBC	II	20	7	3	○	1	△
M2.3 × 0.4	GYE2.3EDNEBC	II	20	7	3	○	1	△
M2.5 × 0.45	GYE2.5FDNEBC	II	20	7	3	○	1	△
M2.6 × 0.45	GYE2.6FDNEBC	II	20	7	3	○	1	△
M3 × 0.5	GYE3.0GDNEBC	II	20	7	3	○	1	○
	GYG3.0GDNEBC		25	9				△
M3 × 0.35	GYE3.0DDNEBC	II	20	7	3	○	1	△
M3.5 × 0.6	GYE3.5HDNEBC	II	20	7	3		1	△
M3.5 × 0.35	GYE3.5DDNEBC	II	20	7	3		1	△
	GYG4.0IDNEBC		25	9				○
M4 × 0.7	GYE4.0GDNEBC	II	20	7	3		1	△
M4 × 0.5	GYE4.0GDNEBC	II	20	7	3		1	△
	GYG5.0KDNEBC		25	9				○
M5 × 0.8	GYE5.0KDNEBC	II	20	7	4		1	○
	GYG5.0KDNEBC		25	9				3
M5 × 0.5	GYE5.0GDNEBC	II	20	7	4		1	△
	GYE6.0MDNEBC		20	7				○
	GYG6.0MDNEBC		25	9				4
M6 × 1	GYJ6.0MDNEBC		38	13		○		△
M6 × 0.75	GYE6.0JDNEBC	II	20	7	4		1	△
M6 × 0.5	GYE6.0GDNEBC	II	20	7	4		1	△
M7 × 1	GYG7.0MDNEBC	II	25	9	4		1	△
M7 × 0.75	GYG7.0JDNEBC	II	25	9	4		1	△
M7 × 0.5	GYG7.0GDNEBC	II	25	9	4	○	1	△
	GYG8.0NDNEBC		25	9				4
M8 × 1.25	GYG8.0NDNEBC	II	25	9	4		1	○
	GYJ8.0NDNEBC		38	13				△
M8 × 1	GYG8.0MDNEBC	II	25	9	4		1	△
	GYJ8.0MDNEBC		38	13				△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

D LH Solid Round Dies for Left Hand Threads

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
M8 × 0.75	GYG8.0JDNEBC	II	25	9	4		1	△
M8 × 0.5	GYG8.0GDNEBC	II	25	9	4	○	1	△
M9 × 1.25	GYG9.0NDNEBC	II	25	9	5		1	△
M9 × 1	GYG9.0MDNEBC	II	25	9	5		1	△
M9 × 0.75	GYG9.0JDNEBC	II	25	9	5		1	△
M9 × 0.5	GYG9.0GDNEBC	II	25	9	5	○	1	△
M10 × 1.5	GYG0100DNEBC	II	25	9	5		1	○
	GYJ0100DNEBC		38	13	4			
M10 × 1.25	GYG010NDNEBC	II	25	9	5		1	△
	GYJ010NDNEBC		38	13	4			
M10 × 1	GYG010MDNEBC	II	25	9	5		1	△
	GYJ010MDNEBC		38	13	4			
M10 × 0.75	GYG010JDNEBC	II	25	9	5		1	△
M10 × 0.5	GYG010GDNEBC	II	25	9	5	○	1	△
M11 × 1.5	GYJ0110DNEBC	II	38	13	4		1	△
M11 × 1.25	GYJ011NDNEBC	II	38	13	4		1	△
M11 × 1	GYJ011MDNEBC	II	38	13	4		1	△
M11 × 0.5	GYJ011GDNEBC	II	38	13	4	○	1	△
M12 × 1.75	GYJ012PDNEBC	II	38	13	4		1	○
M12 × 1.5	GYJ0120DNEBC	II	38	13	4		1	△
M12 × 1.25	GYJ012NDNEBC	II	38	13	4		1	△
M12 × 1	GYJ012MDNEBC	II	38	13	4		1	△
M12 × 0.75	GYJ012JDNEBC	II	38	13	4	○	1	△
M12 × 0.5	GYJ012GDNEBC	II	38	13	4	○	1	△
M14 × 2	GYJ014QDNEBC	II	38	13	5		1	△
M14 × 1.5	GYJ0140DNEBC	II	38	13	5		1	△
M14 × 1.25	GYJ014NDNEBC	II	38	13	5		1	△
M14 × 1	GYJ014MDNEBC	II	38	13	5		1	△
M15 × 1.5	GYJ0150DNEBC	II	38	13	5		1	△
M15 × 1	GYJ015MDNEBC	II	38	13	5		1	△
M16 × 2	GYJ016QDNEBC	II	38	13	5		1	○
	GYM016QDNEBC		50	16	4			
M16 × 1.5	GYJ0160DNEBC	II	38	13	5		1	△
	GYM0160DNEBC		50	16	4			
M16 × 1	GYJ016MDNEBC	II	38	13	5		1	△
	GYM016MDNEBC		50	16	4			
M17 × 1	GYM017MDNEBC	II	50	16	5		1	△
M18 × 2.5	GYM018RDNEBC	II	50	16	5		1	△
M18 × 2	GYM018QDNEBC	II	50	16	5		1	△
M18 × 1.5	GYM0180DNEBC	II	50	16	5		1	△
M18 × 1	GYM018MDNEBC	II	50	16	5		1	△
M20 × 2.5	GYM020RDNEBC	II	50	16	5		1	○
M20 × 2	GYM020QDNEBC	II	50	16	5		1	△
M20 × 1.5	GYM0200DNEBC	II	50	16	5		1	△
M20 × 1	GYM020MDNEBC	II	50	16	5		1	△
M22 × 2.5	GYM022RDNEBC	II	50	16	6		1	△
M22 × 2	GYM022QDNEBC	II	50	16	6		1	△
M22 × 1.5	GYM0220DNEBC	II	50	16	6		1	△

Outside diameter	Thickness
D	T

D LH Solid Round Dies for Left Hand Threads

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
M22 × 1	GYM022MDNEBC	II	50	16	6		1	△
M24 × 3	GYM024SDNEBC	II	50	16	6		1	△
M24 × 2	GYM024QDNEBC	II	50	16	6		1	△
M24 × 1.5	GYM024ODNEBC	II	50	16	6		1	△
M24 × 1	GYM024MDNEBC	II	50	16	6		1	△
M25 × 1.5	GYM025ODNEBC	II	50	16	6		1	△
M26 × 1.5	GYR026ODNEBC	II	63	20	6		2	△
M27 × 3	GYR027SDNEBC	II	63	20	6		2	△
M27 × 1.5	GYR027ODNEBC	II	63	20	6		2	△
M28 × 1.5	GYR028ODNEBC	II	63	20	6		2	△
M30 × 3.5	GYR030TDNEBC	II	63	20	6		2	△
M30 × 3	GYR030SDNEBC	II	63	20	6		2	△
M30 × 2	GYR030QDNEBC	II	63	20	6		2	△
M30 × 1.5	GYR030ODNEBC	II	63	20	6		2	△
M36 × 4	GYU036UDNEBC	II	75	25	6		2	△
M48 × 5	GYU048WDNEBC	II	75	25	8		2	△
For Unified Threads								
Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
1/4-20UNC	GYGU04NDNEBC	II	25	9	4		1	△
1/4-28UNF	GYGU04KDNEBC	II	25	9	4		1	△
5/16-18UNC	GYGU05ODNEBC	II	25	9	4		1	△
5/16-24UNF	GYGU05MDNEBC	II	25	9	4		1	△
3/8-16UNC	GYGU06PDNEBC	II	25	9	5		1	△
3/8-24UNF	GYGU06MDNEBC	II	25	9	5		1	△
	GYJU06MDNEBC		38	13	4			
7/16-20UNF	GYJU07NDNEBC	II	38	13	4		1	△
1/2-13UNC	GYJU08RDNEBC	II	38	13	4		1	△
1/2-20UNF	GYJU08NDNEBC	II	38	13	4		1	△
9/16-12UNC	GYJU09SDNEBC	II	38	13	5		1	△
9/16-18UNF	GYJU09ODNEBC	II	38	13	5		1	△
5/8-11UNC	GYMU10UDNEBC	II	50	16	4		1	△
5/8-18UNF	GYMU10ODNEBC	II	50	16	4		1	△
3/4-10UNC	GYMU12VDNEBC	II	50	16	5		1	△
3/4-16UNF	GYMU12PDNEBC	II	50	16	5		1	△
7/8-9UNC	GYMU14WDNEBC	II	50	16	6		1	△
7/8-14UNF	GYMU14QDNEBC	II	50	16	6		1	△
For Whitworth Threads								
Size	Code	Class	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
3/16W24	GYEW03MDNEBC	II	20	7	4		1	△
5/16W18	GYGW05ODNEBC	II	25	9	4		1	△
3/8W16	GYGW06PDNEBC	II	25	9	5		1	△
	GYJW06PDNEBC		38	13	4			
7/16W14	GYJW07QDNEBC	II	38	13	4		1	△
1/2W12	GYJW08SDNEBC	II	38	13	4		1	△
5/8W11	GYJW10UDNEBC	II	38	13	5		1	△
3/4W10	GYMW12VDNEBC	II	50	16	5		1	△
7/8W9	GYMW14WDNEBC	II	50	16	6		1	△
1 W8	GYMW16XDNEBC	II	50	16	6		1	△

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps Simple Inspection Tools
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

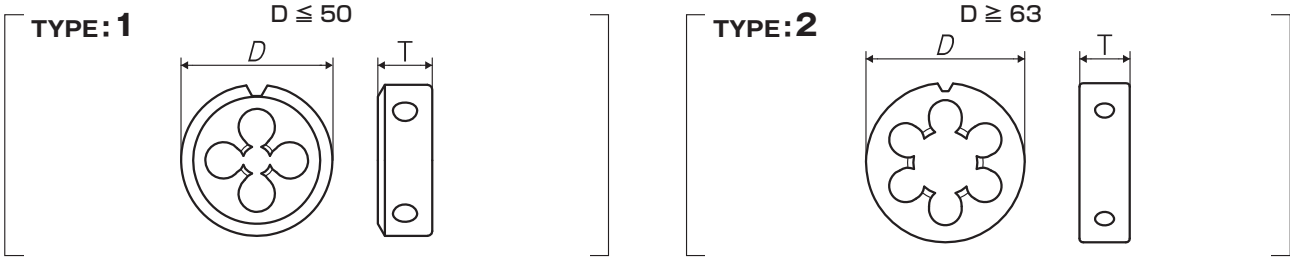
D PF

Solid Round Dies for Parallel Pipe Threads

Specification



For icon explanation, refer to P.50



Segment : 3G

Size	Code	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
For PF Threads							
PF1/16-28	TYGPF010NEBC	25	9	4		1	△
PF1/8-28	TYGPF020NEBC	25	9	5		1	△
	TYJPF020NEBC	38	13	4			○
PF1/4-19	TYJPF040NEBC	38	13	5		1	○
PF3/8-19	TYJPF060NEBC	38	13	6		1	△
	TYMPF060NEBC	50	16	5			○
PF1/2-14	TYMPF080NEBC	50	16	5		1	○
PF5/8-14	TYMPF100NEBC	50	16	6		1	△
	TYMPF120NEBC	50	16	6			1
PF3/4-14	TYRPF120NEBC	63	20				2
	PF1 -11	TYUPF160NEBC	75	25	6		2
PF1 1/4-11	TYUPF200NEBC	75	25	8		2	△
PF1 1/2-11	TYUPF240NEBC	75	25	8		2	△
PF2 -11	TYYPF320NEBC	105	30	8		2	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

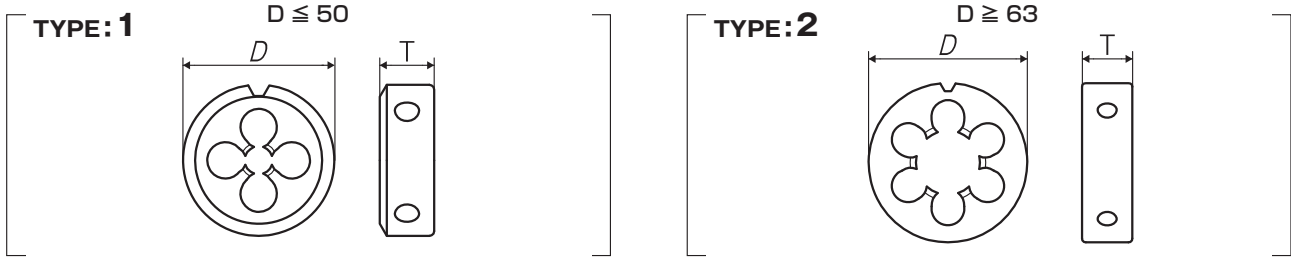
Outside diameter	Thickness
D	T

D PF LH

Solid Round Dies for Parallel Pipe Threads, for Left Hand Threads
Specification



For icon explanation, refer to P.50



Segment : 3G

Size	Code	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
For PF Threads							
PF1/8-28	GYJPF020NEBC	38	13	4		1	△
PF1/4-19	GYJPF040NEBC	38	13	5		1	△
PF3/8-19	GYMPF060NEBC	50	16	5		1	△
PF1/2-14	GYMPF080NEBC	50	16	5		1	△
PF3/4-14	GYRPF120NEBC	63	20	6		2	△
PF1 -11	GYUPF160NEBC	75	25	6		2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Outside diameter	Thickness
D	T

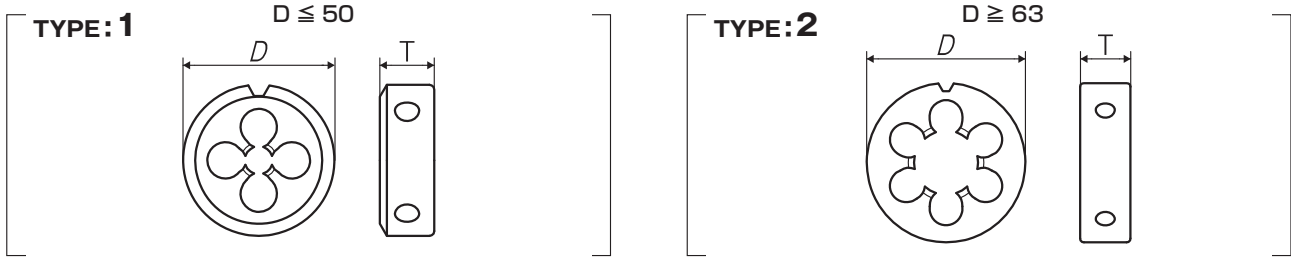
D NPSM

Solid Round Dies for American Parallel Pipe Threads

Specification



For icon explanation, refer to P.50



Segment : 3G

Size	Code	D (mm)	T (mm)	Clearance holes	Recess	Type	Stock
For NPSM Threads							
NPSM1/16-27	TYJSM010NEBC	38	13	4		1	△
NPSM1/8-27	TYJSM020NEBC	38	13	4		1	△
NPSM1/4-18	TYJSM040NEBC	38	13	5		1	△
NPSM3/8-18	TYMSM060NEBC	50	16	5		1	△
NPSM1/2-14	TYMSM080NEBC	50	16	5		1	△
NPSM3/4-14	TYRSM120NEBC	63	20	6		2	△
NPSM1 -11.5	TYUSM160NEBC	75	25	6		2	△
NPSM1 1/4-11.5	TYUSM200NEBC	75	25	8		2	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps Simple Inspection Tools
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Outside diameter	Thickness	Position of basic dia
D	T	lg

D PT

Solid Round Dies for Taper Pipe Threads

Specification



For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

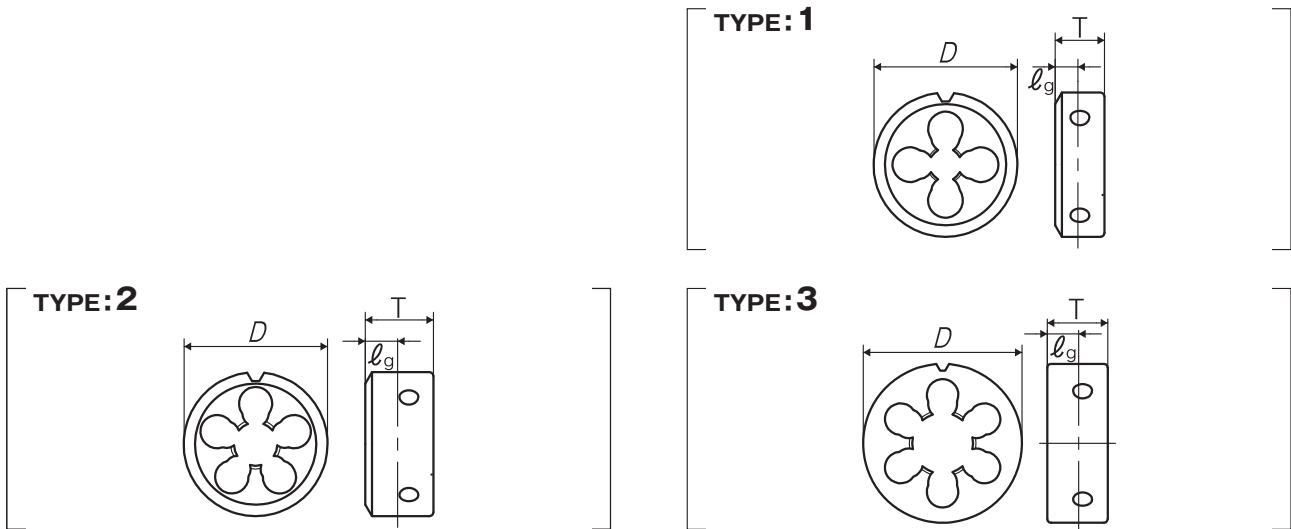
Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



Segment : 3G

Size	Code	D (mm)	T (mm)	lg (mm)	Clearance holes	Recess	Type	Stock
For PT Threads								
PT1/16-28	TYJPT010NEBC	38	13	6	4	○	1	△
PT1/8-28	TYJPT020NEBC	38	13	6	4	○	1	◎
PT1/4-19	TYJPT040NEBC	38	18	8.5	5	○	2	◎
PT3/8-19	TYMPT060NEBC	50	22	10	5	○	2	◎
PT1/2-14	TYMPT080NEBC	50	22	12	6		2	◎
PT5/8-14	TYRPT100NEBC	63	24	12	6	○	3	△
PT3/4-14	TYRPT120NEBC	63	24	12.5	6		3	◎
PT7/8-14	TYUPT140NEBC	75	30	12.5	6	○	3	△
PT1 -11	TYUPT160NEBC	75	30	15	6	○	3	◎
PT1 1/4-11	TYUPT200NEBC	75	30	15	6		3	△
PT1 1/2-11	TYUPT240NEBC	75	30	15	6		3	△
PT2 -11	TYIPT320NEBC	105	36	17.5	8		3	△

D PT LH

Solid Round Dies for Taper Pipe Threads, for Left Hand Threads
Specification



For icon explanation, refer to P.50

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

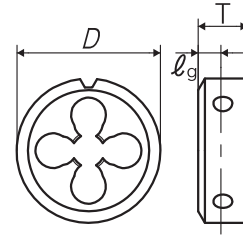
Thread Mills

Dies

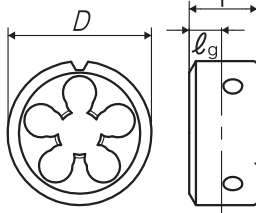
Center Drills

Centering Tools

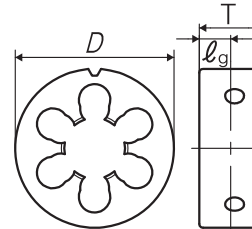
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 3G

Size	Code	D (mm)	T (mm)	lg (mm)	Clearance holes	Recess	Type	Stock
For PT Threads								
PT1/8-28	GYJPT020NEBC	38	13	6	4	○	1	△
PT1/4-19	GYJPT040NEBC	38	18	8.5	5	○	2	△
PT3/8-19	GYMPT060NEBC	50	22	10	5	○	2	△
PT1/2-14	GYMPT080NEBC	50	22	12	6		2	△
PT3/4-14	GYRPT120NEBC	63	24	12.5	6		3	△
PT1 -11	GYUPT160NEBC	75	30	15	6	○	3	△

Outside diameter	Thickness	Position of basic dia
D	T	lg

D NPT

Solid Round Dies for American Taper Pipe Threads

Specification



For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

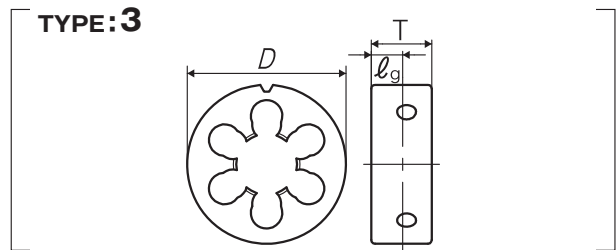
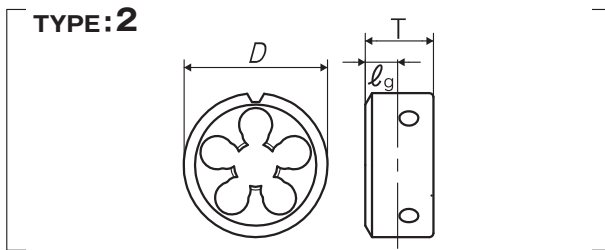
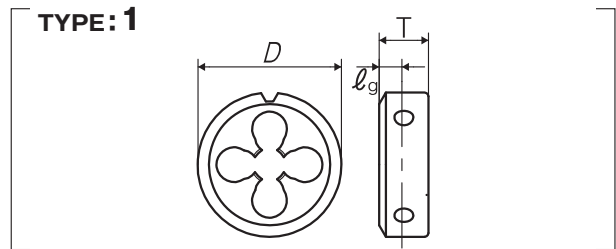
Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



Segment : 3G

Size	Code	D (mm)	T (mm)	lg (mm)	Clearance holes	Recess	Type	Stock
For NPT Threads								
NPT1/16-27	TYJNT010NEBC	38	13	5	4	○	1	△
NPT1/8-27	TYJNT020NEBC	38	13	5	4	○	1	○
NPT1/4-18	TYJNT040NEBC	38	18	8	5	○	2	○
NPT3/8-18	TYMNT060NEBC	50	22	8	5	○	2	△
NPT1/2-14	TYMNT080NEBC	50	22	10	6		2	△
NPT3/4-14	TYRNT120NEBC	63	24	10	6		3	△
NPT1 -11.5	TYUNT160NEBC	75	30	13	6	○	3	△
NPT1 1/4-11.5	TYUNT200NEBC	75	30	13.5	6	○	3	△

Outside diameter	Thickness	Position of basic dia
D	T	lg

D NPTF

Solid Round Dies for American Dryseal Taper Pipe Threads

Specification



For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

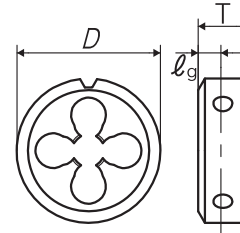
Thread Mills

Dies

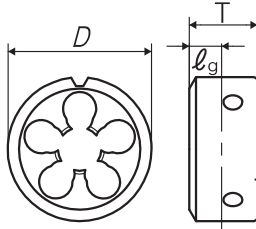
Center Drills

Centering Tools

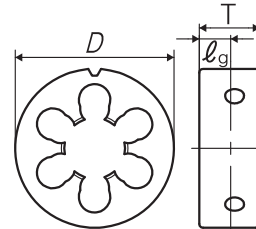
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 3G

Size	Code	D (mm)	T (mm)	lg (mm)	Clearance holes	Recess	Type	Stock
For NPTF Threads								
NPTF1/16-27	TYJNF010NEBC	38	13	6	4	○	1	△
NPTF1/8-27	TYJNF020NEBC	38	13	6	4	○	1	△
NPTF1/4-18	TYJNF040NEBC	38	18	10	5	○	2	△
NPTF3/8-18	TYMNF060NEBC	50	22	10	5	○	2	△
NPTF1/2-14	TYMNF080NEBC	50	22	12	6		2	△
NPTF3/4-14	TYRNF120NEBC	63	24	12	6		3	△
NPTF1 -11.5	TYUNF160NEBC	75	30	15	6	○	3	△
NPTF1 1/4-11.5	TYUNF200NEBC	75	30	15.5	6	○	3	△

Outside diameter	Thickness
D	T

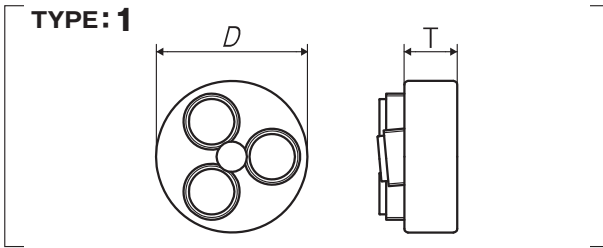
MS-RS-D/RS-D

Rolling Dies
Specification



For icon explanation, refer to P.50

■ Due to the threading through material deformation, the die produces no chips, and produces external threads of high precision with clean surface.



Segment : 34

Size	Code	Class	D (mm)	T (mm)	Type	Stock
For Miniature Screw Threads						
S0.5 × 0.125	RA20.5-	R2	6	2	1	△
S0.6 × 0.15	RA20.6-	R2	6	2	1	△
S0.7 × 0.175	RA20.7-	R3	6	2	1	△
S0.8 × 0.2	R020.8-	R3	8	3	1	△
For Metric Threads						
Size	Code	Class	D (mm)	T (mm)	Type	Stock
M1 × 0.25	RBQ1.0B	R2	10	3.5	1	△
	RBR1.0B	R3				
	RBS1.0B	R4				
M1.1 × 0.25	RBR1.1B	R3	10	3.5	1	△
M1.2 × 0.25	RBQ1.2B	R2	10	3.5	1	△
	RBR1.2B	R3				
	RBS1.2B	R4				
M1.4 × 0.3	RBQ1.4C	R2	10	3.5	1	△
	RDQ1.4C		16	5		
	RBR1.4C	R3	10	3.5		
	RDR1.4C		16	5		
	RBS1.4C		10	3.5		
RDS1.4C	R4	16	5			
M1.6 × 0.35	RDQ1.6D	R2	16	5	1	△
	RDR1.6D	R3				
	RDS1.6D	R4				
M1.7 × 0.35	RDQ1.7D	R2	16	5	1	△
	RDR1.7D	R3				
	RDS1.7D	R4				
M1.8 × 0.35	RDR1.8D	R3	16	5	1	△
M2 × 0.4	RDQ2.0E	R2	16	5	1	△
	RDR2.0E	R3				
	RDS2.0E	R4				
M2 × 0.25	RDR2.0B	R3	16	5	1	△
	RDS2.0B	R4				

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

MS-RS-D/RS-D Rolling Dies

	Size	Code	Class	D (mm)	T (mm)	Type	Stock
Spiral Fluted Taps (for blind hole)	M2.3 × 0.4	RDQ2.3E	R2	16	5	1	△
		RDR2.3E	R3				
		RDS2.3E	R4				
Spiral Fluted Taps (for through hole)	M2.3 × 0.25	RDR2.3B	R3	16	5	1	△
Spiral Fluted Taps (for through hole)	M2.5 × 0.45	RDQ2.5F	R2	16	5	1	△
		REQ2.5F		20	7		
		RDS2.5F	R4	16	5		
		RES2.5F		20	7		
		RDT2.5F	R5	16	5		
		RET2.5F		20	7		
Spiral Pointed Taps (for through hole)	M2.5 × 0.35	RDQ2.5D	R2	16	5	1	△
		RDR2.5D	R3				
		RDS2.5D	R4				
Hand Taps	M2.6 × 0.45	RDQ2.6F	R2	16	5	1	△
		REQ2.6F		20	7		
Cemented Carbide Taps	M2.6 × 0.45	RDS2.6F	R4	16	5	1	△
		RES2.6F		20	7		
		RDT2.6F	R5	16	5		
Cemented Carbide Taps	M2.6 × 0.35	RDS2.6D	R4	16	5	1	△
Roll Taps	M3 × 0.5	REQ3.0G	R2	20	7	1	△
		RES3.0G	R4				
Roll Taps	M3 × 0.35	REQ3.0D	R2	20	7	1	△
		RES3.0D	R4				
		RET3.0D	R5				
Special Thread Taps Simple Inspection Tools	M3.5 × 0.35	RES3.5D	R4	20	7	1	△
		RET3.5D	R5				
Special Thread Taps Simple Inspection Tools	M4 × 0.5	RET4.0G	R5	20	7	1	△
		REU4.0G	R6				
Pipe Taps	M5 × 0.5	RER5.0G	R3	20	7	1	△
		RES5.0G	R4				
		RET5.0G	R5				
		REU5.0G	R6				

Thread Mills

Dies

Center Drills

Centering Tools

N-RSD

New Rolling Dies Specification

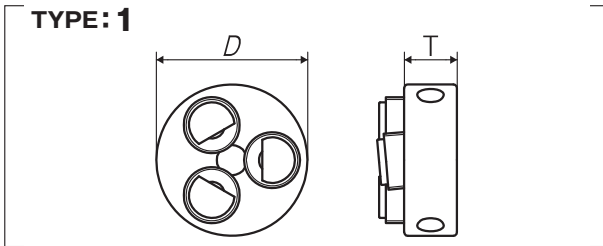
HSS

For icon explanation, refer to P.50

Outside diameter	Thickness
D	T



■ Due to the threading through material deformation, the die produces no chips, and produces external threads of high precision with clean surface. Due to low load at its chamfer, the die ensures the improvement of endurance.



Segment : 34

Size	Code	Class	D (mm)	T (mm)	Type	Stock
For Metric Threads						
M3 × 0.5	NRGS3.0G	R4	25	9	1	△
M4 × 0.7	NRGS4.0I	R4	25	9	1	△
M5 × 0.8	NRGT5.0K	R5	25	9	1	△
M6 × 1	NRHT6.0M	R5	30	11	1	△
M8 × 1.25	NRJU8.0N	R6	38	13	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS
DI-22

633

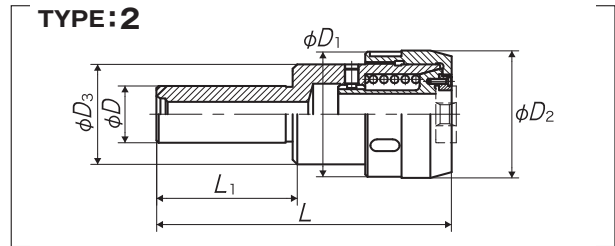
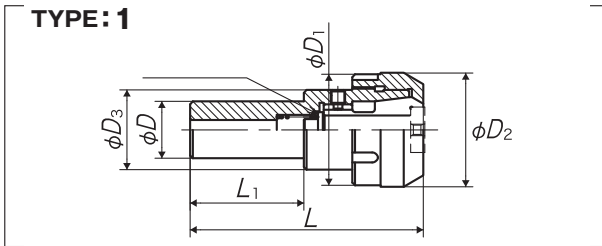
Shank dia.	Nut dia. for Hook spanner	Outside dia. of nut	Dia. of middle shaft	Overall length	Shank length
ϕD	ϕD_1	ϕD_2	ϕD_3	L	L ₁

RD-DH

Die Holders for Solid Dies



■ Die Holder for Solid Dies.



Segment : 3A

Code	Die OD	ϕD (mm)	ϕD_1 (mm)	ϕD_2 (mm)	ϕD_3 (mm)	L (mm)	L ₁ (mm)	Adaptive collet	Weight (kg)	Type	Stock
DH16-20	10	20	39	40	27.7	82	40	DC10-20	0.3	1	○
	16							DC16-20			
DH25-25	20	25	55	56	43.6	130	60	DC20-25	0.8	2	○
	25							DC25-25			
DH50-32	38	32	78	80	48	151	70	DC38-32	1.6	2	○
	50							DC50-32			

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

Thread Mills

Dies

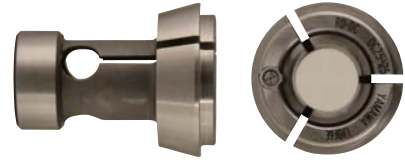
Center Drills

Centering Tools

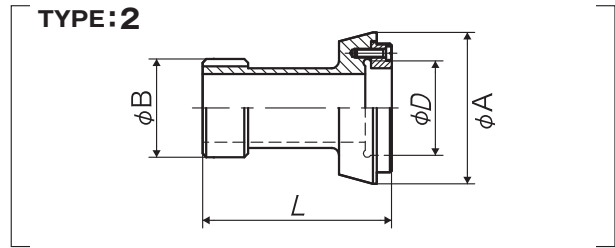
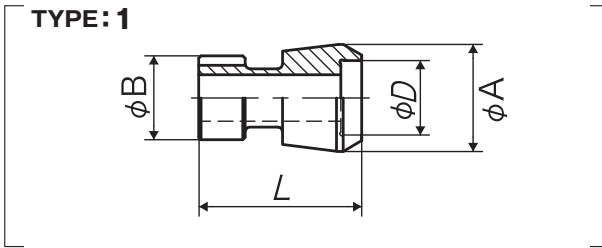
Outside dia. of Die	Outside dia of collet	Guide dia.	Overall length
ϕD	ϕA	ϕB	L

RD-DC

Die Collets for Die Holders



■ Due to attachment type, compatible to various kinds of holders.



Segment : 3A

Code	Die OD	ϕD (mm)	ϕA (mm)	ϕB (mm)	L (mm)	Adaptive holder	Weight (kg)	Type	Stock
DC10-20	10	10	23	18	35	DH16-20	0.05	1	○
DC16-20	16	16							
DC20-25	20	20	40	26	52	DH25-25	0.13	2	○
DC25-25	25	25					0.11		
DC38-32	38	38	62	34	60	DH50-32	0.32	2	○
DC50-32	50	50					0.23		

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

RD-DA

Die attachment (Designed Specially for Solid Round Dies)

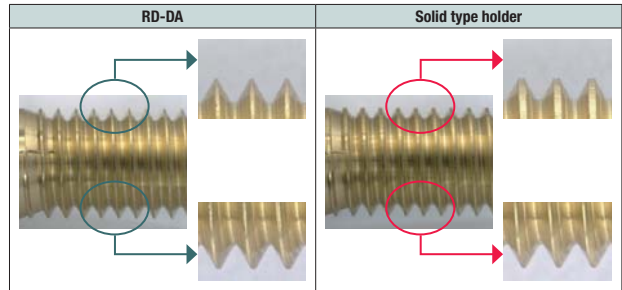
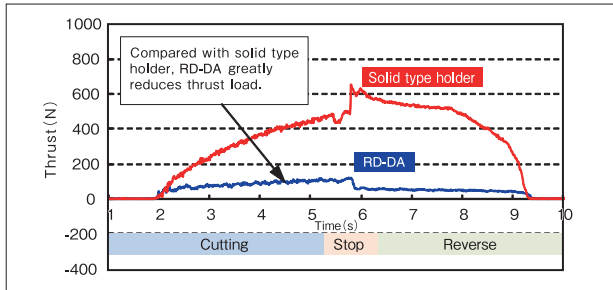
Specification



For icon explanation, refer to P.50



- Tooling designed specially for Solid Dies, with the mechanism to compensate for feed error and to absorb misalignment.
- Combined with CNC toolings, this attachment enables the cutting of external threads on complex workpieces with ease.
- Due to the mechanism to compensate for feed error, the thrust in the axial direction decreases and the tool life becomes longer.
- By automatic centering, RD-DA absorbs misalignment in radial direction and realizes the high precision thread cutting of external threads.



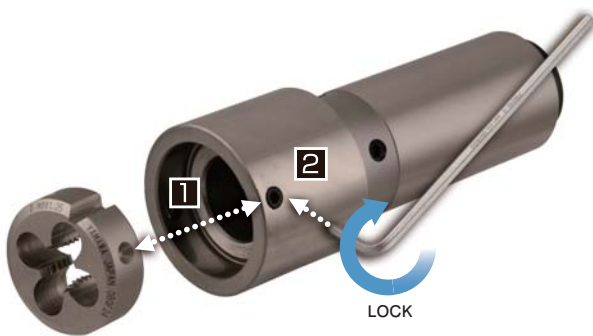
Cutting condition (Rigid feed)

Tool size	M10×1.5	Cutting length	15mm
Work material	Brass	Machine	Vertical MC
Cutting speed	5m/min	Cutting fluid	Tapping spray

Cutting condition (Rigid feed)

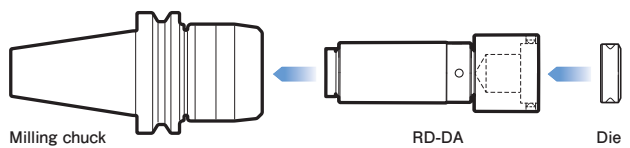
Tool size	M8×1.25	Cutting length	12mm
Work material	Brass	Machine	Vertical MC
Cutting speed	5m/min	Cutting fluid	Water soluble oil

How to attach die



- ① Align push-hole or V groove of the die with the side lock screw on RD-DA and attach die.
- ② Turn the side lock screw by hex wrench and fasten die tightly.
- ③ Make sure the die is fastened tightly and use RD-DA with NC toolings.

Example of use

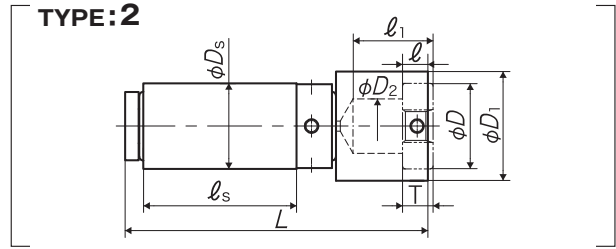
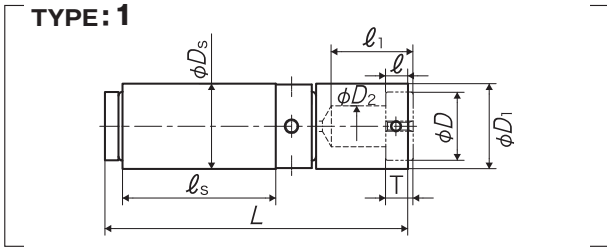


Combined with NC toolings, RD-DA can be used with MC.



Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Shank dia.	Holder dia.	Recess dia.	Overall length	Shank length	Depth of die mounting	Cutting depth	Outside dia of Die	Thickness of Die
Ds	D ₁	D ₂	L	l _s	l	l ₁	D	T



Segment : 3A

Code	Ds (mm)	D ₁ (mm)	D ₂ (mm)	L (mm)	l _s (mm)	l (mm)	l ₁ (mm)	D (mm)	T (mm)	Type
DA10-20	20	20	6	71	40	3	11	10	3	1
DA16-20	20	20	10	76	40	4.5	16	16	5	1
DA20-25	25	25	12	89	45	6.5	22.5	20	7	1
DA25-25	25	32	16	89	45	7.5	22	25	9	2

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JIS LINE UP

Center Drills/Centering Tools



CESA	JIS/CE-1	MHCDS	JIS/CE-27
CE-S	JIS/CE-2	JO-CES	JIS/CE-30
CD-S	JIS/CE-3	JO-CES V	JIS/CE-31
CD-S LH	JIS/CE-4	JO-CDS	JIS/CE-32
CE-S V	JIS/CE-5	JO-CDS V	JIS/CE-33
C-CD-S	JIS/CE-6	JO-C-CDS	JIS/CE-34
CE-SL	JIS/CE-7	JO-PEQ	JIS/CE-35
CD-SL	JIS/CE-8	JO-PEQ V	JIS/CE-36
CE-SL V	JIS/CE-9	JO-C-PEQ V	JIS/CE-37
CD-SL V	JIS/CE-10	JO-NCSD V	JIS/CE-38
C-CD-SL	JIS/CE-11	JO-CSQM	JIS/CE-39
CEQA	JIS/CE-12	JO-HOLDER	JIS/CE-40
CE-Q	JIS/CE-13	PE-Q	JIS/CE-42
CD-Q	JIS/CE-14	PE-Q V	JIS/CE-43
CD-Q LH	JIS/CE-15	C-PE-Q V	JIS/CE-44
CE-Q V	JIS/CE-16	PE-QL V	JIS/CE-45
CD-Q V	JIS/CE-17	PE-S	JIS/CE-46
C-CD-Q	JIS/CE-18	PE-S V	JIS/CE-47
CE-QL	JIS/CE-19	C-PE-S V	JIS/CE-48
CE-QL V	JIS/CE-20	PE-SL V	JIS/CE-49
C-CD-QL	JIS/CE-21	NC-SD V NC-SD	JIS/CE-51
CEIR	JIS/CE-22	CS-Q	JIS/CE-53
CD-R	JIS/CE-23	CS-QM	JIS/CE-54
CESB	JIS/CE-24	CS-G	JIS/CE-55
CESC	JIS/CE-25		

CESA

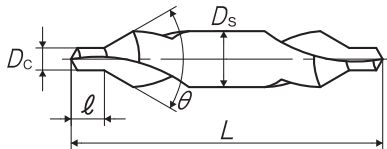
High Helix Center Drills-JIS Type A 60°
Specification

HSS

For icon explanation, refer to P.50



TYPE: 1



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
0.5 × 60° × 3.15	CEA0.5	3.15	31.5	0.8	1	◎
0.63 × 60° × 3.15	CEA0.63	3.15	31.5	1	1	◎
0.8 × 60° × 3.15	CEA0.8	3.15	31.5	1.2	1	◎
1 × 60° × 3.15	CEA1.0	3.15	31.5	1.5	1	◎
1.25 × 60° × 3.15	CEA1.25	3.15	31.5	1.9	1	◎
1.6 × 60° × 4	CEA1.6	4	35.5	2.4	1	◎
2 × 60° × 5	CEA2.0	5	40	3	1	◎
2.5 × 60° × 6.3	CEA2.5	6.3	45	3.8	1	◎
3.15 × 60° × 8	CEA3.15	8	50	4.8	1	◎
4 × 60° × 10	CEA4.0	10	56	6	1	◎
5 × 60° × 12.5	CEA5.0	12.5	63	7.5	1	◎
6.3 × 60° × 16	CEA6.3	16	71	9.2	1	◎
8 × 60° × 20	CEA8.0	20	80	11.5	1	◎
10 × 60° × 25	CEA010	25	100	14.2	1	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

CE-S

High Helix Center Drills-Type A 60° Specification

HSS

For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

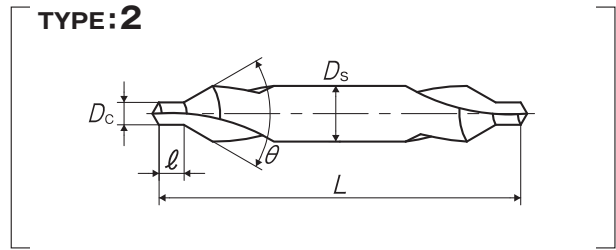
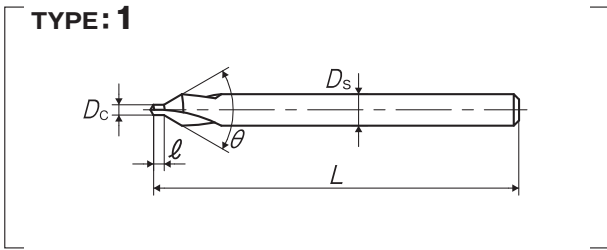
Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
0.3 × 60° × 3	CE0.3	3	35	0.3	1	△
0.4 × 60° × 3	CE0.4	3	35	0.4	1	△
0.5 × 60° × 3.5	CE0.5	3.5	35	0.5	2	○
0.6 × 60° × 3.5	CE0.6	3.5	35	0.6	2	○
0.7 × 60° × 3.5	CE0.7	3.5	35	0.7	2	○
0.8 × 60° × 3.5	CE0.8	3.5	35	0.8	2	○
0.9 × 60° × 4	CE0.9	4	35	0.9	2	○
1 × 60° × 4	CE1.0	4	35	1	2	○
1.2 × 60° × 5	CE1.2	5	40	1.2	2	○
1.5 × 60° × 5	CE1.5	5	40	1.5	2	○
2 × 60° × 6	CE2.0	6	45	2	2	○
2.5 × 60° × 7.7	CE2.5	7.7	50	2.5	2	○
3 × 60° × 7.7	CE3.0	7.7	55	3	2	○
3 × 60° × 8	CE3.0-8	8	55	3	2	○
4 × 60° × 10	CE4.0	10	65	4.5	2	○
5 × 60° × 11	CE5.0	11	78	5.5	2	○
5 × 60° × 12	CE5.0-12	12	78	5.5	2	○
6 × 60° × 16	CE6.0-16	16	90	6.5	2	○
6 × 60° × 18	CE6.0	18	90	6.5	2	○
8 × 60° × 18	CE8.0	18	100	8.5	2	○
10 × 60° × 18	CE010	18	100	11	2	○
12 × 60° × 25	CE012	25	120	13	2	○

CD-S

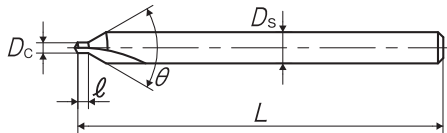
Low Helix Center Drills-Type A 60°
Specification

HSS

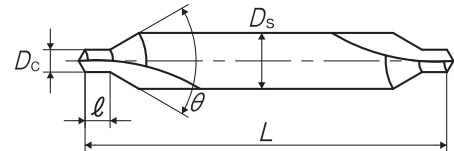
For icon explanation, refer to P.50



TYPE:1



TYPE:2



Segment : 51

Size $D_c \times \theta \times D_s$	Code	D_s (mm)	L (mm)	ℓ (mm)	Type	Stock
0.3 × 60° × 3	CY0.3	3	35	0.3	1	△
0.4 × 60° × 3	CY0.4	3	35	0.4	1	△
0.5 × 60° × 3.5	CY0.5	3.5	35	0.5	2	○
0.6 × 60° × 3.5	CY0.6	3.5	35	0.6	2	○
0.7 × 60° × 3.5	CY0.7	3.5	35	0.7	2	△
0.8 × 60° × 3.5	CY0.8	3.5	35	0.8	2	○
0.9 × 60° × 4	CY0.9	4	35	0.9	2	△
1 × 60° × 4	CY1.0	4	35	1	2	○
1.2 × 60° × 5	CY1.2	5	40	1.2	2	○
1.5 × 60° × 5	CY1.5	5	40	1.5	2	○
2 × 60° × 6	CY2.0	6	45	2	2	○
2.5 × 60° × 7.7	CY2.5	7.7	50	2.5	2	○
3 × 60° × 7.7	CY3.0	7.7	55	3	2	○
3 × 60° × 8	CY3.0-8	8	55	3	2	○
4 × 60° × 10	CY4.0	10	65	4.5	2	○
5 × 60° × 11	CY5.0	11	78	5.5	2	○
6 × 60° × 16	CY6.0-16	16	90	6.5	2	○
6 × 60° × 18	CY6.0	18	90	6.5	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

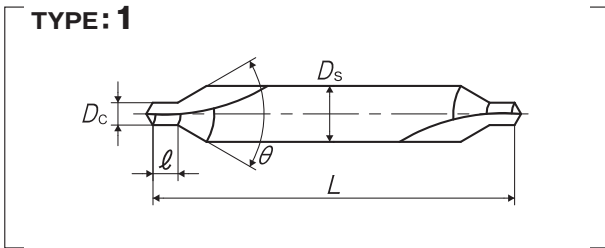
CD-S LH



Low Helix Center Drills-Type A 60°, Left Hand Cut
Specification



For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
0.5 × 60° × 3.5	CY0.5-L	3.5	35	0.5	1	△
0.7 × 60° × 3.5	CY0.7-L	3.5	35	0.7	1	△
0.8 × 60° × 3.5	CY0.8-L	3.5	35	0.8	1	△
0.9 × 60° × 4	CY0.9-L	4	35	0.9	1	△
1 × 60° × 4	CY1.0-L	4	35	1	1	△
1.2 × 60° × 5	CY1.2-L	5	40	1.2	1	△
1.5 × 60° × 5	CY1.5-L	5	40	1.5	1	△
2 × 60° × 6	CY2.0-L	6	45	2	1	△
2.5 × 60° × 7.7	CY2.5-L	7.7	50	2.5	1	△
3 × 60° × 7.7	CY3.0-L	7.7	55	3	1	△
4 × 60° × 10	CY4.0-L	10	65	4.5	1	△
5 × 60° × 11	CY5.0-L	11	78	5.5	1	△
6 × 60° × 16	CY6.0-L16	16	90	6.5	1	△
6 × 60° × 18	CY6.0-L	18	90	6.5	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

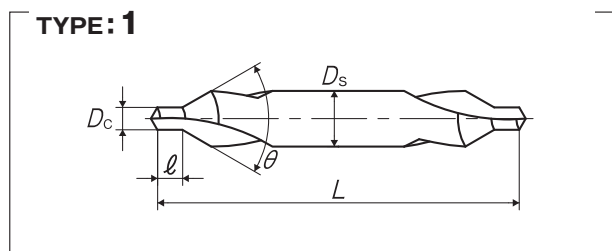
CE-S V

High Helix Center Drills-Type A 60°, Coated
Specification



■ Optimum coating suitable for the cutting condition

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 60° × 4	VCE1.0	4	35	1	1	○
1.5 × 60° × 5	VCE1.5	5	40	1.5	1	○
2 × 60° × 6	VCE2.0	6	45	2	1	○
2.5 × 60° × 7.7	VCE2.5	7.7	50	2.5	1	○
3 × 60° × 7.7	VCE3.0	7.7	55	3	1	○
4 × 60° × 10	VCE4.0	10	65	4.5	1	○
5 × 60° × 11	VCE5.0	11	78	5.5	1	○
6 × 60° × 18	VCE6.0	18	90	6.5	1	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

C-CD-S

Carbide Center Drills-Type A 60°
Specification



For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

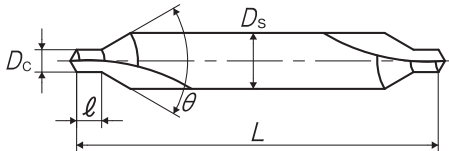
Thread Mills

Dies

Center Drills

Centering Tools

TYPE: 1



Segment : 52

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 60° × 4	CCD1.0	4	35	1	1	◎
1.2 × 60° × 5	CCD1.2	5	40	1.2	1	△
1.5 × 60° × 5	CCD1.5	5	40	1.5	1	◎
2 × 60° × 6	CCD2.0	6	45	2	1	◎
2.5 × 60° × 7.7	CCD2.5	7.7	50	2.5	1	◎
2.5 × 60° × 8	CCD2.5-8	8	50	2.5	1	△
3 × 60° × 7.7	CCD3.0	7.7	55	3	1	◎
3 × 60° × 8	CCD3.0-8	8	55	3	1	△
4 × 60° × 10	CCD4.0	10	65	4.5	1	◎
5 × 60° × 11	CCD5.0	11	78	5.5	1	○
5 × 60° × 12	CCD5.0-12	12	78	5.5	1	△
6 × 60° × 18	CCD6.0	18	90	6.5	1	△

CE-SL



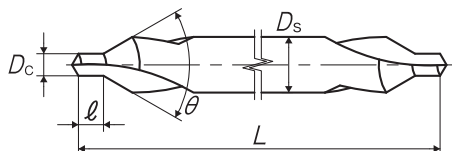
Long Shank High Helix Center Drills-Type A 60°

Specification

HSS

For icon explanation, refer to P.50

TYPE: 1



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 60° × 4	CEL1.0	4	100	1	1	◎
	CEM1.0		150			○
1.5 × 60° × 5	CEL1.5	5	100	1.5	1	◎
	CEM1.5		150			○
2 × 60° × 6	CEL2.0	6	100	2	1	◎
	CEM2.0		150			
2.5 × 60° × 8	CEL2.5	8	100	2.5	1	◎
	CEM2.5		150			
3 × 60° × 8	CEL3.0	8	100	3	1	◎
	CEM3.0		150			
	CEN3.0		200			△
4 × 60° × 10	CEL4.0	10	100	4.5	1	◎
	CEM4.0		150			
	CEN4.0		200			△
5 × 60° × 12	CEL5.0	12	100	5.5	1	◎
	CEM5.0		150			
	CEN5.0		200			△

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

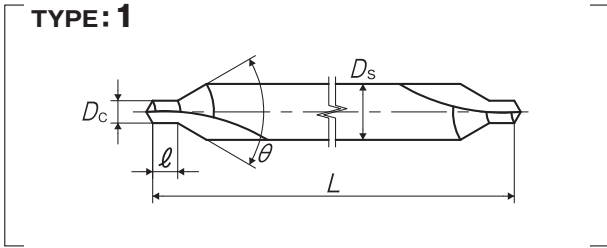
CD-SL

Long Shank Low Helix Center Drills-Type A 60°

Specification

HSS

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 60° × 4	CDL1.0	4	100	1	1	○
	CDM1.0		150			
1.5 × 60° × 5	CDL1.5	5	100	1.5	1	○
	CDM1.5		150			
2 × 60° × 6	CDL2.0	6	100	2	1	◎
	CDM2.0		150			
2.5 × 60° × 8	CDL2.5	8	100	2.5	1	◎
	CDM2.5		150			
3 × 60° × 8	CDL3.0	8	100	3	1	◎
	CDM3.0		150			
	CDN3.0		200			
4 × 60° × 10	CDL4.0	10	100	4.5	1	◎
	CDM4.0		150			
	CDN4.0		200			
5 × 60° × 12	CDL5.0	12	100	5.5	1	○
	CDM5.0		150			
	CDN5.0		200			

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

CE-SL V



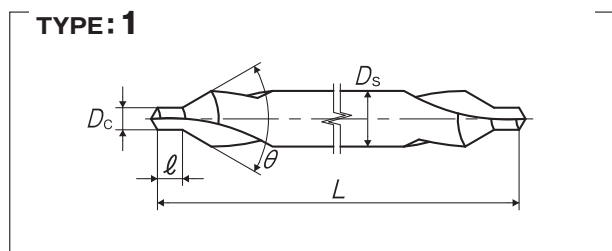
Long Shank High Helix Center Drills-Type A 60°, Coated

Specification



■ Optimum coating suitable for the cutting condition

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 60° × 4	VCEL1.0	4	100	1	1	○
	VCEM1.0		150			
1.5 × 60° × 5	VCEL1.5	5	100	1.5	1	○
	VCEM1.5		150			
2 × 60° × 6	VCEL2.0	6	100	2	1	◎
	VCEM2.0		150			○
2.5 × 60° × 8	VCEL2.5	8	100	2.5	1	○
	VCEM2.5		150			○
3 × 60° × 8	VCEL3.0	8	100	3	1	◎
	VCEM3.0		150			○
4 × 60° × 10	VCEL4.0	10	100	4.5	1	○
	VCEM4.0		150			○
5 × 60° × 12	VCEL5.0	12	100	5.5	1	○
	VCEM5.0		150			○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Fluted Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

CD-SL V



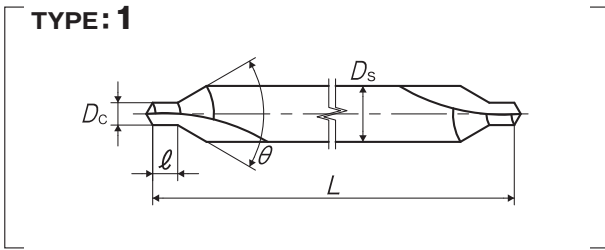
Long Shank Low Helix Center Drills-Type A 60°, Coated

Specification



■ Optimum coating suitable for the cutting condition

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 60° × 4	VCDL1.0	4	100	1	1	△
	VCDM1.0		150			
1.5 × 60° × 5	VCDL1.5	5	100	1.5	1	△
	VCDM1.5		150			
2 × 60° × 6	VCDL2.0	6	100	2	1	△
	VCDM2.0		150			
2.5 × 60° × 8	VCDL2.5	8	100	2.5	1	△
	VCDM2.5		150			
3 × 60° × 8	VCDL3.0	8	100	3	1	△
	VCDM3.0		150			
4 × 60° × 10	VCDL4.0	10	100	4.5	1	△
	VCDM4.0		150			
5 × 60° × 12	VCDL5.0	12	100	5.5	1	△
	VCDM5.0		150			

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



C-CD-SL

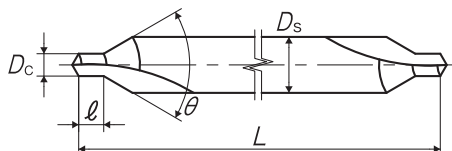
Long Shank Carbide Center Drills-Type A 60°

Specification

HF

For icon explanation, refer to P.50

TYPE: 1



Segment : 52

Size D _c × θ × D _s	Code	D _s (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 60° × 4	CCDL1.0	4	100	1	1	△
1.5 × 60° × 5	CCDL1.5	5	100	1.5	1	△
2 × 60° × 6	CCDL2.0	6	100	2	1	△
	CCDM2.0		150			
2.5 × 60° × 8	CCDL2.5	8	100	2.5	1	△
	CCDM2.5		150			
3 × 60° × 8	CCDL3.0	8	100	3	1	△
	CCDM3.0		150			
4 × 60° × 10	CCDL4.0	10	100	4.5	1	△
	CCDM4.0		150			
5 × 60° × 12	CCDL5.0	12	100	5.5	1	△
	CCDM5.0		150			

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

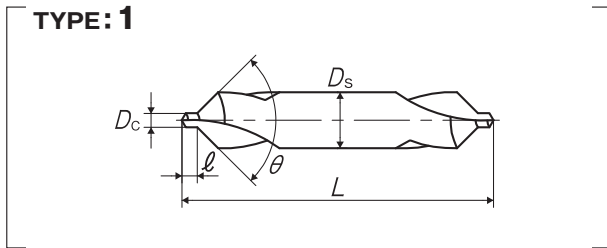


CEQA

High Helix Center Drills-JIS Type A 90° Specification

HSS

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	CEA1.0Q	4	35.5	1.1	1	◎
1.25 × 90° × 5	CEA1.25Q	5	40	1.4	1	◎
1.6 × 90° × 6.3	CEA1.6Q	6.3	45	1.8	1	◎
2 × 90° × 8	CEA2.0Q	8	50	2.2	1	◎
2.5 × 90° × 10	CEA2.5Q	10	56	2.8	1	◎
3.15 × 90° × 11.2	CEA3.15Q	11.2	60	3.6	1	◎
4 × 90° × 12.5	CEA4.0Q	12.5	63	4.5	1	◎
5 × 90° × 16	CEA5.0Q	16	71	5.6	1	◎
6.3 × 90° × 20	CEA6.3Q	20	80	7.1	1	◎
8 × 90° × 25	CEA8.0Q	25	100	9	1	◎
10 × 90° × 31.5	CEA010Q	31.5	125	11.2	1	◎
12.5 × 90° × 35.5	CEA12.5Q	35.5	140	14	1	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

CE-Q

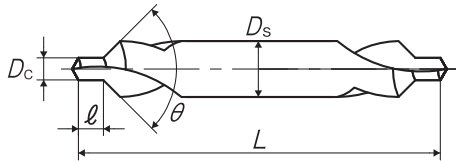
High Helix Center Drills-Type A 90°
Specification

HSS

For icon explanation, refer to P.50



TYPE: 1



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
0.5 × 90° × 3.5	CY0.5Z	3.5	35	0.5	1	△
0.6 × 90° × 3.5	CY0.6Z	3.5	35	0.6	1	△
0.7 × 90° × 3.5	CY0.7Z	3.5	35	0.7	1	○
0.8 × 90° × 3.5	CY0.8Z	3.5	35	0.8	1	○
0.9 × 90° × 4	CY0.9Z	4	35	0.9	1	△
1 × 90° × 4	CY1.0Z	4	35	1	1	○
1.2 × 90° × 5	CY1.2Z	5	40	1.2	1	△
1.5 × 90° × 5	CY1.5Z	5	40	1.5	1	○
2 × 90° × 6	CY2.0Z	6	45	2	1	○
2.5 × 90° × 7.7	CY2.5Z	7.7	50	2.5	1	○
3 × 90° × 7.7	CY3.0Z	7.7	55	3	1	○
4 × 90° × 10	CY4.0Z	10	65	4.5	1	○
5 × 90° × 11	CY5.0Z	11	78	5.5	1	○
6 × 90° × 16	CY6.0Z-16	16	90	6.5	1	○
6 × 90° × 18	CY6.0Z	18	90	6.5	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

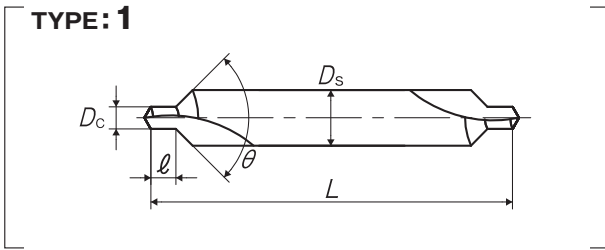
Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

CD-Q

Low Helix Center Drills-Type A 90° Specification

HSS

For icon explanation, refer to P.50



Segment : 51

Size Dc × ℓ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	CY1.0Q	4	35	1	1	○
1.5 × 90° × 5	CY1.5Q	5	40	1.5	1	○
2 × 90° × 6	CY2.0Q	6	45	2	1	○
2.5 × 90° × 7.7	CY2.5Q	7.7	50	2.5	1	○
3 × 90° × 7.7	CY3.0Q	7.7	55	3	1	○
4 × 90° × 10	CY4.0Q	10	65	4.5	1	○
5 × 90° × 11	CY5.0Q	11	78	5.5	1	○
6 × 90° × 16	CY6.0Q-16	16	90	6.5	1	△
6 × 90° × 18	CY6.0Q	18	90	6.5	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

CD-Q LH

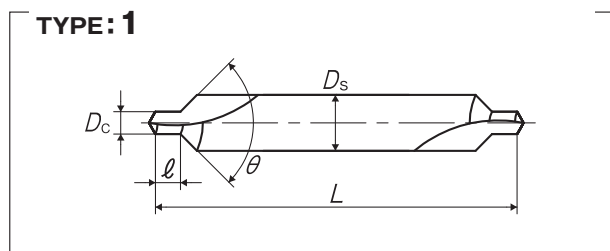


Low Helix Center Drills - Type A 90°, Left Hand Cut

Specification



For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	CY1.0Q-L	4	35	1	1	△
1.2 × 90° × 5	CY1.2Q-L	5	40	1.2	1	△
1.5 × 90° × 5	CY1.5Q-L	5	40	1.5	1	△
2 × 90° × 6	CY2.0Q-L	6	45	2	1	△
2.5 × 90° × 7.7	CY2.5Q-L	7.7	50	2.5	1	△
2.5 × 90° × 8	CY2.5Q8L	8	50	2.5	1	△
3 × 90° × 7.7	CY3.0Q-L	7.7	55	3	1	△
3 × 90° × 8	CY3.0Q8L	8	55	3	1	△
4 × 90° × 10	CY4.0Q-L	10	65	4.5	1	△
5 × 90° × 12	CY5.0Q12L	12	78	5.5	1	△
6 × 90° × 18	CY6.0Q-L	18	90	6.5	1	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

CE-Q V

High Helix Center Drills-Type A 90°, Coated

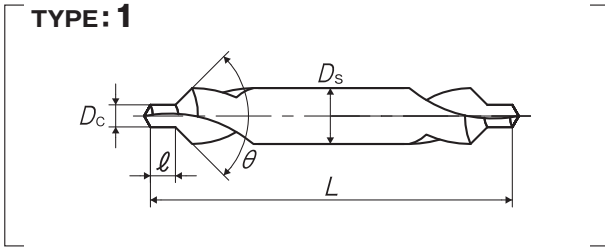
Specification



For icon explanation, refer to P.50



■ Optimum coating suitable for the cutting condition



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	VCY1.0Z	4	35	1	1	○
1.5 × 90° × 5	VCY1.5Z	5	40	1.5	1	○
2 × 90° × 6	VCY2.0Z	6	45	2	1	○
2.5 × 90° × 7.7	VCY2.5Z	7.7	50	2.5	1	○
3 × 90° × 7.7	VCY3.0Z	7.7	55	3	1	○
4 × 90° × 10	VCY4.0Z	10	65	4.5	1	○
5 × 90° × 11	VCY5.0Z	11	78	5.5	1	○
6 × 90° × 18	VCY6.0Z	18	90	6.5	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

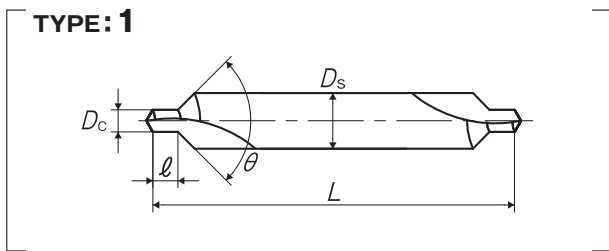
CD-Q V

Low Helix Center Drills-Type A 90°, Coated
Specification



■ Optimum coating suitable for the cutting condition

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	VCY1.0Q	4	35	1	1	△
1.5 × 90° × 5	VCY1.5Q	5	40	1.5	1	△
2 × 90° × 6	VCY2.0Q	6	45	2	1	△
2.5 × 90° × 7.7	VCY2.5Q	7.7	50	2.5	1	△
3 × 90° × 7.7	VCY3.0Q	7.7	55	3	1	△
4 × 90° × 10	VCY4.0Q	10	65	4.5	1	△
5 × 90° × 11	VCY5.0Q	11	78	5.5	1	△
6 × 90° × 18	VCY6.0Q	18	90	6.5	1	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

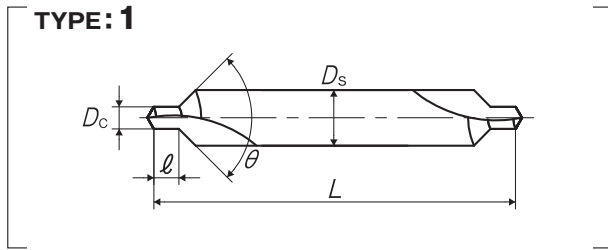
Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

C-CD-Q

Low Helix Carbide Center Drills-Type A 90°
Specification



For icon explanation, refer to P.50



Segment : 52

Size Dc × ℓ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	CC1.0Q	4	35	1	1	△
1.5 × 90° × 5	CC1.5Q	5	40	1.5	1	△
2 × 90° × 6	CC2.0Q	6	45	2	1	△
2.5 × 90° × 7.7	CC2.5Q	7.7	50	2.5	1	△
2.5 × 90° × 8	CC2.5Q-8	8	50	2.5	1	△
3 × 90° × 7.7	CC3.0Q	7.7	55	3	1	△
3 × 90° × 8	CC3.0Q-8	8	55	3	1	△
4 × 90° × 10	CC4.0Q	10	65	4.5	1	△
5 × 90° × 11	CC5.0Q	11	78	5.5	1	△
5 × 90° × 12	CC5.0Q-12	12	78	5.5	1	△
6 × 90° × 18	CC6.0Q	18	90	6.5	1	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

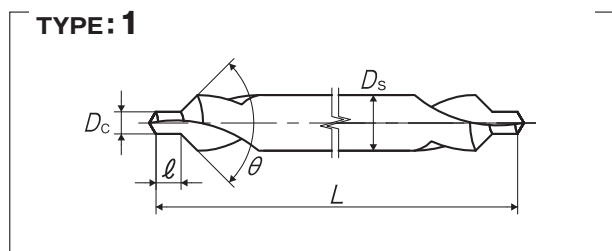
CE-QL



Long Shank High Helix Center Drills-Type A 90°
Specification

HSS

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	CL1.0Z	4	100	1	1	◎
	CM1.0Z		150			△
1.5 × 90° × 5	CL1.5Z	5	100	1.5	1	◎
	CM1.5Z		150			○
2 × 90° × 6	CL2.0Z	6	100	2	1	◎
	CM2.0Z		150			○
2.5 × 90° × 8	CL2.5Z	8	100	2.5	1	◎
	CM2.5Z		150			○
3 × 90° × 8	CL3.0Z	8	100	3	1	◎
	CM3.0Z		150			○
4 × 90° × 10	CL4.0Z	10	100	4.5	1	◎
	CM4.0Z		150			○
5 × 90° × 12	CL5.0Z	12	100	5.5	1	◎
	CM5.0Z		150			○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

CE-QL V



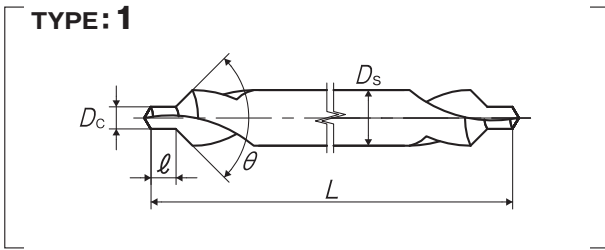
Long Shank High Helix Center Drills-Type A 90°, Coated

Specification



■ Optimum coating suitable for the cutting condition

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	VCL1.0Z	4	100	1	1	○
	VCM1.0Z		150			△
1.5 × 90° × 5	VCL1.5Z	5	100	1.5	1	○
	VCM1.5Z		150			△
2 × 90° × 6	VCL2.0Z	6	100	2	1	○
	VCM2.0Z		150			
2.5 × 90° × 8	VCL2.5Z	8	100	2.5	1	○
	VCM2.5Z		150			
3 × 90° × 8	VCL3.0Z	8	100	3	1	○
	VCM3.0Z		150			
4 × 90° × 10	VCL4.0Z	10	100	4.5	1	○
	VCM4.0Z		150			
5 × 90° × 12	VCL5.0Z	12	100	5.5	1	○
	VCM5.0Z		150			

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

C-CD-QL

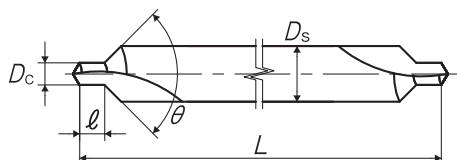


Long Shank Carbide Center Drills-Type A 90°
Specification

HF

For icon explanation, refer to P.50

TYPE: 1



Segment : 52

Size Dc × ℓ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 90° × 4	CCL1.0Q	4	100	1	1	△
1.5 × 90° × 5	CCL1.5Q	5	100	1.5	1	△
2 × 90° × 6	CCL2.0Q	6	100	2	1	△
	CCM2.0Q		150			
2.5 × 90° × 8	CCL2.5Q	8	100	2.5	1	△
	CCM2.5Q		150			
3 × 90° × 8	CCL3.0Q	8	100	3	1	△
	CCM3.0Q		150			
4 × 90° × 10	CCL4.0Q	10	100	4.5	1	△
	CCM4.0Q		150			
5 × 90° × 12	CCL5.0Q	12	100	5.5	1	△
	CCM5.0Q		150			

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

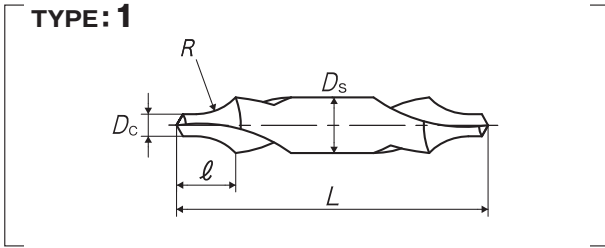
Drill dia.	Shank dia.	Overall length	Cut length	Rmax (mm)	Rmin (mm)
Dc	Ds	L	ℓ	-	-

CEIR

High Helix Center Drills-JIS Type R Specification

HSS

For icon explanation, refer to P.50



Segment : 51

Size Dc × ℓ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Rmax (mm)	Rmin (mm)	Type	Stock
1 × R × 3.15	CE1.0RI	3.15	31.5	3	3.15	2.5	1	◎
1.25 × R × 3.15	CE1.25RI	3.15	31.5	3.35	4	3.15	1	◎
1.6 × R × 4	CE1.6RI	4	35.5	4.25	5	4	1	◎
2 × R × 5	CE2.0RI	5	40	5.3	6.3	5	1	◎
2.5 × R × 6.3	CE2.5RI	6.3	45	6.7	8	6.3	1	◎
3.15 × R × 8	CE3.15RI	8	50	8.5	10	8	1	◎
4 × R × 10	CE4.0RI	10	56	10.6	12.5	10	1	◎
5 × R × 12.5	CE5.0RI	12.5	63	13.2	16	12.5	1	◎
6.3 × R × 16	CE6.3RI	16	71	17	20	16	1	◎
8 × R × 20	CE8.0RI	20	80	21.2	25	20	1	◎
10 × R × 25	CE10RI	25	100	26.5	31.5	25	1	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Drill dia.	Shank dia.	Overall length	Cut length	Rmax (mm)	Rmin (mm)
Dc	Ds	L	ℓ	-	-

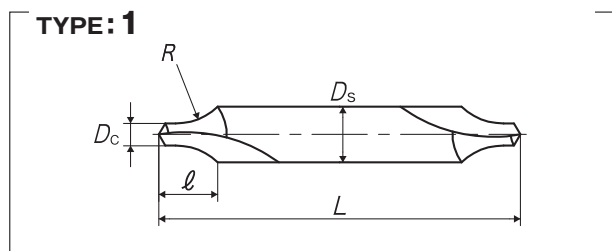


CD-R

Low Helix Center Drills-Type R Specification

HSS

For icon explanation, refer to P.50



Segment : 51

Size Dc × ℓ × Ds	Code	Ds (mm)	L (mm)	ℓ (mm)	Rmax (mm)	Type	Stock
0.7 × R × 3.5	CY0.7R	3.5	35	2.5	2.4	1	△
0.8 × R × 3.5	CY0.8R	3.5	35	2.6	2.4	1	△
1 × R × 4	CY1.0R	4	35	3.25	2.9	1	△
1.5 × R × 5	CY1.5R	5	40	4.6	4.6	1	○
2 × R × 6	CY2.0R	6	45	5.75	5.8	1	○
2.5 × R × 7.7	CY2.5R	7.7	50	7.3	7.4	1	○
3 × R × 7.7	CY3.0R	7.7	55	8.3	9.3	1	○
4 × R × 10	CY4.0R	10	65	10.6	11.5	1	○
5 × R × 11	CY5.0R	11	78	12.4	14.7	1	△
6 × R × 16	CY6.0R-16	16	90	16.9	18.5	1	△
6 × R × 18	CY6.0R	18	90	17.8	18.5	1	△

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Drill dia.	Shank dia.	Maximum dia.	Overall length	Drill length
Dc	Ds	D1	L	ℓ

CESB

High Helix Center Drills-JIS Type B 60° Specification

HSS

For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

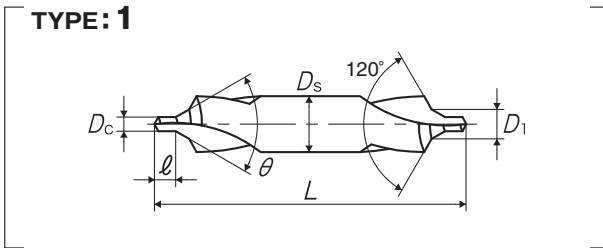
Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



Segment : 51

Size Dc × ℓ × Ds	Code	Ds (mm)	D1 (mm)	L (mm)	ℓ (mm)	Type	Stock
0.5 × 60° × 3.15	CEB0.5	3.15	1.06	31.5	0.8	1	◎
0.63 × 60° × 3.15	CEB0.63	3.15	1.32	31.5	1	1	◎
0.8 × 60° × 3.15	CEB0.8	3.15	1.7	31.5	1.2	1	◎
1 × 60° × 4	CEB1.0	4	2.12	35.5	1.5	1	◎
1.25 × 60° × 5	CEB1.25	5	2.65	40	1.9	1	◎
1.6 × 60° × 6.3	CEB1.6	6.3	3.35	45	2.4	1	◎
2 × 60° × 8	CEB2.0	8	4.25	50	3	1	◎
2.5 × 60° × 10	CEB2.5	10	5.3	56	3.8	1	◎
3.15 × 60° × 11.2	CEB3.15	11.2	6.7	60	4.8	1	◎
4 × 60° × 14	CEB4.0	14	8.5	67	6	1	◎
5 × 60° × 18	CEB5.0	18	10.6	75	7.5	1	◎
6.3 × 60° × 20	CEB6.3	20	13.2	80	9.2	1	◎
8 × 60° × 25	CEB8.0	25	17	100	11.5	1	◎
10 × 60° × 31.5	CEB010	31.5	21.2	125	14.2	1	◎

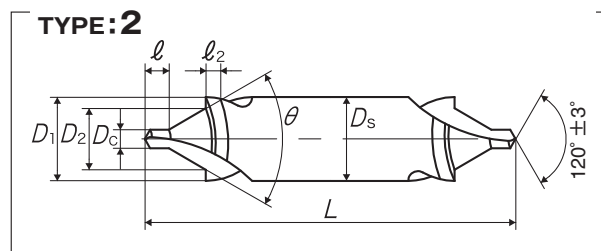
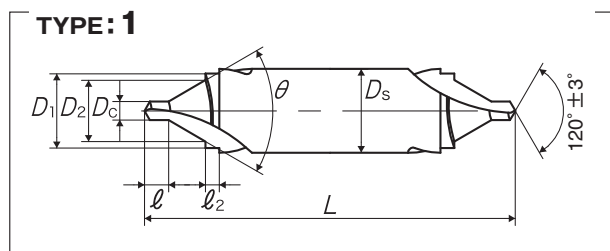
Drill dia.	Shank dia.	-	Maximum dia.	Overall length	Drill length	Larger cut length
Dc	Ds	D1	D2	L	ℓ	ℓ2

CESC

High Helix Center Drills-JIS Type C 60°
Specification

HSS

For icon explanation, refer to P.50



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	D1 (mm)	D2 (mm)	L (mm)	ℓ (mm)	ℓ2 (mm)	Type	Stock
0.5 × 60° × 3.15	CEC0.5	3.15	1.6	1.06	31.5	0.8	0.6	1	○
0.63 × 60° × 3.15	CEC0.63	3.15	2	1.32	31.5	1	0.8	1	○
0.8 × 60° × 3.15	CEC0.8	3.15	2.5	1.7	31.5	1.2	1	1	○
1 × 60° × 3.15	CEC1.0	3.15	3.15	2.12	31.5	1.5	1.2	2	○
1.25 × 60° × 4	CEC1.25	4	4	2.65	35.5	1.9	1.5	2	○
1.6 × 60° × 5	CEC1.6	5	5	3.35	40	2.4	1.8	2	○
2 × 60° × 6.3	CEC2.0	6.3	6.3	4.25	45	3	2.2	2	○
2.5 × 60° × 8	CEC2.5	8	8	5.3	50	3.8	3	2	○
3.15 × 60° × 10	CEC3.15	10	10	6.7	56	4.8	3.5	2	○
4 × 60° × 12.5	CEC4.0	12.5	12.5	8.5	63	6	4.2	2	○
5 × 60° × 16	CEC5.0	16	16	10.6	71	7.5	5.5	2	○
6.3 × 60° × 18	CEC6.3	18	18	13.2	75	9.2	5.5	2	○
8 × 60° × 22.4	CEC8.0	22.4	22.4	17	90	11.5	5.5	2	○
10 × 60° × 28	CEC010	28	28	21.2	112	14.2	7	2	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

MHCDS

Center Drills for Carbon Steels of Middle Hardness for running at High Speed

Specification



For icon explanation, refer to P.50



Product features

- In order to improve positioning accuracy of projection and shank tolerance, MHCDS has the cutting edge only on one end.
- Considering clearance between center point and bottom of center hole, cutting edge length(ℓ) is made as short as possible to increase toughness.
- To increase centrality, drill point has 3 rakes and X thinning design, which enables high speed cutting and feeding.
- Increased centrality leads to great improvement of surface finish and circularity of center-drilled hole.

Cutting data

Great extension of tool life with MHCDS

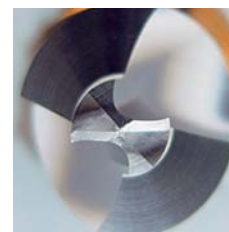
Right pictures show difference of the damage on cutting edge between CD-S and MHCDS after 480 hole cuttings under same cutting condition (stated in right). MHCDS has smaller wear and edge damage. This tells we can continue to use MHCDS further.

Cutting condition [$3 \times 60^\circ \times 8$]

Work material	S55C
Machine	NC lathe
Cutting speed	30m/min (1,200min ⁻¹)
Feed	0.15mm/rev
Cutting fluid	Water soluble oil



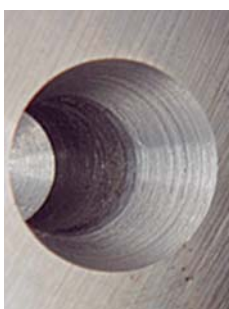
CD-S



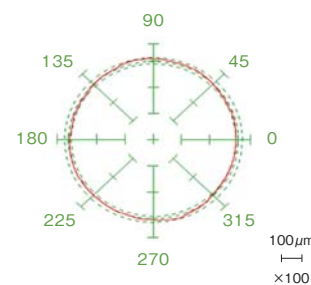
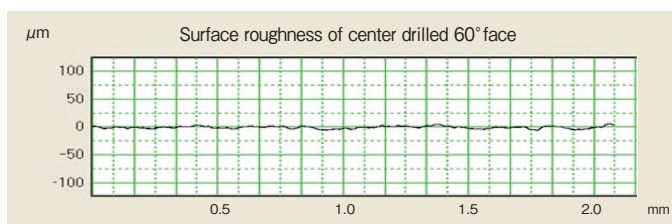
MHCDS

Great improvement in surface roughness and circularity with MHCDS

Under the cutting condition stated above, the surface finish of center-drilled hole has greatly been improved. Circularity of center drilled hole as well as run-out tolerance of turning axis has been improved.



Enlarged picture



Circularity of center drilled 60° face

Recommended cutting condition

- Material : Carbon Steels(S55C) Alloy Steels(SCM440)

Designation Dc×θ×Ds	Feed f (mm/rev)	RPM n (min ⁻¹)
1×60°×4	0.1	3,800
1.5×60°×5		2,400
2×60°×6	0.15	1,900
2.5×60°×8		1,500
3×60°×8		1,200
4×60°×10	0.2	1,000
5×60°×12		800
6×60°×16		600

Spiral Fluted Taps (for blind hole)

Spiral Fluted Taps (for through hole)

Spiral Pointed Taps (for through hole)

Hand Taps

Cemented Carbide Taps

Roll Taps

Special Thread Taps Simple Inspection Tools

Pipe Taps

Thread Mills

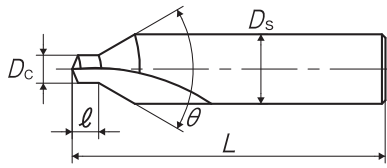
Dies

Center Drills

Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

TYPE: 1



Segment : 51

Size Dc × θ × Ds	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ (mm)	Type	Stock
1 × 60° × 4	VMHCD1.0S	4	1	30	1	1	◎
1.5 × 60° × 5	VMHCD1.5S	5	1.5	30	1.5	1	◎
2 × 60° × 6	VMHCD2.0S	6	2	30	1.9	1	◎
2.5 × 60° × 8	VMHCD2.5S	8	2.5	40	2.4	1	◎
3 × 60° × 8	VMHCD3.0S	8	3	40	2.8	1	◎
4 × 60° × 10	VMHCD4.0S	10	4	45	3.8	1	◎
5 × 60° × 12	VMHCD5.0S	12	5	55	4.6	1	◎
6 × 60° × 16	VMHCD6.0S	16	6	65	5.5	1	◎

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JOINT TOOLS

Product features

1

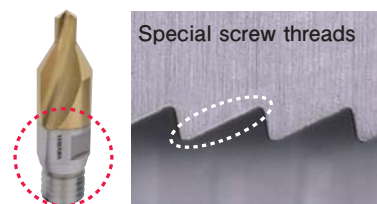
Economy

To one holder, it is possible to attach various kinds of cutters selected to meet the application.
If the cutter has become damaged, all you have to do is only to change the cutter.

2

Increased fastening power.

Special screw threads widen the contact face and strengthen the fastening power.



3

Severe run-out tolerance.

Severe run-out tolerance is secured by having cone shape face at jointing portion.

Jointing portion (mating with cone face)



4

High rigidity.

Powerful tightening assures the high rigidity, and enables cutting operation even under heavy load.

Joint tool



Remarks

Please use spanners (JIS B4630) when exchanging cutters.

For spanner's width size, refer to H sizes shown in specification table.

Take special care while tightening, otherwise excessive tightening may cause breakage on cutting edge.



[Reference] Tightening torque (N-m)

Adaptable holder Shank dia	Tightening torque
14	5
16	10
20	30



Obtainable from
Video site shown in right

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

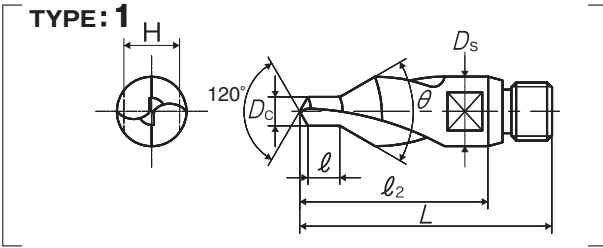
Drill dia.	Shank dia.	Overall length	Drill length	Body length	—
Dc	Ds	L	ℓ	ℓ ₂	H

JO-CES

Joint- High Helix Center Drills-Type A 60°
Specification

HSS

For icon explanation, refer to P.50



Segment : 5C

Size Dc × θ	Code	Ds (mm)	L (mm)	ℓ (mm)	ℓ ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
4 × 60°	JCE4.0	10	37.5	4.5	27.5	8	14	1	○
5 × 60°	JCE5.0	12	43.5	5.5	32.5	10	16	1	○
6 × 60°	JCE6.0	16	48.5	6.5	34.5	13	20	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

JO-CES V

Joint- High Helix Center Drills-Type A 60°, Coated

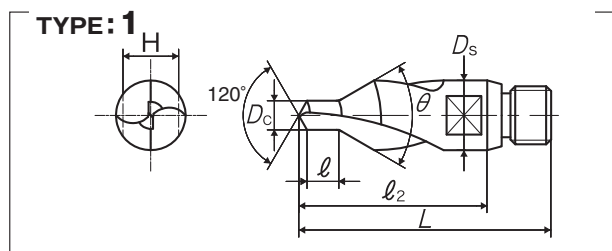
Specification



■ Optimum coating suitable for the cutting condition



For icon explanation, refer to P.50



Segment : 5C

Size Dc x θ	Code	Ds (mm)	L (mm)	l (mm)	l ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
4 × 60°	JVCE4.0	10	37.5	4.5	27.5	8	14	1	○
5 × 60°	JVCE5.0	12	43.5	5.5	32.5	10	16	1	○
6 × 60°	JVCE6.0	16	48.5	6.5	34.5	13	20	1	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Drill dia.	Shank dia.	Overall length	Drill length	Body length	—
Dc	Ds	L	ℓ	ℓ ₂	H

JO-CDS

Joint- Low Helix Center Drills-Type A 60°
Specification

HSS

For icon explanation, refer to P.50



Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

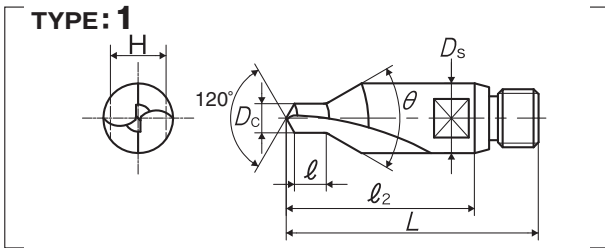
Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools



Segment : 5C

Size Dc × θ	Code	Ds (mm)	L (mm)	ℓ (mm)	ℓ ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
4 × 60°	JCY4.0	10	37.5	4.5	27.5	8	14	1	○
5 × 60°	JCY5.0	12	43.5	5.5	32.5	10	16	1	○
6 × 60°	JCY6.0	16	48.5	6.5	34.5	13	20	1	○

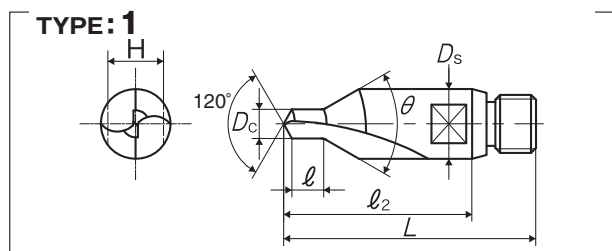
JO-CDS V

Joint- Low Helix Center Drills-Type A 60°, Coated
Specification



■ Optimum coating suitable for the cutting condition

For icon explanation, refer to P.50



Segment : 5C

Size Dc × θ	Code	Ds (mm)	L (mm)	l (mm)	l ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
4 × 60°	JVCY4.0	10	37.5	4.5	27.5	8	14	1	○
5 × 60°	JVCY5.0	12	43.5	5.5	32.5	10	16	1	○
6 × 60°	JVCY6.0	16	48.5	6.5	34.5	13	20	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

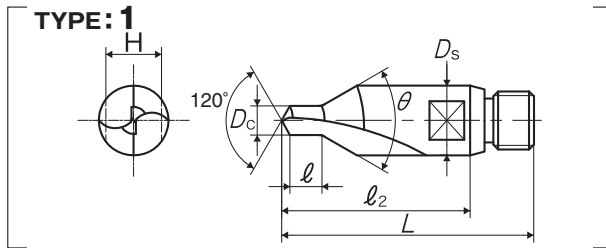
Drill dia.	Shank dia.	Overall length	Drill length	Body length	-
Dc	Ds	L	ℓ	ℓ ₂	H

JO-C-CDS

Joint- Low Helix Carbide Center Drills-Type A 60°
Specification



For icon explanation, refer to P.50



Segment : 5C

Size Dc × θ	Code	Ds (mm)	L (mm)	ℓ (mm)	ℓ ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
4 × 60°	JCCY4.0	10	37.5	4.5	27.5	8	14	1	○
5 × 60°	JCCY5.0	12	43.5	5.5	32.5	10	16	1	○
6 × 60°	JCCY6.0	16	48.5	6.5	34.5	13	20	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Shank dia.	Point dia.	Overall length	Body length	-
Ds	Dc	L	l ₂	H

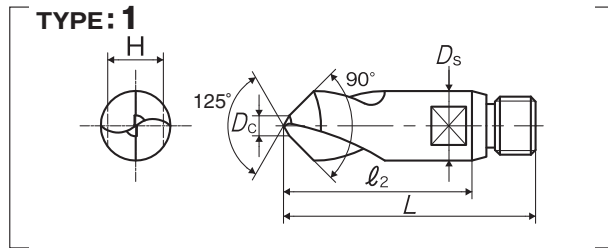


JO-PEQ

Joint- Point Drills 90°
Specification

HSS

For icon explanation, refer to P.50



Segment : 5C

Size Ds × Dc	Code	Ds (mm)	Dc (mm)	L (mm)	l ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
10 × 3	JPE010Q	10	3	37.5	27.5	8	14	1	○
12 × 3.5	JPE012Q	12	3.5	43.5	32.5	10	16	1	○
16 × 4	JPE016Q	16	4	48.5	34.5	13	20	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Shank dia.	Point dia.	Overall length	Body length	-
Ds	Dc	L	ℓ ₂	H

JO-PEQ V

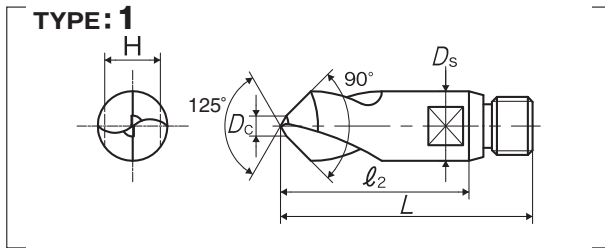
Joint- Point Drills 90°, Coated
Specification



For icon explanation, refer to P.50



■ Optimum coating suitable for the cutting condition



Segment : 5C

Size Ds × Dc	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
10 × 3	JVPE010Q	10	3	37.5	27.5	8	14	1	○
12 × 3.5	JVPE012Q	12	3.5	43.5	32.5	10	16	1	○
16 × 4	JVPE016Q	16	4	48.5	34.5	13	20	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

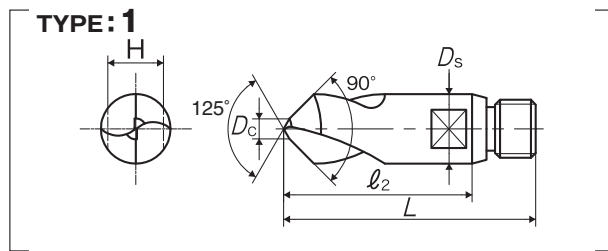
JO-C-PEQ V

Joint- Carbide Point Drills 90°, Coated
Specification



■ Optimum coating suitable for the cutting condition

For icon explanation, refer to P.50



Segment : 5C

Size D _s × D _c	Code	D _s (mm)	D _c (mm)	L (mm)	l ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
10 × 3	JVCPE010Q	10	3	37.5	27.5	8	14	1	○
12 × 3.5	JVCPE012Q	12	3.5	43.5	32.5	10	16	1	○
16 × 4	JVCPE016Q	16	4	48.5	34.5	13	20	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Shank dia.	Point dia.	Overall length	Body length	-
Ds	Dc	L	ℓ ₂	H

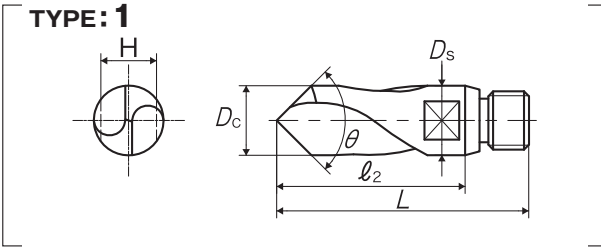
JO-NCSD V

Joint- NC Starting Drills for Beveling, Coated
Specification



For icon explanation, refer to P.50

■ Optimum coating suitable for the cutting condition



Segment : 5C

Size Dc × θ	Code	Ds (mm)	L (mm)	ℓ ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
10 × 90°	JVCS-D010Q	10	37.5	27.5	8	14	1	○
12 × 90°	JVCS-D012Q	12	43.5	32.5	10	16	1	○
16 × 90°	JVCS-D016Q	16	48.5	34.5	13	20	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

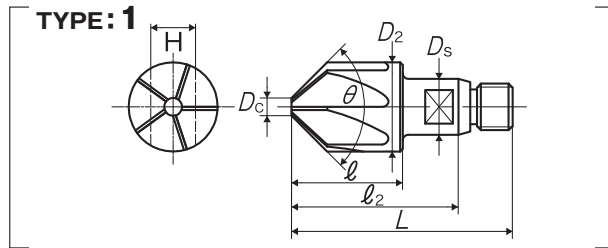
Drill dia.	Shank dia.	Tool end dia.	Overall length	Cutting edge length	Body length	-
D ₂	D _s	D _c	L	ℓ	ℓ ₂	H

JO-CSQM

Joint- Countersinks 90°, Drilling Machine Use
Specification

HSS

For icon explanation, refer to P.50



Segment : 5C

Size D ₂ × θ	Code	D _s (mm)	D _c (mm)	L (mm)	ℓ (mm)	ℓ ₂ (mm)	H (mm)	Adaptable holder Shank dia	Type	Stock
16 × 90°	JCS016QM9	10	3.2	37.5	20	27.5	8	14	1	○
20 × 90°	JCS020QM9	12	4	43.5	24	32.5	10	16	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple inspection tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Shank dia.	Overall length	Body length	-
Ds	L	ℓ	H

JO-HOLDER

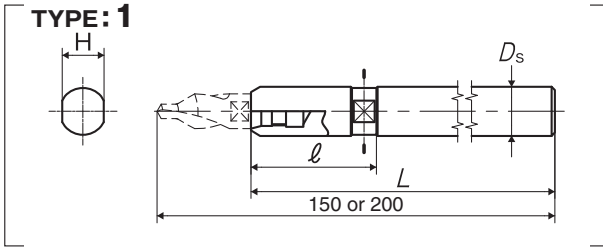
Holders for Joint Tools, for 150mm and for 200mm
 Specification

Alloy steel

For icon explanation, refer to P.50



■ Each holder can attach itself to several types of cutters depending on their usage.



Segment : 5A

Size	Code	Ds (mm)	L (mm)	ℓ (mm)	H (mm)	Applicable cutting edge shank dia.	Type	Stock
150mm	JH1014M	14	122.5	36	12	10	1	○
150mm	JH1216M	16	117.5	37	14	12	1	○
150mm	JH1620M	20	115.5	41	17	16	1	○
200mm	JH1014N	14	172.5	36	12	10	1	○
200mm	JH1216N	16	167.5	37	14	12	1	○
200mm	JH1620N	20	165.5	41	17	16	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

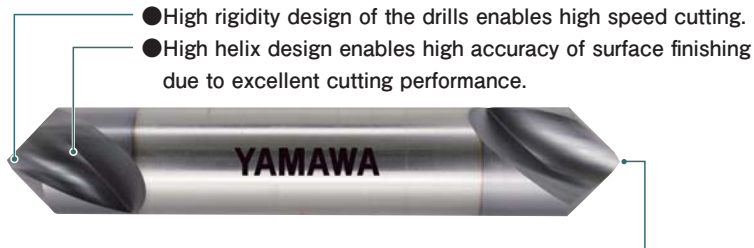
Dies

Center Drills

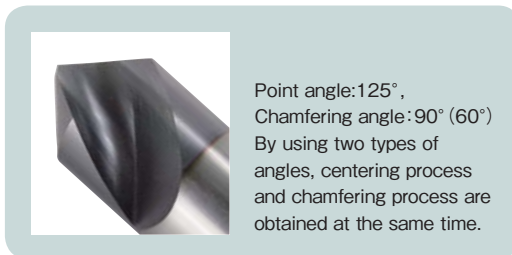
Centering Tools

POINT DRILLS

Product features

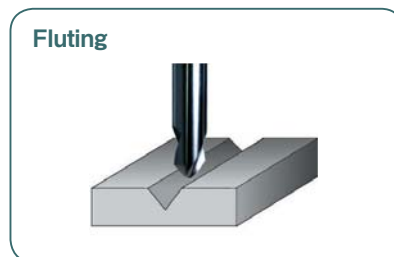
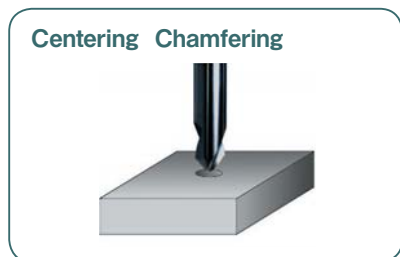


- High rigidity design of the drills enables high speed cutting.
- High helix design enables high accuracy of surface finishing due to excellent cutting performance.

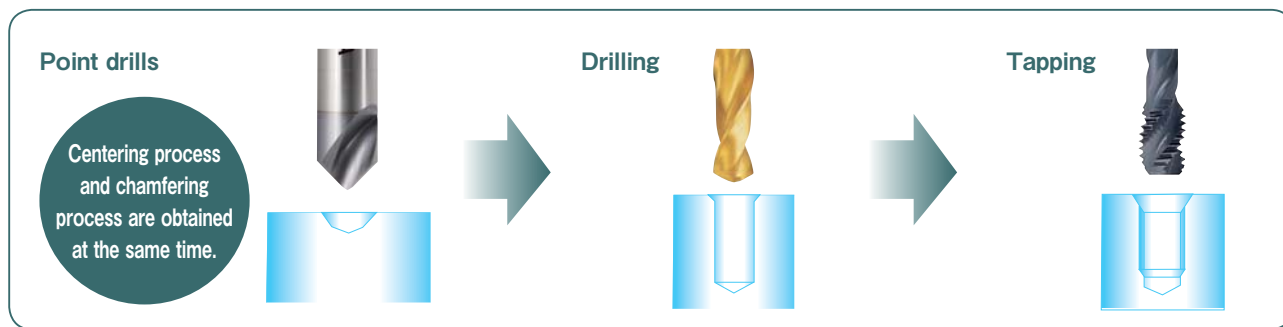


- Different from normal center drills, because of no drill portion, there is no breakage trouble of drill portion.
- Two processes, centering and chamfering, are obtained at the same time. Point drills are also used for other processes such as fluting.
- The figures of drill end are two stepped flat type. This type enables excellent chamfering, and high precision cutting becomes possible.

Examples of usage

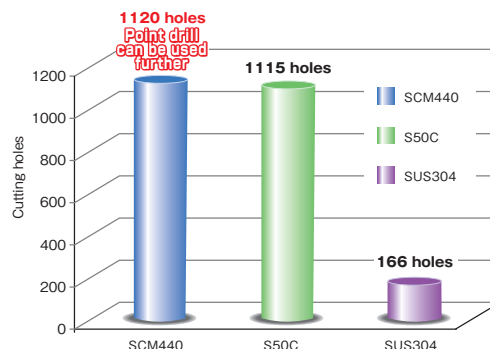


Cutting processes



Test of continuous centering

Tool	Work material	Cutting speed	Feed	Dia. of chamfer hole	Cutting depth	Machine	Lubricant
PE-Q 12×(3.5)×90°	SCM440 (Alloy steel)	25m/min	0.15mm/rev	8.0mm	3.0mm	Machining center of vertical direction	Water soluble oil ×20
	S50C (Carbon steel)	25m/min	0.2mm/rev				
	SUS304 (Stainless steel)	15m/min	0.1mm/rev				



Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Shank dia.	Point dia.	Overall length	Point length
Ds	Dc	L	ℓ ₁

PE-Q

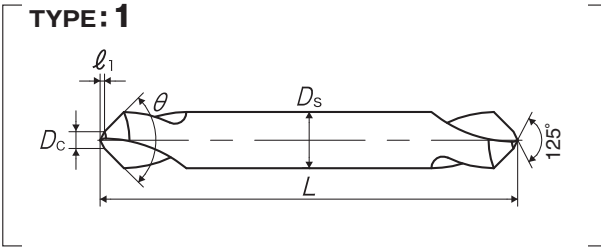
Point Drills 90°
Specification

HSS

For icon explanation, refer to P.50



■PE-Q is the point drill enabling positioning (125° edge angle) and beveling (90°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design.



Segment : 56

Size Ds × Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ ₁ (mm)	Type	Stock
3 × 0.5 × 90°	PE3.0Q	3	0.5	40	0.13	1	○
4 × 1 × 90°	PE4.0Q	4	1	45	0.26	1	○
6 × 2 × 90°	PE6.0Q	6	2	55	0.52	1	○
8 × 2.5 × 90°	PE8.0Q	8	2.5	65	0.65	1	○
10 × 3 × 90°	PE010Q	10	3	75	0.78	1	○
12 × 3.5 × 90°	PE012Q	12	3.5	85	0.91	1	○
16 × 4 × 90°	PE016Q	16	4	90	1.04	1	○
20 × 5 × 90°	PE020Q	20	5	100	1.30	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PE-Q V

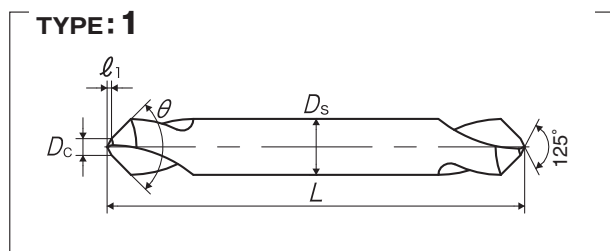
Point Drills 90°, Coated
Specification



For icon explanation, refer to P.50



■PE-Q V is the coated point drill enabling positioning (125° edge angle) and beveling (90°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.



Segment : 56

Size Ds × Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	l ₁ (mm)	Type	Stock
3 × 0.5 × 90°	VPE3.0Q	3	0.5	40	0.13	1	○
4 × 1 × 90°	VPE4.0Q	4	1	45	0.26	1	○
6 × 2 × 90°	VPE6.0Q	6	2	55	0.52	1	○
8 × 2.5 × 90°	VPE8.0Q	8	2.5	65	0.65	1	○
10 × 3 × 90°	VPE010Q	10	3	75	0.78	1	○
12 × 3.5 × 90°	VPE012Q	12	3.5	85	0.91	1	○
16 × 4 × 90°	VPE016Q	16	4	90	1.04	1	○
20 × 5 × 90°	VPE020Q	20	5	100	1.30	1	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Shank dia.	Point dia.	Overall length	Point length
Ds	Dc	L	ℓ ₁

C-PE-Q V

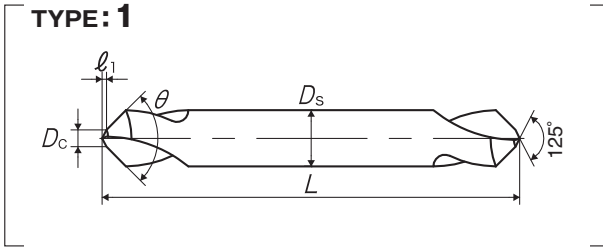
Carbide Point Drills 90°, Coated
Specification



For icon explanation, refer to P.50



■C-PE-Q V is the carbide point drill enabling positioning (125° edge angle) and beveling (90°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition



Segment : 52

Size Ds × Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ ₁ (mm)	Type	Stock
3 × 0.5 × 90°	VCPE3.0Q	3	0.5	40	0.13	1	○
4 × 1 × 90°	VCPE4.0Q	4	1	45	0.26	1	○
6 × 2 × 90°	VCPE6.0Q	6	2	55	0.52	1	○
8 × 2.5 × 90°	VCPE8.0Q	8	2.5	65	0.65	1	○
10 × 3 × 90°	VCPE10Q	10	3	75	0.78	1	○
12 × 3.5 × 90°	VCPE12Q	12	3.5	85	0.91	1	○
16 × 4 × 90°	VCPE16Q	16	4	90	1.04	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PE-QL V

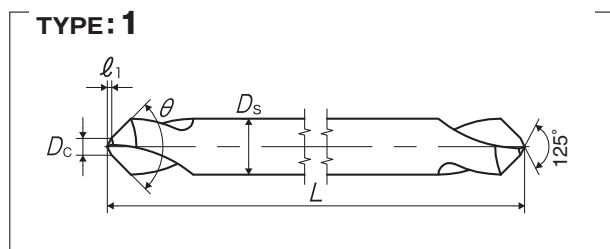
Long Shank Point Drills 90°, Coated
Specification



For icon explanation, refer to P.50



■PE-QL V is the long shank coated point drill enabling positioning (125° edge angle) and beveling (90°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.



Segment : 56

Size Ds × Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	l ₁ (mm)	Type	Stock
4 × 1 × 90°	VPEL4.0Q	4	1	100	0.26	1	○
6 × 2 × 90°	VPEL6.0Q	6	2	100	0.52	1	○
8 × 2.5 × 90°	VPEL8.0Q	8	2.5	100	0.65	1	○
	VPEM8.0Q			150			
10 × 3 × 90°	VPEL010Q	10	3	100	0.78	1	○
	VPEM010Q			150			
12 × 3.5 × 90°	VPEL012Q	12	3.5	100	0.91	1	○
	VPEM012Q			150			
16 × 4 × 90°	VPEM016Q	16	4	150	1.04	1	○
20 × 5 × 90°	VPEM020Q	20	5	150	1.30	1	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Shank dia.	Point dia.	Overall length	Point length
Ds	Dc	L	ℓ ₁

PE-S

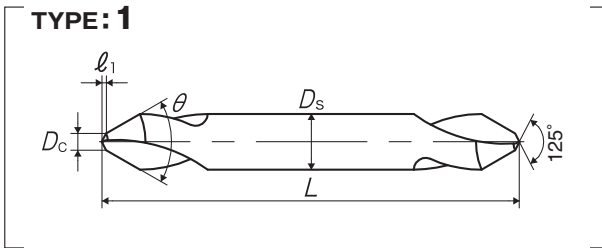
Point Drills 60°
Specification

HSS

For icon explanation, refer to P.50



■PE-S is the point drill enabling positioning (125° edge angle) and beveling (60°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design.



Segment : 56

Size Ds × Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ ₁ (mm)	Type	Stock
3 × 0.5 × 60°	PE3.0S	3	0.5	40	0.13	1	○
4 × 1 × 60°	PE4.0S	4	1	45	0.26	1	○
6 × 2 × 60°	PE6.0S	6	2	55	0.52	1	○
8 × 2.5 × 60°	PE8.0S	8	2.5	65	0.65	1	○
10 × 3 × 60°	PE010S	10	3	75	0.78	1	○
12 × 3.5 × 60°	PE012S	12	3.5	85	0.91	1	○
16 × 4 × 60°	PE016S	16	4	90	1.04	1	○
20 × 5 × 60°	PE020S	20	5	100	1.30	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

PE-S V

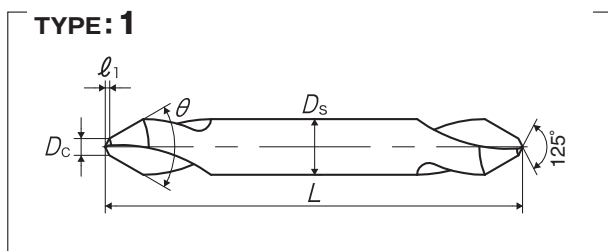
Point Drills 60°, Coated
Specification



For icon explanation, refer to P.50



■PE-S V is the coated point drill enabling positioning (125° edge angle) and beveling (60°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.



Segment : 56

Size Ds × Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	l ₁ (mm)	Type	Stock
3 × 0.5 × 60°	VPE3.0S	3	0.5	40	0.13	1	○
4 × 1 × 60°	VPE4.0S	4	1	45	0.26	1	○
6 × 2 × 60°	VPE6.0S	6	2	55	0.52	1	○
8 × 2.5 × 60°	VPE8.0S	8	2.5	65	0.65	1	○
10 × 3 × 60°	VPE10S	10	3	75	0.78	1	○
12 × 3.5 × 60°	VPE12S	12	3.5	85	0.91	1	○
16 × 4 × 60°	VPE16S	16	4	90	1.04	1	○
20 × 5 × 60°	VPE20S	20	5	100	1.30	1	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple Inspection Tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Shank dia.	Point dia.	Overall length	Point length
Ds	Dc	L	ℓ ₁

C-PE-S V

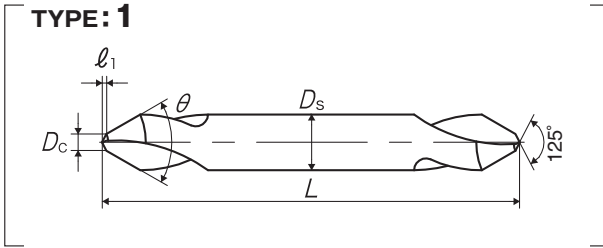
Carbide Point Drills 60°, Coated
Specification



For icon explanation, refer to P.50



■C-PE-S V is the carbide point drill enabling positioning (125° edge angle) and beveling (60°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.



Segment : 52

Size Ds × Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ ₁ (mm)	Type	Stock
6 × 2 × 60°	VCPE6.0S	6	2	55	0.52	1	○
8 × 2.5 × 60°	VCPE8.0S	8	2.5	65	0.65	1	○
10 × 3 × 60°	VCPE10S	10	3	75	0.78	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

Shank dia.	Point dia.	Overall length	Point length
Ds	Dc	L	ℓ ₁

PE-SL V

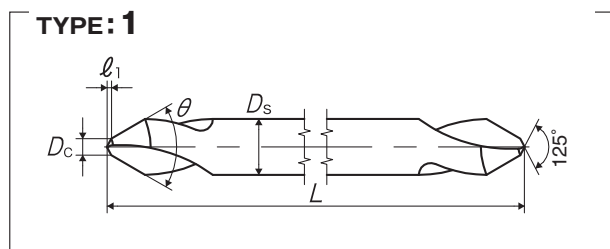
Long Shank Point Drills 60°, Coated
Specification



For icon explanation, refer to P.50



■PE-SL V is the point drill enabling positioning (125° edge angle) and beveling (60°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.



Segment : 56

Size Ds × Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ ₁ (mm)	Type	Stock
4 × 1 × 60°	VPEL4.0S	4	1	100	0.26	1	○
6 × 2 × 60°	VPEL6.0S	6	2	100	0.52	1	○
8 × 2.5 × 60°	VPEL8.0S	8	2.5	100	0.65	1	○
	VPEM8.0S			150			
10 × 3 × 60°	VPEL010S	10	3	100	0.78	1	○
	VPEM010S			150			
12 × 3.5 × 60°	VPEL012S	12	3.5	100	0.91	1	○
	VPEM012S			150			
16 × 4 × 60°	VPEM016S	16	4	150	1.04	1	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

NC-SD V

NC Starting Drills for Bevelling (90°), Coated



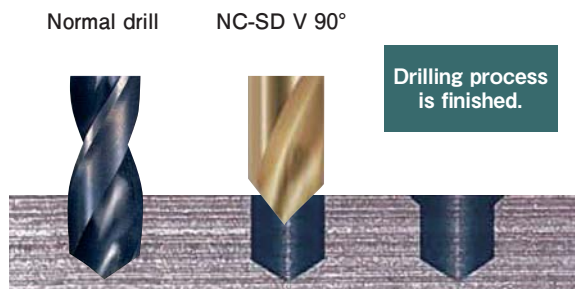
Specification



For icon explanation, refer to P.50

Product features

After boring with normal drills, use NC-SD V(90 °) larger than bore hole diameter, and we can obtain clean countersinks with better surface finish.



NC-SD

NC Starting Drills for Center Positioning (125°)



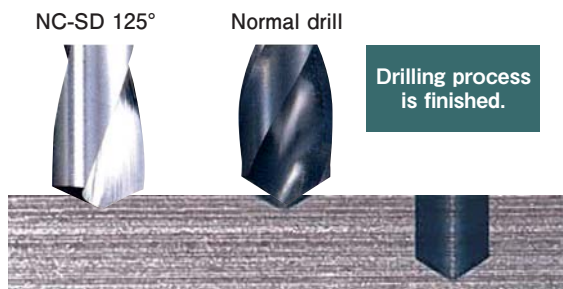
Specification



For icon explanation, refer to P.50

Product features

NC-SD is the drill specially for positioning. It is used before boring holes to heighten positioning accuracy. Having the point angle of a little bit larger degree than normal drill, NC-SD guarantees high positioning accuracy without chippings at its cutting edge.



Difference between starting drills and center drills

For positioning, center drills can also be used. However in the case of center drill, since cutting edge of normal drill first hits the material, this can cause chippings on cutting edge and/or undesirable one side cutting.



Recommended cutting condition

unit : min⁻¹

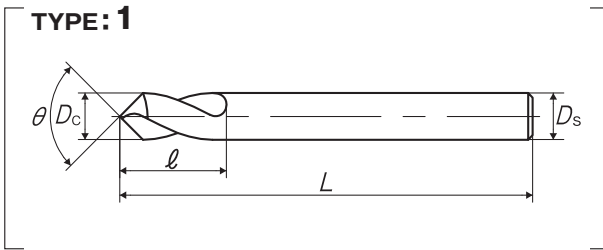
Materials	Cutting speed (m/min)	Diameter (mm)									
		φ 3	φ 4	φ 5	φ 6	φ 8	φ 10	φ 12	φ 16	φ 20	φ 25
SS400	25 ~ 40	3400	2600	2100	1700	1300	1050	850	640	510	410
S50C	25 ~ 32	3000	2300	1800	1500	1150	900	750	560	450	360
FC250	20 ~ 35	2900	2200	1750	1450	1100	860	720	540	430	350
SCM440	15 ~ 25	2200	1600	1300	1100	800	640	540	400	320	260
SUS304	7 ~ 12	1100	800	640	540	400	320	270	200	160	130
SKD61	8 ~ 15	1200	880	700	590	440	360	300	220	180	150
SKD11	7 ~ 12	1100	800	640	540	400	320	270	200	160	130
AC4C	60 ~ 90	8000	6000	4800	4000	3000	2400	2000	1500	1200	1000

※For feeding parameter (mm/rev), select 1-3% of the diameter as a basic rule. When cutting on curved face or slanting face, always choose 0.1mm/rev for feeding parameter.

Spiral Fluted Taps (for blind hole)
Spiral Fluted Taps (for through hole)
Spiral Pointed Taps (for through hole)
Hand Taps
Cemented Carbide Taps
Roll Taps
Special Thread Taps (Simple inspection tools)
Pipe Taps
Thread Mills
Dies
Center Drills
Centering Tools

Shank dia.	Drill diameter	Overall length	Flute length
Ds	Dc	L	ℓ

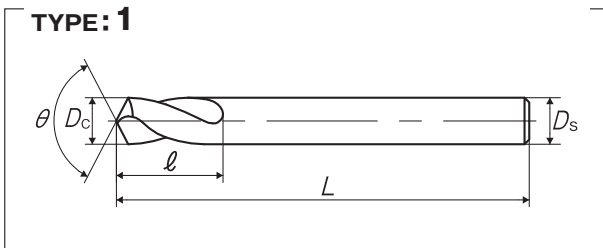
NC-SD V NC Starting Drills for Center Positioning (90°), Coated



Segment : 56

Size Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ (mm)	Type	Stock
3 × 90°	VCS-D3.0Q	3	3	46	10	1	○
4 × 90°	VCS-D4.0Q	4	4	55	12	1	○
5 × 90°	VCS-D5.0Q	5	5	62	13	1	○
6 × 90°	VCS-D6.0Q	6	6	66	15	1	◎
8 × 90°	VCS-D8.0Q	8	8	79	20	1	◎
10 × 90°	VCS-D010Q	10	10	89	23	1	◎
12 × 90°	VCS-D012Q	12	12	102	26	1	◎
16 × 90°	VCS-D016Q	16	16	115	32	1	○
20 × 90°	VCS-D020Q	20	20	131	40	1	○
25 × 90°	VCS-D025Q	25	25	151	50	1	○

NC-SD NC Starting Drills for Center Positioning (125°)



Segment : 56

Size Dc × θ	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ (mm)	Type	Stock
3 × 125°	CS-D3.0	3	3	46	10	1	○
4 × 125°	CS-D4.0	4	4	55	12	1	○
5 × 125°	CS-D5.0	5	5	62	13	1	○
6 × 125°	CS-D6.0	6	6	66	15	1	○
8 × 125°	CS-D8.0	8	8	79	20	1	○
10 × 125°	CS-D010	10	10	89	23	1	○
12 × 125°	CS-D012	12	12	102	26	1	○
16 × 125°	CS-D016	16	16	115	32	1	○
20 × 125°	CS-D020	20	20	131	40	1	○
25 × 125°	CS-D025	25	25	151	50	1	○

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

CS-Q

Countersinks 90°, Machining Center Use
Specification

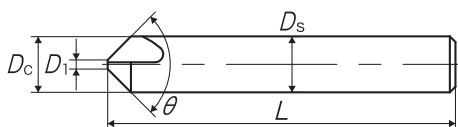
HSS

For icon explanation, refer to P.50

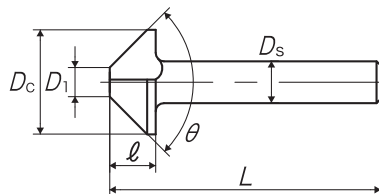


■CS-Q is suitable for the machining of high accuracy on the beveling of round hole and on the beveling of attaching face of screw bolts. Having one cutting edge, this tool is suitable for machining center use.

TYPE:1



TYPE:2



Segment : 53

Size $D_c \times \theta \times D_s$	Code	D_s (mm)	D_1 (mm)	L (mm)	l (mm)	No. of flutes	Type	Stock
4 × 90° × 4	CS4.0Q	4	0.6	50	-	1	1	△
6 × 90° × 6	CS6.0Q	6	1	50	-	1	1	○
8 × 90° × 8	CS8.0Q	8	1.3	50	-	1	1	○
10 × 90° × 8	CS010Q	8	1.6	46	5.5	1	2	○
15 × 90° × 10	CS015Q	10	3.2	56	7.5	1	2	○
20 × 90° × 10	CS020Q	10	4	60	10	1	2	○
25 × 90° × 10	CS025Q	10	7	65	11	1	2	○
30 × 90° × 12	CS030Q	12	9	70	12.5	1	2	○
35 × 90° × 12	CS035Q	12	11	75	15	1	2	○
40 × 90° × 12	CS040Q	12	12.5	80	17	1	2	○
45 × 90° × 12	CS045Q	12	14	85	18.5	1	2	○
50 × 90° × 12	CS050Q	12	16	90	20	1	2	○
60 × 90° × 16	CS060Q	16	20	100	24	1	2	○

Spiral Fluted Taps (for blind hole)
 Spiral Fluted Taps (for through hole)
 Spiral Pointed Taps (for through hole)
 Hand Taps
 Cemented Carbide Taps
 Roll Taps
 Special Thread Taps (Simple inspection tools)
 Pipe Taps
 Thread Mills
 Dies
 Center Drills
 Centering Tools

Drill diameter	Tool end dia.	Overall length	Cutting edge length	Shank dia.
Dc	D ₁	L	ℓ	D _s



CS-QM

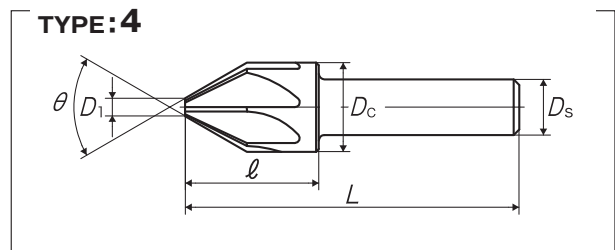
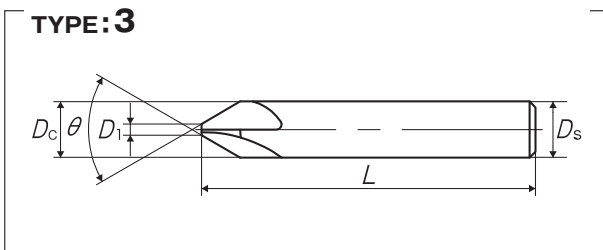
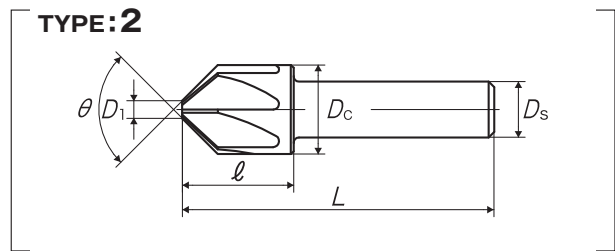
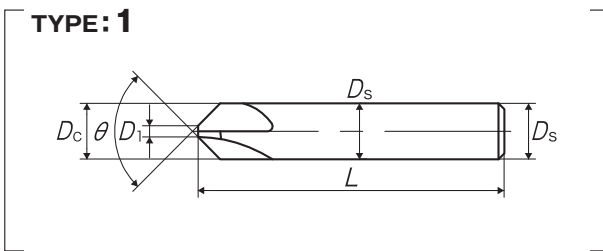
Countersinks 90° and 60°, Drilling Machine Use

Specification

HSS

For icon explanation, refer to P.50

■CS-QM is suitable for the machining of high accuracy on the beveling of round hole and on the beveling of attaching face of screw bolts. Having plural cutting edges, this tool is suitable for drilling machine use.



Segment : 53

Size Dc × θ × Ds	Code	Ds (mm)	D ₁ (mm)	L (mm)	ℓ (mm)	No. of flutes	Type	Stock
6 × 90° × 6	CS6.0QM9	6	1.2	42	-	3	1	○
8 × 90° × 8	CS8.0QM9	8	1.6	44	-	3	1	○
10 × 90° × 8	CS010QM9	8	2	46	14	3	2	○
12 × 90° × 8	CS012QM9	8	2.5	48	16	5	2	○
16 × 90° × 10	CS016QM9	10	3.2	56	20	5	2	○
20 × 90° × 10	CS020QM9	10	4	60	24	5	2	○
25 × 90° × 10	CS025QM9	10	7	65	29	7	2	○
30 × 90° × 12	CS030QM9	12	9	68	32	7	2	○
35 × 90° × 12	CS035QM9	12	11	70	34	7	2	○
40 × 90° × 12	CS040QM9	12	12.5	71	35	7	2	○
6 × 60° × 6	CS6.0QM6	6	1.2	46	-	3	3	△
8 × 60° × 8	CS8.0QM6	8	1.6	48	-	3	3	○
10 × 60° × 8	CS010QM6	8	2	50	18	3	4	△
12 × 60° × 8	CS012QM6	8	2.5	52	20	5	4	△
16 × 60° × 10	CS016QM6	10	3.2	60	24	5	4	○
20 × 60° × 10	CS020QM6	10	4	64	28	5	4	○
25 × 60° × 10	CS025QM6	10	7	69	33	7	4	○
30 × 60° × 12	CS030QM6	12	9	76	40	7	4	△
35 × 60° × 12	CS035QM6	12	11	79	43	7	4	△
40 × 60° × 12	CS040QM6	12	12.5	81	45	7	4	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

CS-G

Submarine Gate Cutter, 20°, 30°

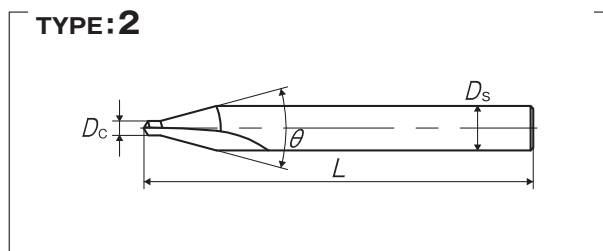
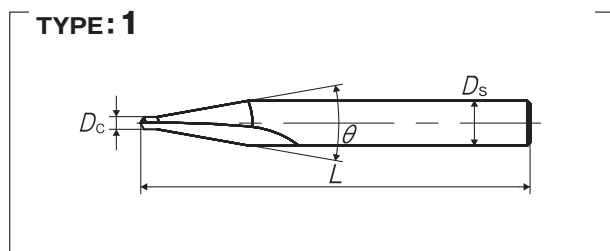
Specification

HSS

For icon explanation, refer to P.50



■CS-G is the special drill for making submarine gate (tunnel gate) on the die mold of plastic injection machine.



Segment : 54

Size Dc × θ × Ds	Code	Ds (mm)	Dc (mm)	L (mm)	φ (mm)	No. of flutes	Type	Stock
0.5 × 20° × 6	CS-G0.52-J	6	0.5	57	0.5	2	1	△
0.5 × 30° × 6	CS-G0.53-J	6	0.5	57	0.5	2	2	△
0.5 × 20° × 6	CS-G0.52-LS	6	0.5	100	0.5	2	1	△
0.5 × 30° × 6	CS-G0.53-LS	6	0.5	100	0.5	2	2	△
0.6 × 20° × 6	CS-G0.62-J	6	0.6	57	0.5	2	1	△
0.6 × 30° × 6	CS-G0.63-J	6	0.6	57	0.5	2	2	△
0.6 × 20° × 6	CS-G0.62-LS	6	0.6	100	0.5	2	1	△
0.6 × 30° × 6	CS-G0.63-LS	6	0.6	100	0.5	2	2	△
0.7 × 20° × 6	CS-G0.72-J	6	0.7	57	0.5	2	1	△
0.7 × 30° × 6	CS-G0.73-J	6	0.7	57	0.5	2	2	△
0.7 × 20° × 6	CS-G0.72-LS	6	0.7	100	0.5	2	1	△
0.7 × 30° × 6	CS-G0.73-LS	6	0.7	100	0.5	2	2	△
0.8 × 20° × 6	CS-G0.82-J	6	0.8	57	0.5	2	1	△
0.8 × 30° × 6	CS-G0.83-J	6	0.8	57	0.5	2	2	△
0.8 × 20° × 6	CS-G0.82-LS	6	0.8	100	0.5	2	1	△
0.8 × 30° × 6	CS-G0.83-LS	6	0.8	100	0.5	2	2	△
1 × 20° × 6	CS-G1.02-J	6	1	57	0.5	2	1	△
1 × 20° × 8	CS-G1.028J	8	1	57	0.5	2	1	△
1 × 30° × 6	CS-G1.03-J	6	1	57	0.5	2	2	△
1 × 30° × 8	CS-G1.038J	8	1	57	0.5	2	2	△
1 × 20° × 8	CS-G1.028K	8	1	70	0.5	2	1	△
1 × 30° × 8	CS-G1.038K	8	1	70	0.5	2	2	△
1 × 20° × 6	CS-G1.02-LS	6	1	100	0.5	2	1	△
1 × 20° × 8	CS-G1.028LS	8	1	100	0.5	2	1	△
1 × 30° × 6	CS-G1.03-LS	6	1	100	0.5	2	2	△
1 × 30° × 8	CS-G1.038LS	8	1	100	0.5	2	2	△
1.5 × 20° × 8	CS-G1.52-K	8	1.5	70	0.5	2	1	△
1.5 × 30° × 8	CS-G1.53-K	8	1.5	70	0.5	2	2	△
1.5 × 20° × 8	CS-G1.52-LS	8	1.5	100	0.5	2	1	△
1.5 × 30° × 8	CS-G1.53-LS	8	1.5	100	0.5	2	2	△
2 × 20° × 8	CS-G2.02-K	8	2	70	0.5	2	1	△

Shank dia.	Drill diameter	Overall length	Drill length
Ds	Dc	L	ℓ

CS-G Submarine Gate Cutter, 20°, 30°

Size Dc × θ × Ds	Code	Ds (mm)	Dc (mm)	L (mm)	ℓ (mm)	No. of flutes	Type	Stock
2 × 30° × 8	CS-G2.03-K	8	2	70	0.5	2	2	△
2 × 20° × 8	CS-G2.02-LS	8	2	100	0.5	2	1	△
2 × 30° × 8	CS-G2.03-LS	8	2	100	0.5	2	2	△

Spiral Fluted Taps
(for blind hole)

Spiral Fluted Taps
(for through hole)

Spiral Pointed Taps
(for through hole)

Hand Taps

Cemented
Carbide Taps

Roll Taps

Special Thread Taps
Simple Inspection Tools

Pipe Taps

Thread Mills

Dies

Center Drills

Centering Tools

YAMAWA

LINE-UPS ARRANGED ON SIZES





M2 Taps	Sizes-1	M1 ~ M7 Taps	Sizes-30
M2 Dies	Sizes-3	M1 ~ M7 Dies	Sizes-33
M3 Taps	Sizes-4	M9 ~ M24 Taps	Sizes-34
M3 Dies	Sizes-6	M9 ~ M24 Dies	Sizes-40
M4 Taps	Sizes-7	M25 ~ M48 Taps	Sizes-41
M4 Dies	Sizes-9	M26 ~ M36 Dies	Sizes-46
M5 Taps	Sizes-10	For Unified threads Taps	Sizes-47
M5 Dies	Sizes-12	For Unified threads Dies	Sizes-52
M6 Taps	Sizes-13	For Whitworth threads Taps	Sizes-54
M6 Dies	Sizes-16	For Pipe threads Taps	Sizes-55
M8 Taps	Sizes-17	For Pipe threads Dies	Sizes-57
M8 Dies	Sizes-20	For Pg threads Taps	Sizes-58
M10 Taps	Sizes-21	For NPT threads Dies	Sizes-59
M10 Dies	Sizes-25		
M12 Taps	Sizes-26		
M12 Dies	Sizes-29		

Explanation of catalogue contents

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps M2×0.4									
Standard	P2	SP	SD2.0EANEBC	SP	ISO2	45	2.8	2.5P	SP-2
		PO	PD2.0EANEBC	PO				5P	PO-2
	P2	HT	TD2.0EANEBC	HT	ISO2	45	2.8	2.5P	HT-2
			TQ2.0EANEBC2			36		F	HT-2
			TQ2.0EANEBCU					M	HT-2
	TQ2.0EANEBC5						V	HT-2	
Oxidizing	P1 P2	SP OX	SD2.0EANEBC	SP	ISO2	45	2.8	2.5P	SP-9









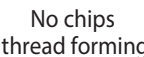
Page shown in line-ups depending on products

Classification of materials

Kind	Chip shape after boring (drilling)	ISO Code	Examples of materials		
Ferrous		<div style="text-align: center;"> Chip or powder like ↑ ↓ Continuous </div>	K1	Grey cast iron	150~250HB
			K2	Nodular cast iron	150~350HB
			K3	Austenitic cast iron	120~260HB
			K4	ADI cast iron	250~500HB
			H	Hardened steel	45~55HRC
			H	Hardened steel	55~63HRC
			M5	PH stainless steel	850~1250N/mm ²
			M4	Martensitic stainless steel	650~950N/mm ²
			M3	Austenitic stainless steel	550~850N/mm ²
			M1-M2	Ferritic and austenitic stainless steel	400~750N/mm ²
			P6	High tensile strength steel	1200~1480N/mm ²
			P5	Tool steel	900~1200N/mm ²
			P4	High alloy steel	800~1000N/mm ²
P3	Medium alloy steel and heat treated steel	600~800N/mm ²			
P2	Carbon steel and low alloy steel	500~700N/mm ²			
P1	Freecutting and structural steel	~500N/mm ²			
Non-ferrous		<div style="text-align: center;"> Continuous ↑ ↓ Chip or powder like </div>	S5	Titanium alloy	-
			S3	HRSA	35~45HRC
			S1-S2	HRSA	~35HRC
			N1	Aluminum alloy	<12% Si
			N2	Aluminum alloy	>12% Si
			N3	Copper alloy	-
N4	Brass alloy and bronze alloy	-			

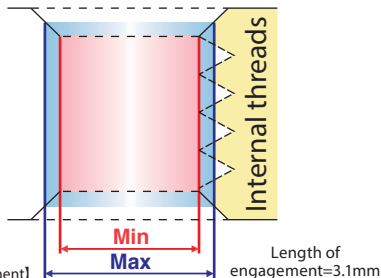
Hardness of materials : Please refer to material composition table shown in technical data.

Flute shape of taps and chip ejection

SP= Spiral	PO= Spiral point	SL= LH spiral	HT= Straight	RO= Forming
				
 Continuous chips	 Chip ejection		 Broken chips stored in flutes	 No chips thread forming

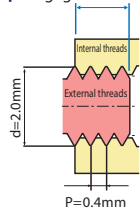
Flowchart : M2 tapping

Boring before tapping — Check 1

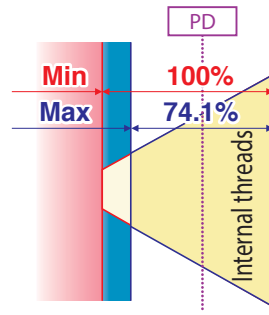


[Length of engagement]
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

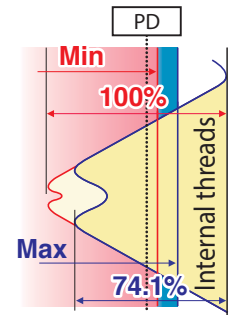
Symbol	Engagement length classification	Engagement length		
		Fine	Middle	Coarse
S	Short engagement length	4H	5H	—
M	Normal engagement length	5H	6H	7H
L	Long engagement length	6H	7H	8H



Engagement ratio on cutting taps



Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor diameter.

	Drill size (ref.)	D1	
		Min	Max
Bored hole size	1.6	1.567	1.679
Engagement ratio	92.4%	100%	74.1%

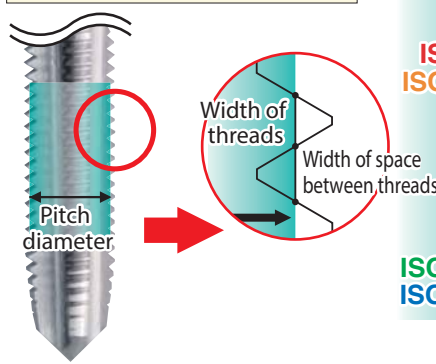
D1 is minor diameter of JIS 6H(2nd Class) of internal threads

*Hole size for thread forming taps	
Min	Max
1.79	1.84

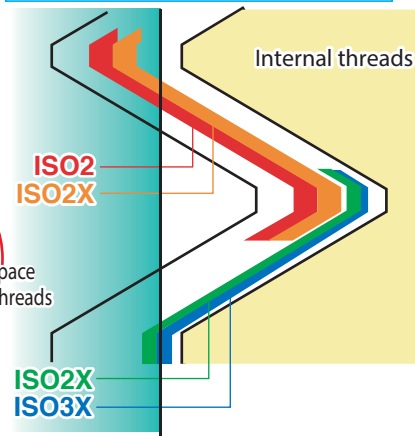
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

[Pitch diameter]
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



[Thread class of cutting taps]

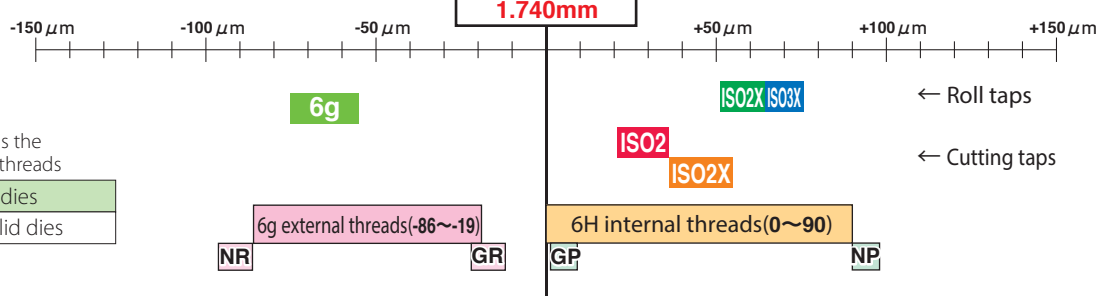
Class	PD tolerance
ISO2	21 μm ~ 36 μm
ISO2X	36 μm ~ 55 μm

*Above shows the plus tolerance by setting PD basic size as "0".

[Thread class of roll taps]

Class	PD tolerance
ISO2X	51 μm ~ 64 μm
ISO3X	64 μm ~ 76 μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of die is the target of external threads

Class of dies	
6g	Solid dies

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(-) ← Basic size of pitch diameter → (+)
1.740mm

Ring gage pitch diameter (for external threads inspection)			
Unit : μm			
NR6g	-96 ~ -86	GR6g	-22 ~ -12

NR : NOT GO ring gage
GR : GO ring gage

Plug gage pitch diameter (for internal threads inspection)			
Unit : μm			
GP6H	2 ~ 10	NP6H	90 ~ 98

GP : GO plug gage
NP : NOT GO plug gage

Accuracy of external threads			
Unit : mm			
	Major diameter	Pitch diameter	Minor diameter
6g	1.886~1.981	1.654~1.721	—

Accuracy of internal threads			
Unit : mm			
	Major diameter	Pitch diameter	Minor diameter
6H	—	1.740~1.830	1.567~1.679

Icons of main materials

- P1 Free cutting and structural steel
- P2 Carbon steel and low alloy steel
- P3 Medium alloy steel and heat treated steel
- P4 High alloy steel
- P5 Tool steel
- P6 High tensile strength steel
- M1-M2 Ferritic and austenitic stainless steel
- M3 Austenitic stainless steel
- M4 Martensitic stainless steel
- M5 PH stainless steel
- K1 Grey cast iron
- K2 Nodular cast iron
- K3 Austenitic cast iron
- K4 ADI cast iron
- N1 Aluminium alloy (< 12% Si)
- N2 Aluminium alloy (> 12% Si)
- N3 Copper alloy
- N4 Brass alloy and bronze alloy
- S1-S2 HRSA (~35HRC)
- S3 HRSA (35~45HRC)
- S5 Titanium alloy
- H45-55HRC H55-63HRC Hardened steel

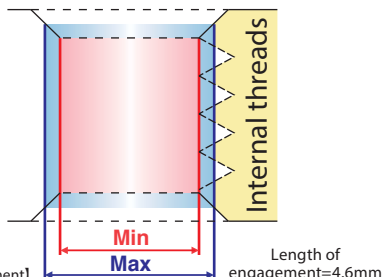
Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M2×0.4										
Standard	P2	SP	SD2.0EANEB	SP	ISO2	45	2.8	2.5P	SP-2	
		PO	PD2.0EANEB	PO				5P	PO-2	
		HT	TD2.0EANEB	HT				2.5P	HT-2	
		TQ2.0EANEB2			36		F		HT-2	
		TQ2.0EANEBU					M		HT-2	
TQ2.0EANEB5					V		HT-2			
Oxidizing	P1 P2	SP OX	SD2.0EANEX	SP	ISO2	45	2.8	2.5P	SP-9	
		PO OX	PD2.0EANEX	PO				5P	PO-9	
Coated	P1 P2 P3 P4	SP(Coating)	96402.0TI	SP	ISO2	45	2.8	2.5P	SP-7	
		PO(Coating)	96302.0TI	PO				5P	PO-6	
Low spiral	P2 P3	LO-SP	SD2.0EANEBH	SP	ISO2	45	2.8	3.5P	SP-19	
		Oxidizing	LO-SP OX	SD2.0EANEXH	SP	ISO2	45	2.8	3.5P	SP-22
For stainless steels	P4 M1-M2	SP-VA	SD2.0EAGEX	SP	ISO2	45	2.8	2.5P	SP-28	
		P1 P2 P3 P4 M1-M2 M3	PO-VA	PD2.0EBGEX	PO	ISO2X	45	2.8	4.5P	PO-14
For aluminum alloys	N1 N2 N3 N4		AL+SP	SE2.0EALEN	SP	ISO2	45	2.8	2.5P	SP-18
Thread forming taps for soft structural steel sheets	P1	R-D	RD2.0EBNEBB	RO	ISO2X	45	2.8	2P	RO-1	
		Coated	R-D(Coating)	93532.0BTI	RO	ISO2X	45	2.8	2P	RO-2
			R-D(Coating)	93532.0BTC	RO	ISO2X	45	2.8	2P	RO-3
Thread forming taps for non-ferrous metals	N1 N2	N+RS	RE2.0EBKENB	RO	ISO2X	45	2.8	2P	RO-4	
High performance thread forming taps, coated	P1 P2 P3 P4 M1-M2 M3	HP+RZ	RE2.0EBFPTB	RO	ISO2X	45	2.8	2P	RO-7	
			RE2.0ENFPTB		ISO3X				RO-7	

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M2×0.4									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD2.0ELNEBC	Di-1
Dies M2×0.25									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD2.0ELNEBC	Di-1

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Pg threads Taps

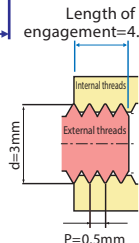
Flowchart : M3 tapping

Boring before tapping — Check 1

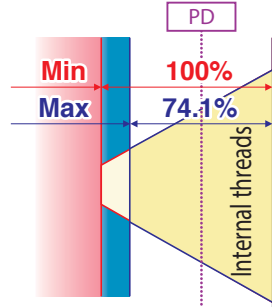


[Length of engagement]
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

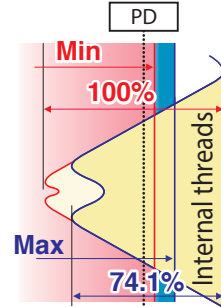
Symbol	Engagement length classification	Engagement classification			Engagement length
		Fine	Middle	Coarse	
S	Short engagement length	4H	5H	—	$S \leq 1.5$ (mm)
M	Normal engagement length	5H	6H	7H	$1.5 < M \leq 4.5$ (mm)
L	Long engagement length	6H	7H	8H	$4.5 < L$ (mm)



Engagement ratio on cutting taps



Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor diameter.

Unit : mm

	Drill size (ref.)	D1	
		Min	Max
Bored hole size	2.5	2.459	2.599
Engagement ratio	92.4%	100%	74.1%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

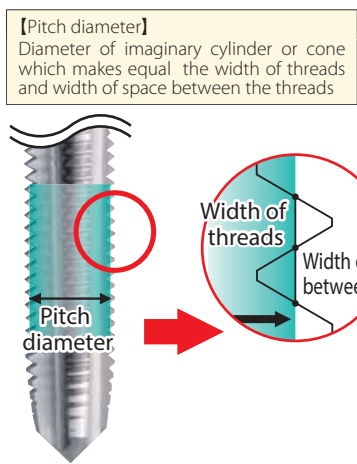
Unit : mm

*Hole size for thread forming taps

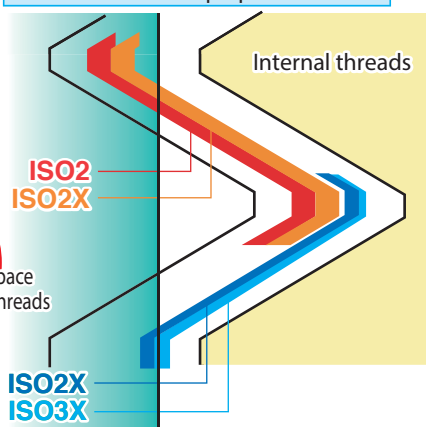
Hole size for thread forming taps	
Min	Max
2.75	2.82

Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2



Tolerance area of tap's pitch diameter



[Thread class of cutting taps]

Class	PD tolerance
ISO2	24 μm ~ 40 μm
ISO2X	39 μm ~ 55 μm

*Above shows the plus tolerance by setting PD basic size as "0".

[Thread class of roll taps]

Class	PD tolerance
ISO2X	64 μm ~ 76 μm
ISO3X	76 μm ~ 89 μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
6g	Solid dies

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(-) ← Basic size of pitch diameter → (+)
2.675mm

Unit : μm

Ring gage pitch diameter (for external threads inspection)			
NR6g	-105 ~ -95	GR6g	-23 ~ -13

NR : NOT GO ring gage
GR : GO ring gage

Unit : μm

Plug gage pitch diameter (for internal threads inspection)			
GP6H	2 ~ 10	NP6H	100 ~ 108

GP : GO plug gage
NP : NOT GO plug gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	2.874~2.980	2.580~2.655	—

Unit : mm

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	—	2.675~2.775	2.459~2.599

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminum alloy (< 12% Si)
N2 Aluminum alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC
H55-65HRC
H Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M3×0.5										
Standard	P2	SP	SD3.0GANEB	SP	ISO2	56	3.5	2.5P	SP-2	
		PO	PD3.0GANEB	PO					5P PO-2	
		PQ3.0GANEB			40				PO-2	
		HT	TD3.0GANEB	HT		56		2.5P	HT-2	
		TQ3.0GANEB2			40			F	HT-2	
		TQ3.0GANEBU							M HT-2	
		TQ3.0GANEB5							V HT-2	
Oversize	P2	SP	SD3.0GMNEB	SP	ISO3	56	3.5	2.5P	SP-2	
		96403.0+100			ISO-110				SP-2	
		PO	PD3.0GMNEB	PO	ISO3				5P PO-2	
Oxidizing	P1 P2	SP OX	SD3.0GANEX	SP	ISO2	56	3.5	2.5P	SP-9	
		PO OX	PD3.0GANEX	PO		56			5P PO-9	
Oversize	P1 P2	SP OX	SD3.0GMNEX	SP	ISO3	56	3.5	2.5P	SP-9	
		PO OX	PD3.0GMNEX	PO					5P PO-9	
Low spiral	P2 P3	LO-SP	SD3.0GANEBH	SP	ISO2	56	3.5	3.5P	SP-19	
		LO-SP OX	SD3.0GANEXH	SP	ISO2	56	3.5	3.5P	SP-22	
		LO-SP OX	SD3.0GMNEXH	SP	ISO3	56	3.5	3.5P	SP-22	
Coated	P1 P2 P3 P4 M1-M2 N1 N2	AU+SP	SE3.0GANEV	SP	ISO2	56	3.5	2.5P	SP-15	
		AU+SL	LE3.0GBNEV	SL	ISO2X				5P SL-6	
		SP(Coating)	96403.0TI	SP	ISO2	56	3.5	2.5P	SP-7	
		PO(Coating)	96303.0TI	PO					5P PO-6	
For soft structural steels	P1	E-SP	SD3.0GAHEX	SP	ISO2	56	3.5	2.5P	SP-26	
Thread forming taps for steels	P1 P2	N+RZ	RE3.0GBHEXB	RO	ISO2X	56	3.5	2P	RO-5	
Thread forming taps for soft structural steel sheets	P1	R-D	RD3.0GBNEBB	RO	ISO2X	56	3.5	2P	RO-1	
		R-D(Coating)	93533.0BTI	RO	ISO2X	56	3.5	2P	RO-2	
		R-D(Coating)	93533.0BTC	RO	ISO2X	56	3.5	2P	RO-3	
For hard-to-machine materials	P5 P6	EH-PO	PD3.0GBDCB	PO	ISO2X	56	3.5	4.5P	PO-13	
		EH-HT	TD3.0GBDCBC	HT					2.5P HT-12	
		PH-SP	SD3.0GAEEX	SP	ISO2	56	3.5	3P	SP-24	
For titanium alloys	S5	ZET-P	LD3.0GBIPN	SL	ISO2X	56	3.5	5P	SL-8	
		ZET-B	SD3.0GBIPN	SP					3P SP-40	
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SD3.0GBJPX	SP	ISO2X	56	3.5	3P	SP-38	
		ZEN-P	PD3.0GBJPW	PO					4.5P PO-18	
		SP+VA	SE3.0GAGEX	SP	ISO2	56	3.5	2.5P	SP-27	
For stainless steels	P4 M1-M2	SP+VA	SD3.0GAGEX						SP-28	
		SL+VA	LE3.0GBGEX	SL	ISO2X	56	3.5	5P	SL-1	
	P1 P2 P3 P4 M1-M2	PO+VA	PD3.0GBGEX	PO					4.5P PO-14	
		SP-VA	SD3.0GMGEX	SP	ISO3	56	3.5	2.5P	SP-28	
	Oversize	P4 M1-M2	SP-VA	SD3.0GAGET	SP	ISO2	56	3.5	2.5P	SP-31
			PO-VA	PD3.0GBGET	PO	ISO2X	56	3.5	4.5P	PO-17
	Coated	P1 P2 P3 P4 M1-M2	PO-VA	PD3.0GBGET	PO	ISO2X	56	3.5	4.5P	PO-17
			For hard-to-machine materials	P4 M3-M4	SU2-SP	SD3.0GAGEXJ	SP	ISO2	56	3.5
	For cast irons	K1	GG-HT	TD3.0GBAENC	HT	ISO2X	56	3.5	2.5P	HT-14
			GG-HT(Coating)	96263.0TC	HT	ISO2X	56	3.5	2.5P	HT-16
Carbide			K1 K2	CT-FC	HT	ISO2X	56	3.5	2.5P	CT-1







Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page		
Carbide taps for hard materials	H45-55HRC H55-65HRC	EH-CT	TD3.0GBCWAS	HT	ISO2X	56	3.5	5P	CT-4		
		UH-CT	TD3.0GBBWA5	HT	ISO2X	56	3.5	5P	CT-6		
For aluminum alloys	N1 N2 N3 N4	AL+SP	SE3.0GALEN	SP	ISO2	56	3.5	2.5P	SP-18		
		LA-HT	TD3.0GBLEN5	HT	ISO2X	56	3.5	5P	HT-20		
Thread forming taps for non-ferrous metals	N1 N2	N+RS	RE3.0GBKENB	RO	ISO2X	56	3.5	2P	RO-4		
For high speed	P1 P2	F-SP	SD3.0GBNEV	SP	ISO2X	56	3.5	2.5P	SP-42		
		F-SL	LD3.0GBNEV	SL					5P SL-9		
Thread forming taps for dry tapping	P1 P2 P3 P4 M1-M2	OL+RZ	RE3.0GBHPTP	RO	ISO2X	56	3.5	4P	RO-6		
High performance thread forming taps, coated	P1 P2 P3 P4 M1-M2	HP+RZ	RE3.0GBFPTB	RO	ISO2X	56	3.5	2P	RO-7		
		Oversize	P1 P2 P3 P4 M1-M2	HP+RZ	RE3.0GNFPTB	RO	ISO3X	56	3.5	2P	RO-7
For deep hole use	P2	SP-BLF	SD3.0GANEBJ	SP	ISO2	56	3.5	2.5P	SP-32		
		Oxidizing	P2	SP-BLF OX	SD3.0GANEXJ	SP	ISO2	56	3.5	2.5P	SP-35
		Coated	P1 P2 P3 P4	SP-BLF (Coating)	96473.0TI	SP	ISO2	56	3.5	2.5P	SP-34
Taps M3×0.35											
Standard	P2	HT	TR3.0DANE2	HT	ISO2	40	3.5	F	HT-2		
			TR3.0DANE5						V	HT-2	

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

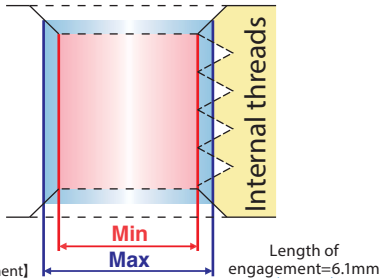
	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M3×0.5									
Spiral pointed dies	HSS	DPO	Note 1	6g	20	5	2~2.5P	PDE3.0GLNEBC	Di-1
Dies M3×0.35									
Spiral pointed dies	HSS	DPO	Note 1	6g	20	5	2~2.5P	PDE3.0DLNEBC	Di-1

- M2 Dies
- M3 Dies
- M4 Dies
- M5 Dies
- M6 Dies
- M8 Dies
- M10 Dies
- M12 Dies
- M1-M7 Dies
- M9-M24 Dies
- M26-M36 Dies
- For Unified threads Dies
- For Pipe threads Dies
- For American pipe threads Dies

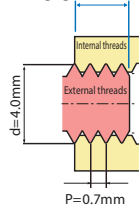
Flowchart : M4 tapping

Boring before tapping — Check 1

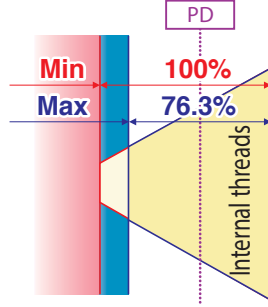


[Length of engagement]
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

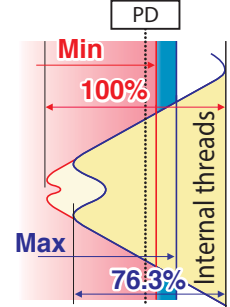
Symbol	Engagement length classification	Engagement classification			Engagement length
		Fine	Middle	Coarse	
S	Short engagement length	4H	5H	—	$S \leq 2(\text{mm})$
M	Normal engagement length	5H	6H	7H	$2 < M \leq 6(\text{mm})$
L	Long engagement length	6H	7H	8H	$6 < L(\text{mm})$



Engagement ratio on cutting taps



Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor diameter.

	Drill size (ref.)	D1	
		Min	Max
Bored hole size	3.3	3.242	3.422
Engagement ratio	92.4%	100%	76.3%

Unit: mm
D1 is minor diameter of JIS 6H(2nd Class) of internal threads

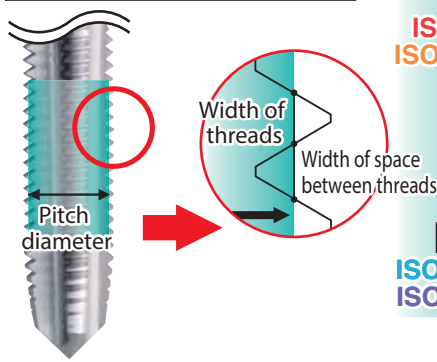
*Hole size for thread forming taps	
Min	Max
3.65	3.72

Unit: mm

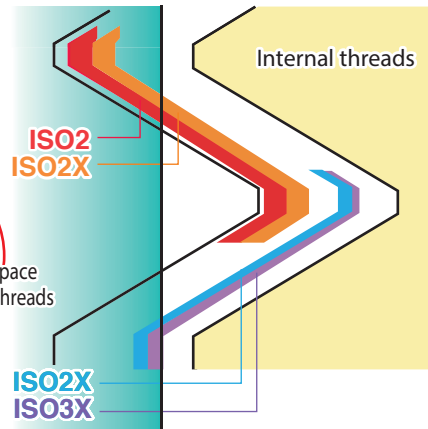
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

[Pitch diameter]
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



[Thread class of cutting taps]

Class	PD tolerance
ISO2	29 μm ~ 48 μm
ISO2X	44 μm ~ 63 μm

*Above shows the plus tolerance by setting PD basic size as "0".

[Thread class of roll taps]

Class	PD tolerance
ISO2X	76 μm ~ 89 μm
ISO3X	89 μm ~ 102 μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
6g	Solid dies

NR	6g external threads(-112~-22)	GR	6H internal threads(0~118)	GP	NP
----	-------------------------------	----	----------------------------	----	----

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

Ring gage pitch diameter (for external threads inspection)			
NR6g	-126 ~ -112	GR6g	-31 ~ -17

NR : NOT GO ring gage
GR : GO ring gage

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	3.838~3.978	3.433~3.523	—

Plug gage pitch diameter (for internal threads inspection)			
GP6H	2 ~ 10	NP6H	118 ~ 126

GP : GO plug gage
NP : NOT GO plug gage

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	—	3.545~3.663	3.242~3.422

Icons of main materials

- P1 Free cutting and structural steel
- P2 Carbon steel and low alloy steel
- P3 Medium alloy steel and heat treated steel
- P4 High alloy steel
- P5 Tool steel
- P6 High tensile strength steel
- M1-M2 Ferritic and austenitic stainless steel
- M3 Austenitic stainless steel
- M4 Martensitic stainless steel
- M5 PH stainless steel
- K1 Grey cast iron
- K2 Nodular cast iron
- K3 Austenitic cast iron
- K4 ADI cast iron
- N1 Aluminum alloy (< 12% Si)
- N2 Aluminum alloy (> 12% Si)
- N3 Copper alloy
- N4 Brass alloy and bronze alloy
- S1-S2 HRSA (~35HRC)
- S3 HRSA (35~45HRC)
- S5 Titanium alloy
- H45-55HRC Hardened steel
- H55-65HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page		
Taps M4×0.7											
Standard	P2	SP	SD4.0IANEB	SP	ISO2	63	4.5	2.5P	SP-2		
		SG4.0IANEB					2.8		SP-2		
		PO	PD4.0IANEB	PO	ISO2	63	4.5	5P	PO-2		
		PG4.0IANEB					2.8		PO-2		
		PQ4.0IANEB					4.5	4.5	PO-2		
		HT	TD4.0IANEB	HT			63		2.5P	HT-2	
		TQ4.0IANEB2					4.5		F	HT-2	
		TQ4.0IANEBU							M	HT-2	
		TQ4.0IANEB5							V	HT-2	
		Oversize	P2	SP	SD4.0IMNEB	SP	ISO3	63	4.5	2.5P	SP-2
96404.0+100						ISO2-100			SP-2		
PO	PD4.0IMNEB			PO	ISO3			5P	PO-2		
FFYC2002						ISO2-100			PO-2		
For left hand threads	P2	SP LH	HD4.0IANEB	SP	ISO2	63	4.5	2.5P	SP-13		
		Oxidizing	P1 P2	SP OX	SD4.0IANEX	SP	ISO2	63	4.5	2.5P	SP-9
Oxidizing	P1 P2	SG4.0IANEX					2.8		SP-9		
		PO OX	PD4.0IANEX	PO		63	4.5	5P	PO-9		
		PG4.0IANEX					2.8		PO-9		
		Oversize	P1 P2	SP OX	SD4.0IMNEX	SP	ISO3	63	4.5	2.5P	SP-9
Low spiral	P2 P3	LO-SP	SD4.0IANEBH	SP	ISO2	63	4.5	3.5P	SP-19		
		Oxidizing	P2 P3	LO-SP OX	SD4.0IANEXH	SP	ISO2	63	4.5	3.5P	SP-22
		SG4.0IANEXH					2.8		SP-22		
Coated	P1 P2 P3 P4 M1-M3 N1 N2	AU+SP	SE4.0IANEV	SP	ISO2	63	4.5	2.5P	SP-15		
		AU+SL	LE4.0IBNEV	SL	ISO2X			5P	SL-6		
		SP(Coating)	96404.0TI	SP	ISO2	63	4.5	2.5P	SP-7		
		PO(Coating)	96304.0TI	PO				5P	PO-6		
For soft structural steels	P1	E-SP	SD4.0IAHEX	SP	ISO2	63	4.5	2.5P	SP-26		
Thread forming taps for steels	P1 P2	N+RZ	RE4.0IBHEXB	RO	ISO2X	63	4.5	2P	RO-5		
Thread forming taps for soft structural steel sheets	P1	R-D	RD4.0IBNEBB	RO	ISO2X	63	4.5	2P	RO-1		
		Coated	P1	R-D(Coating)	93534.0BTI	RO	ISO2X	63	4.5	2P	RO-2
		P1	R-D(Coating)	93534.0BTC	RO	ISO2X	63	4.5	2P	RO-3	
For hard-to-machine materials	P5 P6	EH-PO	PD4.0IBDCB	PO	ISO2X	63	4.5	4.5P	PO-13		
		EH-HT	TD4.0IBDCBC	HT				2.5P	HT-12		
		P4 P5	PH-SP	SD4.0IAEEX	SP	ISO2	63	4.5	3P	SP-24	
For titanium alloys	S5	ZET-B	SD4.0IBIPN	SP	ISO2X	63	4.5	3P	SP-40		
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZET-P	LD4.0IBIPN	SL				5P	SL-8		
		ZEN-B	SD4.0IBJPX	SP	ISO2X	63	4.5	3P	SP-38		
		ZEN-P	PD4.0IBJPW	PO				4.5P	PO-18		

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page		
For stainless steels	P4 M1-M2	SP+VA	SE4.0IAGEX	SP	ISO2	63	4.5	2.5P	SP-27		
		SP-VA	SD4.0IAGEX						SP-28		
		P1 P2 P3 P4 M1-M3	SL+VA	LE4.0IBGEX	SL	ISO2X	63	4.5	5P	SL-1	
		PO-VA	PD4.0IBGEX	PO	ISO2X			4.5P	PO-14		
		Oversize	P4 M1-M2	SP-VA	SD4.0IMGEX	SP	ISO3	63	4.5	2.5P	SP-28
		Coated	P4 M1-M2	SP-VA	SD4.0IAGET	SP	ISO2	63	4.5	2.5P	SP-31
		P1 P2 P3 P4 M1-M3	PO-VA	PD4.0IBGET	PO	ISO2X	63	4.5	4.5P	PO-17	
		For hard-to-machine materials	P4 M3 S3	SU2-SP	SD4.0IAGEXU	SP	ISO2	63	4.5	2.5P	SP-36
		For cast irons	K1	GG-HT	TD4.0IBAENC	HT	ISO2X	63	4.5	2.5P	HT-14
		Coated		GG+HT(Coating)	96264.0TC	HT	ISO2X	63	4.5	2.5P	HT-16
Carbide	K1 K2	CT-FC		36264.0	HT	ISO2X	63	4.5	2.5P	CT-1	
Carbide taps for hard materials	H45-55HRC H55-65HRC	EH-CT	TD4.0IBCWA5	HT	ISO2X	63	4.5	5P	CT-4		
		UH-CT	TD4.0IBBWA5	HT	ISO2X	63	4.5	5P	CT-6		
For aluminum alloys	N1 N2 N3 N4	AL+SP	SE4.0IALEN	SP	ISO2	63	4.5	2.5P	SP-18		
LA-HT		TD4.0IBLEN5	HT	ISO2X	63	4.5	5P	HT-20			
Thread forming taps for non-ferrous metals	N1 N2	N+RS	RE4.0IBKENB	RO	ISO2X	63	4.5	2P	RO-4		
For high speed	P1 P2	F-SP	SD4.0IBNEV	SP	ISO2X	63	4.5	2.5P	SP-42		
		F-SL	LD4.0IBNEV	SL				5P	SL-9		
Thread forming taps for dry tapping	P1 P2 P3 P4 M1-M3	OL+RZ	RE4.0IBHPTP	RO	ISO2X	63	4.5	4P	RO-6		
High performance thread forming taps, coated	P1 P2 P3 P4 M1-M3	HP+RZ	RE4.0IBFPTB	RO	ISO2X	63	4.5	2P	RO-7		
		Oversize	P1 P2 P3 P4 M1-M3	HP+RZ	RE4.0INFPTB	RO	ISO3X	63	4.5	2P	RO-7
For deep hole use	P2	SP-BLF	SD4.0IANEBAJ	SP	ISO2	63	4.5	1.5P	SP-32		
			SD4.0IANEBJ					2.5P	SP-32		
		Oxidizing	P2	SP-BLF OX	SD4.0IANEXJ	SP	ISO2	63	4.5	2.5P	SP-35
		Coated	P1 P2 P3 P4	SP-BLF (Coating)	96474.0TI	SP	ISO2	63	4.5	2.5P	SP-34
Taps M4×0.5											
Standard	P2	PO	PM4.0GANEB	PO	ISO2	63	2.8	5P	PO-2		
		HT	TR4.0GANEB2	HT		45	4.5	F	HT-2		
			TR4.0GANEB5						V	HT-2	
Oxidizing	P1 P2	SP OX	SM4.0GANEX	SP	ISO2	63	2.8	2.5P	SP-9		
		PO OX	PM4.0GANEX	PO	ISO2			5P	PO-9		

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Pg threads Taps

Icons of main materials

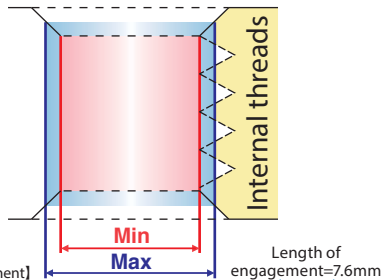
- P1 Free cutting and structural steel
- P2 Carbon steel and low alloy steel
- P3 Medium alloy steel and heat treated steel
- P4 High alloy steel
- P5 Tool steel
- P6 High tensile strength steel
- M1-M2 Ferritic and austenitic stainless steel
- M3 Austenitic stainless steel
- M4 Martensitic stainless steel
- M5 PH stainless steel
- K1 Grey cast iron
- K2 Nodular cast iron
- K3 Austenitic cast iron
- K4 ADI cast iron
- N1 Aluminium alloy (< 12% Si)
- N2 Aluminium alloy (> 12% Si)
- N3 Copper alloy
- N4 Brass alloy and bronze alloy
- S1-S2 HRSA (~35HRC)
- S3 HRSA (35~45HRC)
- S5 Titanium alloy
- H45-55HRC H55-63HRC Hardened steel

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M4×0.7									
Spiral pointed dies	HSS		DPO	6g	20	5	2~2.5P	PDE4.0GLNEBC	Di-1
Dies M4×0.5									
Spiral pointed dies	HSS		DPO	6g	20	5	2~2.5P	PDE4.0GLNEBC	Di-1

- M2 Dies
- M3 Dies
- M4 Dies**
- M5 Dies
- M6 Dies
- M8 Dies
- M10 Dies
- M12 Dies
- M1-M7 Dies
- M9-M24 Dies
- M26-M36 Dies
- For Unified threads Dies
- For Pipe threads Dies
- For American pipe threads Dies

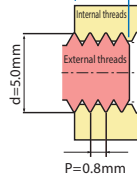
Flowchart : M5 tapping

Boring before tapping — Check 1

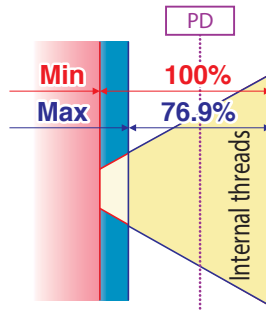


[Length of engagement]
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification	Engagement classification			Engagement length
		Fine	Middle	Coarse	
S	Short engagement length	4H	5H	—	$S \leq 2.5(\text{mm})$
M	Normal engagement length	5H	6H	7H	$2.5 < M \leq 7.5(\text{mm})$
L	Long engagement length	6H	7H	8H	$7.5 < L(\text{mm})$



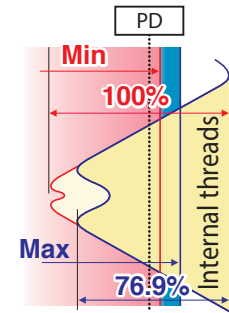
Engagement ratio on cutting taps



	Drill size (ref.)	D1	
		Min	Max
Bored hole size	4.2	4.134	4.334
Engagement ratio	92.4%	100%	76.9%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



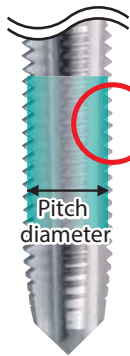
Internal threads made by roll taps are different from those made by cutting taps on the shape of minor diameter.

Unit : mm	
*Hole size for thread forming taps	
Min	Max
4.59	4.67

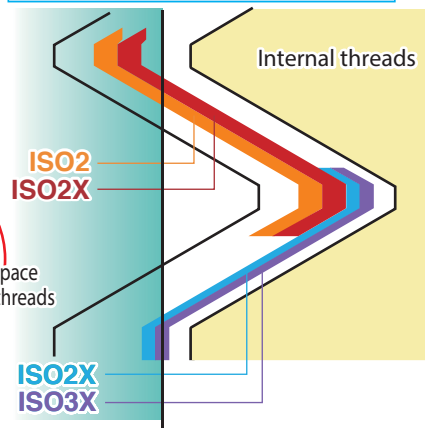
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

[Pitch diameter]
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



[Thread class of cutting taps]

Class	PD tolerance
ISO2	30μm ~ 50μm
ISO2X	50μm ~ 70μm

*Above shows the plus tolerance by setting PD basic size as "0".

[Thread class of roll taps]

Class	PD tolerance
ISO2X	76μm ~ 89μm
ISO3X	89μm ~ 102μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
6g	Solid dies

6g

6g external threads(-119~-24)
NR GR

ISO2X ISO3X

ISO2 ISO2X

6H internal threads(0~125)
GP NP

← Roll taps

← Cutting taps

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(-) ← Basic size of pitch diameter → (+)
4.480mm

Ring gage pitch diameter (for external threads inspection)			
NR6g	-133 ~ -119	GR6g	-33 ~ -19

NR : NOT GO ring gage
GR : GO ring gage

Plug gage pitch diameter (for internal threads inspection)			
GP6H	2 ~ 10	NP6H	125 ~ 133

GP : GO plug gage
NP : NOT GO plug gage

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	4.826~4.976	4.361~4.456	—

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	—	4.480~4.605	4.134~4.334

Icons of main materials

- P1** Free cutting and structural steel
- P2** Carbon steel and low alloy steel
- P3** Medium alloy steel and heat treated steel
- P4** High alloy steel
- P5** Tool steel
- P6** High tensile strength steel
- M1-M2** Ferritic and austenitic stainless steel
- M3** Austenitic stainless steel
- M4** Martensitic stainless steel
- M5** PH stainless steel
- K1** Grey cast iron
- K2** Nodular cast iron
- K3** Austenitic cast iron
- K4** ADI cast iron
- N1** Aluminum alloy (< 12% Si)
- N2** Aluminum alloy (> 12% Si)
- N3** Copper alloy
- N4** Brass alloy and bronze alloy
- S1-S2** HRSA (~35HRC)
- S3** HRSA (35~45HRC)
- S5** Titanium alloy
- H45-55HRC** Hardened steel
- H55-65HRC** Hardened steel

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Pg threads Taps

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M5×0.8										
Standard	P2	SP	SD5.0KANEB	SP	ISO2	70	6	2.5P	SP-2	
			SG5.0KANEB					3.5	SP-2	
		PO	PD5.0KANEB	PO				6	5P	PO-2
			PG5.0KANEB						3.5	PO-2
			PQ5.0KANEB				50	6		PO-2
		HT	TD5.0KANEB	HT			70		2.5P	HT-2
			TQ5.0KANEB2				50		F	HT-2
			TQ5.0KANEBU						M	HT-2
			TQ5.0KANEB5						V	HT-2
		Oversize	P2	SP	SD5.0KMNEB	SP	ISO3	70	6	2.5P
	96405.0+100				ISO-110				SP-2	
PO	PD5.0KMNEB			PO	ISO3				5P	PO-2
	FFYZ003				ISO-110					PO-2
For left hand threads	P2	SP LH	HD5.0KANEB	SP	ISO2	70	6	2.5P	SP-13	
Oxidizing	P1 P2	SP OX	SD5.0KANEX	SP	ISO2	70	6	2.5P	SP-9	
			SG5.0KANEX					3.5	SP-9	
		PO OX	PD5.0KANEX	PO		70	6	5P	PO-9	
			PG5.0KANEX					3.5	PO-9	
		Oversize	P1 P2	SP OX	SD5.0KMNEB	SP	ISO3	70	6	2.5P
	PO OX	PD5.0KMNEB	PO					5P	PO-9	
Low spiral	P2 P3	LO-SP	SD5.0KANEBH	SP	ISO2	70	6	3.5P	SP-19	
		Oxidizing	LO-SP OX	SD5.0KANEXH	SP	ISO2	70	6	3.5P	SP-22
			SG5.0KANEXH					3.5	SP-22	
Oversize	P2 P3	LO-SP OX	SD5.0KMNEBH	SP	ISO3	70	6	3.5P	SP-22	
Coated	P1 P2 P3 P4 M1-M3 N1 N2	AU+SP	SE5.0KANEV	SP	ISO2	70	6	2.5P	SP-15	
		AU+SL	LE5.0KBNEV	SL	ISO2X			5P	SL-6	
		SP(Coating)	96405.0TI	SP	ISO2	70	6	2.5P	SP-7	
		PO(Coating)	96305.0TI	PO				5P	PO-6	
For soft structural steels	P1	E-SP	SD5.0KAHEX	SP	ISO2	70	6	2.5P	SP-26	
Thread forming taps for steels	P1 P2	N+RZ	RE5.0KBHEXB	RO	ISO2X	70	6	2P	RO-5	
Thread forming taps for soft structural steel sheets	P1	R-D	RD5.0KBNEBB	RO	ISO2X	70	6	2P	RO-1	
		Coated	R-D(Coating)	93535.0BTI	RO	ISO2X	70	6	2P	RO-2
			R-D(Coating)	93535.0BTC	RO	ISO2X	70	6	2P	RO-3
For hard-to-machine materials	P5 P6 P4 P5	EH-PO	PD5.0KBDCEB	PO	ISO2X	70	6	4.5P	PO-13	
		EH-HT	TD5.0KBDCEB	HT				2.5P	HT-12	
		PH-SP	SD5.0KAEEX	SP	ISO2	70	6	3P	SP-24	
For titanium alloys	S5	ZET-B	SD5.0KBIPN	SP	ISO2X	70	6	3P	SP-40	
		ZET-P	LD5.0KBIPN	SL	ISO2X			5P	SL-8	
For nickel base alloys	P3 P4 S1-S2	ZEN-B	SD5.0KBJPX	SP	ISO2X	70	6	3P	SP-38	
		ZEN-P	PD5.0KBJPW	PO	ISO2X			4.5P	PO-18	







Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page		
For stainless steels	P4 M1-M2 P1 P2 P3 P4 M1-M3	SP+VA	SE5.0KAGEX	SP	ISO2	70	6	2.5P	SP-27		
		SP-VA	SD5.0KAGEX						SP-28		
		SL+VA	LE5.0KBGEX	SL	ISO2X	70	6	5P	SL-1		
		PO-VA	PD5.0KBGEX	PO					4.5P	PO-14	
		Oversize	P4 M1-M2	SP-VA	SD5.0KMGEX	SP	ISO3	70	6	2.5P	SP-28
		Coated	P4 M1-M2 P1 P2 P3 P4 M1-M3	SP-VA	SD5.0KAGET	SP	ISO2	70	6	2.5P	SP-31
				PO-VA	PD5.0KBGET	PO	ISO2X	70	6	4.5P	PO-17
		For hard-to-machine materials	P4 M1-M3	SU2-SP	SD5.0KAGEXJ	SP	ISO2	70	6	2.5P	SP-36
		For cast irons	K1	GG-HT	TD5.0KBAENC	HT	ISO2X	70	6	2.5P	HT-14
					TG5.0KBAENC					3.5	HT-14
Coated	GG-HT(Coating)			96265.0TC	HT	ISO2X	70	6	2.5P	HT-16	
Carbide	K1 K2	CT-FC	36265.0	HT	ISO2X	70	6	2.5P	CT-1		
Carbide taps for hard materials	H45-55HRC H55-65HRC	EH-CT	TD5.0KBCWAS	HT	ISO2X	70	6	5P	CT-4		
		UH-CT	TD5.0KBBWAS	HT	ISO2X	70	6	5P	CT-6		
For aluminum alloys	N1 N2 N3 N4	AL+SP	SE5.0KALEN	SP	ISO2	70	6	2.5P	SP-18		
	N1 N2	LA-HT	TD5.0KBLENS	HT	ISO2X	70	6	5P	HT-20		
Thread forming taps for non-ferrous metals	N1 N2	N+RS	RE5.0KBKENB	RO	ISO2X	70	6	2P	RO-4		
For high speed	P1 P2	F-SP	SD5.0KBNEV	SP	ISO2X	70	6	2.5P	SP-42		
		F-SL	LD5.0KBNEV	SL				5P	SL-9		
Thread forming taps for dry tapping	P1 P2 P3 P4 M1-M3	OL+RZ	RE5.0KBHPTP	RO	ISO2X	70	6	4P	RO-6		
High performance thread forming taps, coated	P1 P2 P3 P4 M1-M3	HP+RZ	RE5.0KBFPTB	RO	ISO2X	70	6	2P	RO-7		
		Oversize	P1 P2 P3 P4 M1-M3	HP+RZ	RE5.0KNFPTB	RO	ISO3X	70	6	2P	RO-7
For deep hole use	P2	SP-BLF	SD5.0KANEBAJ	SP	ISO2	70	6	1.5P	SP-32		
			SD5.0KANEBJ						2.5P	SP-32	
		Oxidizing	SP-BLF OX	SD5.0KANEXJ	SP	ISO2	70	6	2.5P	SP-35	
		Coated	P1 P2 P3 P4	SP-BLF (Coating)	96475.0TI	SP	ISO2	70	6	2.5P	SP-34
Taps M5×0.5											
Standard	P2	PO	PM5.0GANEB	PO	ISO2	70	3.5	5P	PO-2		
		HT	TR5.0GANEB2	HT		50	6	F	HT-3		
			TR5.0GANEB5						V	HT-3	
Oxidizing	P1 P2	SP OX	SM5.0GANEX	SP	ISO2	70	3.5	2.5P	SP-9		
		PO OX	PM5.0GANEX	PO				5P	PO-9		
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM5.0GANEXH	SP	ISO2	70	3.5	3.5P	SP-22	

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M5×0.8									
Spiral pointed dies	HSS	DPO	6g	20	7	2~2.5P	PDES,OKLNEBC	Di-2	
Dies M5×0.5									
Spiral pointed dies	HSS	DPO	6g	20	5	2~2.5P	PDES,OKLNEBC	Di-2	

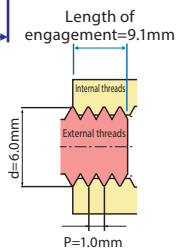
M2 Dies
M3 Dies
M4 Dies
M5 Dies
M6 Dies
M8 Dies
M10 Dies
M12 Dies
M1-M7 Dies
M9-M24 Dies
M26-M36 Dies
For Unified threads Dies
For Pipe threads Dies
For American pipe threads Dies

Flowchart : M6 tapping

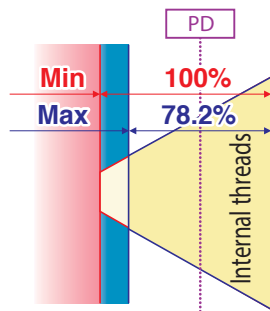
Boring before tapping — Check 1

[Length of engagement]
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

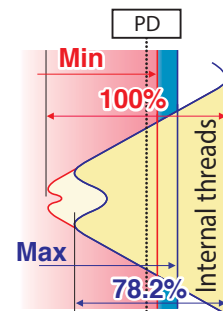
Symbol	Engagement length classification	Engagement classification			Engagement length
		Fine	Middle	Coarse	
S	Short engagement length	4H	5H	—	$S \leq 3(\text{mm})$
M	Normal engagement length	5H	6H	7H	$3 < M \leq 9(\text{mm})$
L	Long engagement length	6H	7H	8H	$9 < L(\text{mm})$



Engagement ratio on cutting taps



Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor diameter.

	Drill size (ref.)	D1	
		Min	Max
Bored hole size	5.0	4.917	5.153
Engagement ratio	92.4%	100%	78.2%

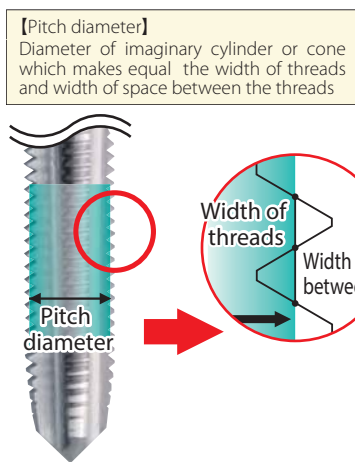
Unit : mm
D1 is minor diameter of JIS 6H(2nd Class) of internal threads

*Hole size for thread forming taps	
Min	Max
5.49	5.59

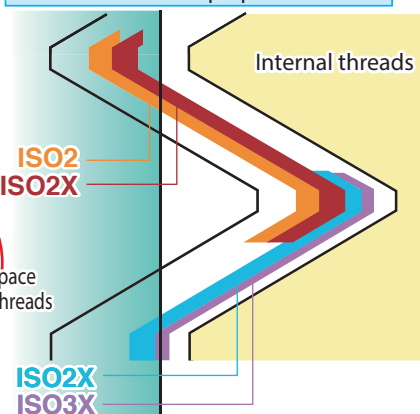
Unit : mm

Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2



Tolerance area of tap's pitch diameter



[Thread class of cutting taps]

Class	PD tolerance
ISO2	35 μm ~ 59 μm
ISO2X	55 μm ~ 79 μm

*Above shows the plus tolerance by setting PD basic size as "0".

[Thread class of roll taps]

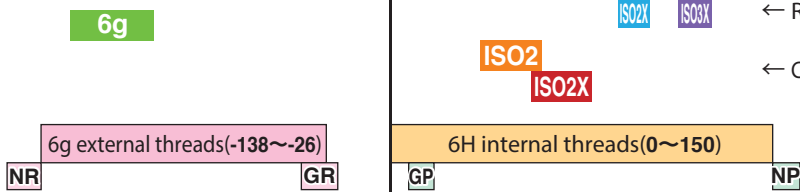
Class	PD tolerance
ISO2X	89 μm ~ 102 μm
ISO3X	114 μm ~ 127 μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
6g	Solid dies



Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

Ring gage pitch diameter (for external threads inspection)			
NR6g	-152 ~ -138	GR6g	-35 ~ -21

NR : NOT GO ring gage
GR : GO ring gage

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	5.794~5.974	5.212~5.324	-

Plug gage pitch diameter (for internal threads inspection)			
GP6H	7 ~ 17	NP6H	150 ~ 160

GP : GO plug gage
NP : NOT GO plug gage

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	-	5.350~5.500	4.917~5.153

Icons of main materials

- P1** Free cutting and structural steel
- P2** Carbon steel and low alloy steel
- P3** Medium alloy steel and heat treated steel
- P4** High alloy steel
- P5** Tool steel
- P6** High tensile strength steel
- M1-M2** Ferritic and austenitic stainless steel
- M3** Austenitic stainless steel
- M4** Martensitic stainless steel
- M5** PH stainless steel
- K1** Grey cast iron
- K2** Nodular cast iron
- K3** Austenitic cast iron
- K4** ADI cast iron
- N1** Aluminum alloy (< 12% Si)
- N2** Aluminum alloy (> 12% Si)
- N3** Copper alloy
- N4** Brass alloy and bronze alloy
- S1-S2** HRSA (~35HRC)
- S3** HRSA (35~45HRC)
- S5** Titanium alloy
- H45-55HRC** Hardened steel
- H55-65HRC** Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M6×1										
Standard	P2	SP	SD6.0MANEB	SP	ISO2	80	6	2.5P	SP-2	
			SG6.0MANEB					4.5	SP-2	
		PO	PD6.0MANEB	PO				6	5P	PO-2
			PG6.0MANEB					4.5	PO-2	
			PQ6.0MANEB				50	6		PO-2
		HT	TD6.0MANEBC	HT			80		2.5P	HT-3
			TD6.0MANEWC							HT-3
			TG6.0MANEBC					4.5		HT-3
			TQ6.0MANEB2				50	6	F	HT-3
			TQ6.0MANEBU						M	HT-3
			TQ6.0MANEB5						V	HT-3
		Oversize	P2	SP	SD6.0MMNEB	SP	ISO3	80	6	2.5P
	N96406.0+50				ISO2-50				SP-2	
	96406.0+100				ISO2-100				SP-2	
PO	PD6.0MMNEB			PO	ISO3				5P	PO-2
	FFYCZ004				ISO2-100					PO-2
For left hand threads	P2	SP LH	HD6.0MANEB	SP	ISO2	80	6	2.5P	SP-13	
Oxidizing	P1 P2	SP OX	SD6.0MANEX	SP	ISO2	80	6	2.5P	SP-9	
			SG6.0MANEX					4.5	SP-9	
		PO OX	PD6.0MANEX	PO			80		5P	PO-9
			PG6.0MANEX					4.5	PO-9	
Oversize	P1 P2	SP OX	SD6.0MMNEX	SP	ISO3	80	6	2.5P	SP-9	
		PO OX	PD6.0MMNEX	PO					5P	PO-9
Coated	P1 P2 P3 P4	SP (Coating)	96406.0TI	SP	ISO2	80	6	2.5P	SP-7	
		PO (Coating)	96306.0TI	PO					5P	PO-6
For soft structural steels	P1	E-SP	SD6.0MAHEX	SP	ISO2	80	6	2.5P	SP-26	
TiN coated	P1 P2 P3 P4 M1-M3 N1 N2	AU+SP	SE6.0MANEV	SP	ISO2	80	6	2.5P	SP-15	
		AU+SL	LE6.0MBNEV	SL	ISO2X				5P	SL-6
Thread forming taps for steels	P1 P2	N+RZ	RE6.0MBHEXB	RO	ISO2X	80	6	2P	RO-5	
Thread forming taps for soft structural steel sheets	P1	R-D	RD6.0MBNEBB	RO	ISO2X	80	6	2P	RO-1	
		Coated	R-D (Coating)	93536.0BTI	RO	ISO2X	80	6	2P	RO-2
		R-D (Coating)	93536.0BTC	RO	ISO2X	80	6	2P	RO-3	
For hard-to-machine materials	P5 P6	EH-PO	PD6.0MBDCB	PO	ISO2X	80	6	4.5P	PO-13	
		EH-HT	TD6.0MBDCBC	HT				2.5P	HT-12	
		P4 P5	PH-SP	SD6.0MAEEX	SP	ISO2	80	6	3P	SP-24
For titanium alloys	S5	ZET-B	SD6.0MBIPN	SP	ISO2X	80	6	3P	SP-40	
		ZET-P	LD6.0MBIPN	SL					5P	SL-8
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SD6.0MBJPX	SP	ISO2X	80	6	3P	SP-38	
		ZEN-P	PD6.0MBJPW	PO				4.5P	PO-18	
For medium hardness carbon steels	P3 P4	MHSL	LD6.0MBFCLS	SL	ISO2X	80	6	5P	SL-4	

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
For stainless steels	P4 M1-M2	SP+VA	SE6.0MAGEX	SP	ISO2	80	6	2.5P	SP-27	
			SZ6.0MAGEX						SP-27	
		SP-VA	SD6.0MAGEX						SP-28	
		P1 P2 P3	SL+VA	LE6.0MBGEX	SL	ISO2X	80	6	5P	SL-1
		P4 M1-M3		LZ6.0MBGEX						SL-1
		PO-VA	PD6.0MBGEX	PO				4.5P	PO-14	
	Oversize	P4 M1-M2	SP-VA	SD6.0MMGEX	SP	ISO3	80	6	2.5P	SP-28
	Coated	P4 M1-M2	SP-VA	SD6.0MAGET	SP	ISO2	80	6	2.5P	SP-31
			P1 P2 P3	PO-VA	PD6.0MBGET	PO	ISO2X	80	6	4.5P
	For hard-to-machine materials	P4 M3-M4	SU2-SP	SD6.0MAGEXJ	SP	ISO2	80	6	2.5P	SP-36
	For cast irons	K1	GG-HT	TD6.0MBAENC	HT	ISO2X	80	6	2.5P	HT-14
				TG6.0MBAENC					4.5	HT-14
GG-HT-OH			TD6.0MBAFNC					6	HT-18	
Coated		K1	GG-HT (Coating)	96266.0TC	HT	ISO2X	80	6	2.5P	HT-16
				97266.0TC					4.5	HT-16
			GG-HT-OH (Coating)	96266.0TCOH					6	HT-19
Carbide	K1 K2	CT-FC	36266.0	HT	ISO2X	80	6	2.5P	CT-1	
Carbide taps for hard materials	H45-55HRC H55-65HRC	EH-CT	TD6.0MBCWAS	HT	ISO2X	80	6	5P	CT-4	
		UH-CT	TD6.0MBBWAS	HT	ISO2X	80	6	5P	CT-6	
For aluminum alloys	N1 N2 N3 N4	AL+SP	SE6.0MALEN	SP	ISO2	80	6	2.5P	SP-18	
		N1 N2	LA-HT	TD6.0MBLENS	HT	ISO2X	80	6	5P	HT-20
	AXE	N2	AXE-HT	TD6.0MBLPVA	HT	ISO2X	80	6	1.5P	HT-22
	Thread forming taps	N1 N2	N+RS	RE6.0MBKENB	RO	ISO2X	80	6	2P	RO-4
X series	Coated	P1 P2 P3 P4 M1-M3 N1 N2	AUXSP	SX6.0MANEV	SP	ISO2	80	6	2.5P	SP-16
		N2	AUXSL	LX6.0MBNEV	SL	ISO2X			5P	SL-7
For high speed	P1 P2	F-SP	SY6.0MBNEV	SP	ISO2X	80	6	2.5P	SP-42	
		F-SL	LY6.0MBNEV	SL				5P	SL-9	
Ultra fast tapping (with coolant hole)	For steels	P1 P2 P3 P4	HFIHS	SD6.0MBEDTZ	SP	ISO2X	80	6	2.5P	SP-43
		P1 P2 P3 P4	HFISP	SD6.0MBEDTHZ	SP	ISO2X	80	6	2.5P	SP-44
	For both steels and non ferrous materials	P1 P2	HDISL	LD6.0MBEDTLZ	SL	ISO2X	80	6	5P	SL-10
	For non-ferrous materials	N1 N2	HFAHS	SD6.0MBLDTZ	SP	ISO2X	80	6	2.5P	SP-45
			HFAFP	SD6.0MBLDTHZ					SP-46	
	For dry tapping (with coolant hole)	For steels	P3 P4	HDISP	SD6.0MBEDTLZ	SP	ISO2X	80	6	2.5P
	For non-ferrous materials	N1 N2	HDASP	SD6.0MBLDTLZ	SP	ISO2X	80	6	2.5P	SP-48
Thread forming taps for dry tapping	P1 P2 P3 P4 M1-M3	OL+RZ	RE6.0MBHPTP	RO	ISO2X	80	6	4P	RO-6	
Highperformance thread forming taps, coated	P1 P2 P3 P4 M1-M3	HP+RZ	RE6.0MBFPTB	RO	ISO2X	80	6	2P	RO-7	
		Oversize	P1 P2 P3 P4 M1-M3	HP+RZ	RE6.0MNFPTB	RO	ISO3X	80	6	2P
Roll Taps for Carbon Steels of Middle Hardness	P3 P4 P5	MHRZ	RD6.0MBOCTP	RO	ISO2X	80	6	4P	RO-10	
			RD6.0MBOCTB					2P	RO-10	

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
 M5 PH stainless steel
 K1 Grey cast iron
 K2 Nodular cast iron
 K3 Austenitic cast iron
 K4 ADI cast iron
 N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
 N3 Copper alloy
 N4 Brass alloy and bronze alloy
 S1-S2 HRSA (~35HRC)
 S3 HRSA (35~45HRC)
 S5 Titanium alloy
 H45-55HRC
 H55-65HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
For deep hole use	P2	SP-BLF	SD6.0MANEBAJ	SP	ISO2	80	6	1.5P	SP-32	
			SD6.0MANEBJ					2.5P	SP-32	
	Oxidizing	P2	SP-BLF OX	SP	ISO2	80	6	2.5P	SP-35	
	Coated	P1 P2 P3 P4	SP-BLF (Coating)	96476.0T1	SP	ISO2	80	6	2.5P	SP-34
Low spiral	P2 P3	LO-SP	SD6.0MANEBH	SP	ISO2	80	6	3.5P	SP-19	
		Oxidizing	P2 P3	LO-SP OX	SD6.0MANEXH	SP	ISO2	80	6	3.5P
			SG6.0MANEXH				4.5		SP-22	
Over-size	P2 P3	LO-SP OX	SD6.0MMNEXH	SP	ISO3	80	6	3.5P	SP-22	
Taps M6×0.75										
Standard	P2	PO	PM6.0JANEB	PO	ISO2	80	4.5	5P	PO-2	
		HT	TR6.0JANEB2	HT		50	6	F	HT-3	
			TR6.0JANEB5					V	HT-3	
Oxidizing	P1 P2	SP OX	SM6.0JANEX	SP	ISO2	80	4.5	2.5P	SP-9	
		PO OX	PM6.0JANEX	PO				5P	PO-9	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM6.0JANEXH	SP	ISO2		3.5P	SP-22	
Taps M6×0.5										
Standard	P2	PO	PM6.0GANEB	PO	ISO2	80	4.5	5P	PO-2	
		HT	TR6.0GANEB2	HT		50	6	F	HT-3	
			TR6.0GANEB5					V	HT-3	
Oxidizing	P1 P2	SP OX	SM6.0GANEX	SP	ISO2	80	4.5	2.5P	SP-9	
		PO OX	PM6.0GANEX	PO				5P	PO-9	







- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Pg threads Taps

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M6×1									
Spiral pointed dies	HSS		DPO	6g	20	7	2~2.5P	PD6.0MLNEBC	Di-2
Dies M6×0.75									
Spiral pointed dies	HSS		DPO	6g	20	7	2~2.5P	PD6.0JLNEBC	Di-2
Dies M6×0.5									
Spiral pointed dies	HSS		DPO	6g	20	5	2~2.5P	PD6.0JLNEBC	Di-2

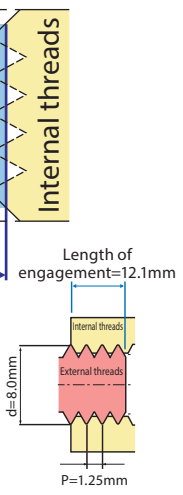
M2 Dies
M3 Dies
M4 Dies
M5 Dies
M6 Dies
M8 Dies
M10 Dies
M12 Dies
M1-M7 Dies
M9-M24 Dies
M26-M36 Dies
For Unified threads Dies
For Pipe threads Dies
For American pipe threads Dies

Flowchart : M8 tapping

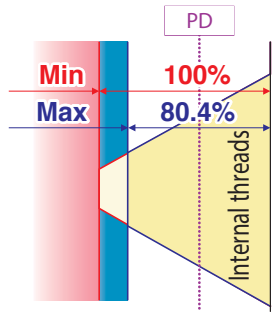
Boring before tapping — Check 1

[Length of engagement]
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification	Engagement classification			Engagement length
		Fine	Middle	Coarse	
S	Short engagement length	4H	5H	—	$S \leq 4(\text{mm})$
M	Normal engagement length	5H	6H	7H	$4 < M \leq 12(\text{mm})$
L	Long engagement length	6H	7H	8H	$12 < L(\text{mm})$



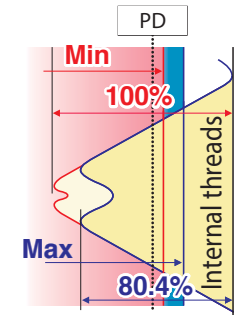
Engagement ratio on cutting taps



	Drill size (ref.)	D1	
		Min	Max
Bored hole size	6.8	6.647	6.912
Engagement ratio	88.7%	100%	80.4%

Unit : mm
D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



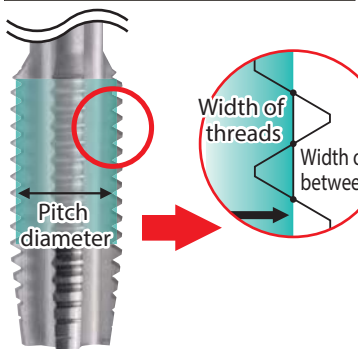
Internal threads made by roll taps are different from those made by cutting taps on the shape of minor diameter.

*Hole size for thread forming taps	
Min	Max
7.36	7.49

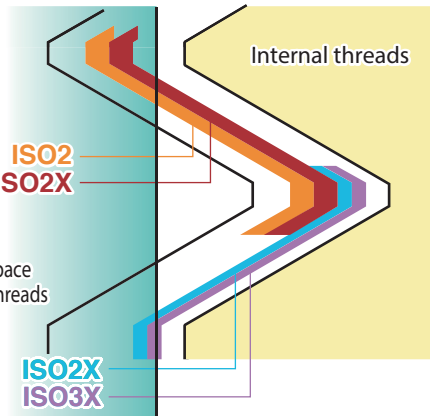
Unit : mm
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

[Pitch diameter]
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



[Thread class of cutting taps]

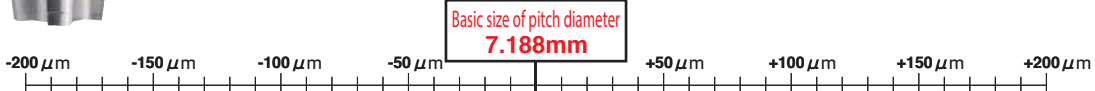
Class	PD tolerance
ISO2	38 μm ~ 63 μm
ISO2X	63 μm ~ 88 μm

*Above shows the plus tolerance by setting PD basic size as "0".

[Thread class of roll taps]

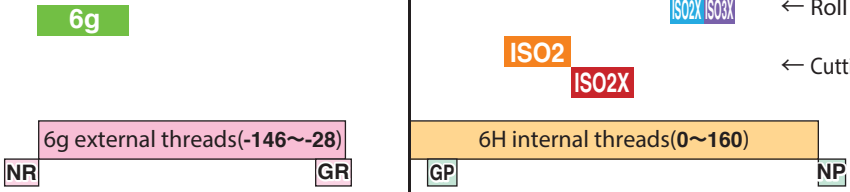
Class	PD tolerance
ISO2X	102 μm ~ 114 μm
ISO3X	114 μm ~ 127 μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
6g	Solid dies



Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

Unit : μm

Ring gage pitch diameter (for external threads inspection)			
NR6g	-160 ~ -146	GR6g	-37 ~ -23

NR : NOT GO ring gage
GR : GO ring gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	7.760~7.972	7.042~7.160	—

Unit : mm

Plug gage pitch diameter (for internal threads inspection)			
GP6H	7 ~ 17	NP6H	160 ~ 170

GP : GO plug gage
NP : NOT GO plug gage

Unit : mm

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	—	7.188~7.348	6.647~6.912

Icons of main materials

- P1 Free cutting and structural steel
- P2 Carbon steel and low alloy steel
- P3 Medium alloy steel and heat treated steel
- P4 High alloy steel
- P5 Tool steel
- P6 High tensile strength steel
- M1-M2 Ferritic and austenitic stainless steel
- M3 Austenitic stainless steel
- M4 Martensitic stainless steel
- M5 PH stainless steel
- K1 Grey cast iron
- K2 Nodular cast iron
- K3 Austenitic cast iron
- K4 ADI cast iron
- N1 Aluminum alloy (< 12% Si)
- N2 Aluminum alloy (> 12% Si)
- N3 Copper alloy
- N4 Brass alloy and bronze alloy
- S1-S2 HRSA (~35HRC)
- S3 HRSA (35~45HRC)
- S5 Titanium alloy
- H45-55HRC Hardened steel
- H55-65HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute Class	L	D _s	ℓ _c	Product page		
Taps M8×1.25										
Standard	P2	SP	SD8.0NANEB	SP ISO2	90	8	2.5P	SP-2		
		SG8.0NANEB				6		SP-2		
		PO	PD8.0NANEB	PO		8	5P	PO-2		
		PG8.0NANEB				6		PO-2		
		PQ8.0NANEB				56		PO-2		
		HT	TD8.0NANEBC	HT		90	8	2.5P	HT-3	
	Oversize	P2	TG8.0NANEBC				6		HT-3	
			TQ8.0NANEBC2				56	F	HT-3	
			TQ8.0NANEBCU						M	HT-3
			TQ8.0NANEBC5						V	HT-3
			N96408.0+50							SP-2
			96408.0+100							SP-2
For left hand threads	P2	SP LH	HD8.0NANEB	SP ISO2	90	8	2.5P	SP-13		
		PO LH	PD8.0NANEB	PO		8	5P	PO-2		
Oxidizing	P1 P2	SP OX	SD8.0NANEX	SP ISO2	90	8	2.5P	SP-9		
		SG8.0NANEX				6		SP-9		
		PO OX	PD8.0NANEX	PO		90	8	5P	PO-9	
		PG8.0NANEX				6		PO-9		
Oversize	P1 P2	SP OX	SD8.0NMNEX	SP ISO3	90	8	2.5P	SP-9		
		PO OX	PD8.0NMNEX	PO			5P	PO-9		
Coated	P1 P2 P3 M1-M3 N1 N2	AU+SP	SE8.0NANEV	SP ISO2	90	8	2.5P	SP-15		
		AU+SL	LE8.0NBNEV	SL ISO2X			5P	SL-6		
		SP (Coating)	96408.0TI	SP ISO2	90	8	2.5P	SP-7		
For soft structural steels	P1	E-SP	SD8.0NAHEX	SP ISO2	90	8	2.5P	SP-26		
		Thread forming taps for steels	N-RZ	RD8.0NBHEXB	RO ISO2X	90	8	2P	RO-5	
Thread forming taps for soft structural steel sheets	P1	R-D	RD8.0NBNEBB	RO ISO2X	90	8	2P	RO-1		
		Coated	R-D (Coating)	93538.0BTI	RO ISO2X	90	8	2P	RO-2	
			R-D (Coating)	93538.0BTC	RO ISO2X	90	8	2P	RO-3	
For hard-to-machine materials	P5 P6	EH-PO	PD8.0NBDCB	PO ISO2X	90	8	4.5P	PO-13		
		EH-HT	TD8.0NBDCBC	HT			2.5P	HT-12		
		PH-SP	SD8.0NAEEX	SP ISO2	90	8	3P	SP-24		
For titanium alloys	S5	ZET-B	SD8.0NBIPN	SP ISO2X	90	8	3P	SP-40		
		ZET-P	LD8.0NBIPN	SL			5P	SL-8		
For nickel base alloys	P3 P4 M1-M3	ZEN-B	SD8.0NBJPX	SP ISO2X	90	8	3P	SP-38		
		ZEN-P	PD8.0NBJPW	PO			4.5P	PO-18		
For medium hardness carbon steels	P3 P4	MHSL	LD8.0NBFLCS	SL ISO2X	90	8	5P	SL-4		

Tap selection	Main material	Symbol	Code	Flute Class	L	D _s	ℓ _c	Product page	
For stainless steels	P4 M1-M2	SP+VA	SE8.0NAGEX	SP ISO2	90	8	2.5P	SP-27	
		SG8.0NAGEX						SP-27	
		SP-VA	SD8.0NAGEX				6		SP-29
		SG8.0NAGEX						6	SP-29
		SL+VA	LE8.0NBGEX	SL ISO2X	90	5	5P	SL-1	
		LZ8.0NBGEX						SL-1	
	Oversize	P4 M1-M2	PO-VA	PD8.0NBGEX	PO			4.5P	PO-14
			PG8.0NBGEX					6	PO-14
	Coated	P4 M1-M2	SP-VA	SD8.0NAGEX	SP ISO3	90	8	2.5P	SP-29
			SP-VA	SD8.0NAGEX	SP ISO2	90	8	2.5P	SP-31
	For hard-to-machine materials	P1 P2 P3 M1-M3	PO-VA	PD8.0NBGET	PO ISO2X	90	8	4.5P	PO-17
			SU2-SP	SD8.0NAGEXJ	SP ISO2	90	8	2.5P	SP-36
For deep hole use	P2	SP-BLF	SD8.0NANEBAJ	SP ISO2	90	8	1.5P	SP-32	
		SD8.0NANEBJ						2.5P	SP-32
		Oxidizing	SP-BLF OX	SD8.0NANEJX	SP ISO2	90	8	2.5P	SP-35
		Coated	P1 P2 P3 P4	SP-BLF (Coating)	96478.0TI	SP ISO2	90	8	2.5P
GG-HT	TD8.0NBAENC			HT ISO2X	90	8	2.5P	HT-14	
For cast irons	K1	GG-HT	TD8.0NBAENC	HT ISO2X	90	8	2.5P	HT-14	
		TG8.0NBAENC				6		HT-14	
		GG-HT-OH	TD8.0NBAFNC				8		HT-18
Coated	K1	GG-HT (Coating)	96268.0TC	HT ISO2X	90	8	2.5P	HT-16	
		97268.0TC				6		HT-16	
		GG-HT-OH (Coating)	96268.0TCOH				8		HT-19
Carbide taps for hard materials	K1 K2	CT-FC	36268.0	HT ISO2X	90	8	2.5P	CT-1	
		EH-CT	TD8.0NCBWA5	HT ISO2X	90	8	5P	CT-4	
For aluminum alloys	N1 N2 N3 N4	UH-CT	TD8.0NBWBA5	HT ISO2X	90	8	5P	CT-6	
		AL-SP	SD8.0NALEN	SP ISO2	90	8	2.5P	SP-18	
AXE	N1 N2	LA-HT	TD8.0NBLEN5	HT ISO2X	90	8	5P	HT-20	
		AXE-HT	TD8.0NBLPVA	HT ISO2X	90	8	1.5P	HT-22	
Thread forming taps for non-ferrous metals	N1 N2	N-RS	RD8.0NBKENB	RO ISO2X	90	8	2P	RO-4	
X series	Coated	P1 P2 P3 M1-M3 N1 N2	AUXSP	SX8.0NANEV	SP ISO2	90	8	2.5P	SP-16
			AUXSL	LX8.0NBNEV	SL ISO2X			5P	SL-7
High speed tapping	P1 P2	F-SP	SY8.0NBNEV	SP ISO2X	90	8	2.5P	SP-42	
		F-SL	LY8.0NBNEV	SL			5P	SL-9	
		HFIHS	SD8.0NBEDTZ	SP ISO2X	90	8	2.5P	SP-43	
Ultra fast tapping (with coolant hole)	For steels	P1 P2 P3 P4	HFIHS	SD8.0NBEDTZ	SP ISO2X	90	8	2.5P	SP-44
			HFIHP	SD8.0NBEDTHZ	SP ISO2X	90	8	2.5P	SP-44
	For non-ferrous materials	N1 N2	HFAHS	SD8.0NBLEDTZ	SP ISO2X	90	8	2.5P	SP-45
			HFAHP	SD8.0NBLEDTHZ					SP-46
For dry tapping (with coolant hole)	For steels	P1 P2	HDISL	LD8.0NBEDTLZ	SL ISO2X	90	8	5P	SL-10
			HDISP	SD8.0NBEDTLZ	SP ISO2X	90	8	2.5P	SP-47
High performance thread forming taps, coated	For non-ferrous materials	N1 N2	HDASP	SD8.0NBLEDTLZ	SP ISO2X	90	8	2.5P	SP-48
			HP-RZ	RD8.0NBFPFB	RO ISO2X	90	8	2P	RO-7
Oversize	P1 P2 P3 M1-M3	HP-RZ	RD8.0NBFPFB	RO ISO3X	90	8	2P	RO-7	
		MHRZ	RD8.0NBOCTP	RO ISO2X	90	8	4P	RO-10	
Roll Taps for Carbon Steels of Middle Hardness	P3 P4 P5	MHRZ	RD8.0NBOCTP	RO ISO2X	90	8	4P	RO-10	
		RD8.0NBOCTB					2P	RO-10	

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M12 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC H55-65HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Low spiral		P2 P3 LO-SP	SD8.0NANEBH	SP	ISO2	90	8	3.5P	SP-19
	Oxidizing	P2 P3 LO-SP OX	SD8.0NANEXH	SP	ISO2	90	8	3.5P	SP-22
			SG8.0NANEXH				6		SP-22
	Upsize	P2 P3 LO-SP OX	SD8.0NMNEXH	SP	ISO3	90	8	3.5P	SP-22

Taps M8×1

Standard		P2 SP	SM8.0MANEB	SP	ISO2	90	6	2.5P	SP-2
		PO	PM8.0MANEB	PO				5P	PO-2
		HT	TM8.0MANEB	HT				2.5P	HT-3
			TR8.0MANEB2			56		F	HT-3
			TR8.0MANEB5					V	HT-3

For left hand threads		P2 SP LH	HM8.0MANEB	SP	ISO2	90	6	2.5P	SP-13
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Oxidizing		P1 P2 SP OX	SM8.0MANEX	SP	ISO2	90	6	2.5P	SP-9
		PO OX	PM8.0MANEX	PO				5P	PO-9

Coated		P1 P2 P3 M1-M3 N1 N2 AU+SP	SN8.0MANEV	SP	ISO2	90	6	2.5P	SP-15
		AU+SL	LN8.0MBNEV	SL	ISO2X			5P	SL-6
		P1 P2 P3 SP(Coating)	98408.0MTI	SP	ISO2	90	6	2.5P	SP-7
		P4 PO(Coating)	98308.0MTI	PO				5P	PO-6

For hard-to-machine materials		P5 P6 EH-PO	PM8.0MBDCB	PO	ISO2X	90	6	4.5P	PO-13
		EH-HT	TM8.0MBDCB	HT				2.5P	HT-12
		P4 P5 PH-SP	SM8.0MAEEX	SP	ISO2	90	6	3P	SP-24

For titanium alloys		S5 ZET-P	LM8.0MBIPN	SL	ISO2X	90	6	5P	SL-8
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For stainless steels		P4 M1-M2 SP-VA	SM8.0MAGEX	SP	ISO2	90	6	2.5P	SP-29
		P1 P2 P3 P4 M1-M3 PO-VA	PM8.0MBGEX	PO	ISO2X	90	6	4.5P	PO-14

For cast irons		K1 GG-HT	TM8.0MBAENC	HT	ISO2X	90	6	2.5P	HT-14
		GG-HT-OH	TM8.0MBAFNC						HT-18
	Coated	K1 GG-HT(Coating)	98268.0MTC	HT	ISO2X	90	6	2.5P	HT-16
		GG-HT-OH(Coating)	98268.0MTCOH						HT-19

X series	Coated	P1 P2 P3 P4 M1-M3 N1 N2 AUXSP	SX8.0MANEV	SP	ISO2	90	8	2.5P	SP-16
		AUXSL	LX8.0MBNEV		ISO2X			5P	SL-7

Low spiral		P2 P3 LO-SP	SM8.0MANEBH	SP	ISO2	90	6	3.5P	SP-19
	Oxidizing	P2 P3 LO-SP OX	SM8.0MANEXH	SP	ISO2	90	6	3.5P	SP-22

Taps M8×0.75

Standard		P2 SP	SM8.0JANEB	SP	ISO2	80	6	2.5P	SP-2
		PO	PM8.0JANEB	PO				5P	PO-2
		HT	TR8.0JANEB2	HT		50		F	HT-3
			TR8.0JANEB5					V	HT-3

Oxidizing		P1 P2 SP OX	SM8.0JANEX	SP	ISO	80	6	2.5P	SP-9
		PO OX	PM8.0JANEX	PO				5P	PO-9

Low spiral	Oxidizing	P2 P3 LO-SP OX	SM8.0JANEXH	SP	ISO	80	6	3.5P	SP-22
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Taps M8×0.5

Standard		P2 SP	SM8.0GANEB	SP	ISO2	80	6	2.5P	SP-2
		PO	PM8.0GANEB	PO				5P	PO-2
		HT	TR8.0GANEB2	HT		50		F	HT-3
			TR8.0GANEB5					V	HT-3

Oxidizing		P1 P2 SP OX	SM8.0GANEX	SP	ISO2	80	6	2.5P	SP-9
		PO OX	PM8.0GANEX	PO				5P	PO-9

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Pg threads Taps

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

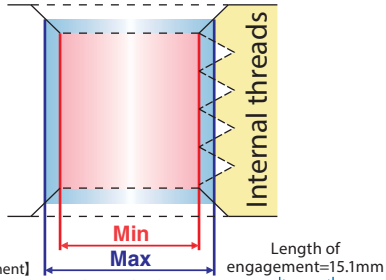
	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M8×1.25									
Spiral pointed dies	HSS		DPO	6g	25	9	2~2.5P	PDG8.0JLNNEBC	Di-2
Dies M8×1									
Spiral pointed dies	HSS		DPO	6g	25	9	2~2.5P	PDG8.0JLNNEBC	Di-2
Dies M8×0.75									
Spiral pointed dies	HSS		DPO	6g	25	9	2~2.5P	PDG8.0JLNNEBC	Di-2
Dies M8×0.5									
Spiral pointed dies	HSS		DPO	6g	25	9	2~2.5P	PDG8.0JLNNEBC	Di-2

- M2 Dies
- M3 Dies
- M4 Dies
- M5 Dies
- M6 Dies
- M8 Dies
- M10 Dies
- M12 Dies
- M1-M7 Dies
- M9-M24 Dies
- M26-M36 Dies
- For Unified threads Dies
- For Pipe threads Dies
- For American pipe threads Dies

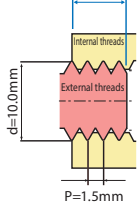
Flowchart : M10 tapping

Boring before tapping — Check 1

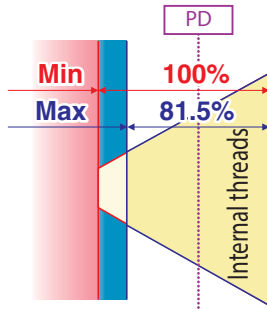


[Length of engagement]
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

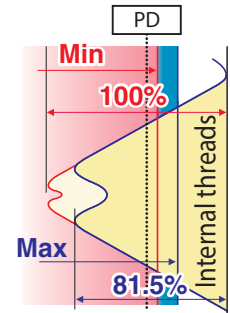
Symbol	Engagement length classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	—	$S \leq 5(\text{mm})$
M	Normal engagement length	5H	6H	7H	$5 < M \leq 15(\text{mm})$
L	Long engagement length	6H	7H	8H	$15 < L(\text{mm})$



Engagement ratio on cutting taps



Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor diameter.

	Drill size (ref.)	D1	
		Min	Max
Bored hole size	8.5	8.376	8.676
Engagement ratio	92.4%	100%	81.5%

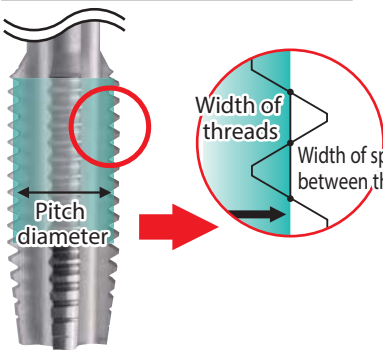
D1 is minor diameter of JIS 6H(2nd Class) of internal threads

*Hole size for thread forming taps	
Min	Max
9.22	9.34

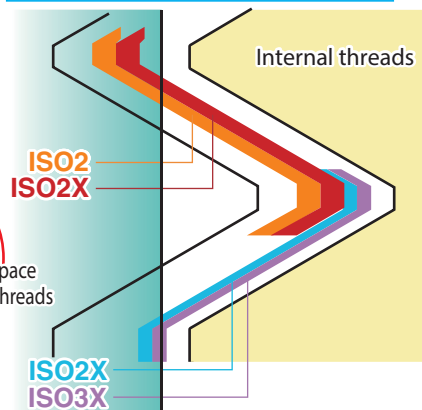
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

[Pitch diameter]
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



[Thread class of cutting taps]

Class	PD tolerance
ISO2	42 μm ~ 70 μm
ISO2X	67 μm ~ 95 μm

*Above shows the plus tolerance by setting PD basic size as "0".

[Thread class of roll taps]

Class	PD tolerance
ISO2X	114 μm ~ 127 μm
ISO3X	140 μm ~ 152 μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
6g	Solid dies

NR	6g external threads(-164 ~ -32)	GP	6H internal threads(0 ~ 180)	NP
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Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

Ring gage pitch diameter(for external threads inspection)			
NR6g	-182 ~ -164	GR6g	-49 ~ -31

NR : NOT GO ring gage
GR : GO ring gage

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	9.732 ~ 9.968	8.862 ~ 8.994	-

Plug gage pitch diameter(for internal threads inspection)			
GP6H	7 ~ 17	NP6H	180 ~ 190

GP : GO plug gage
NP : NOT GO plug gage

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	-	9.026 ~ 9.206	8.376 ~ 8.676

Icons of main materials

- P1 Free cutting and structural steel
- P2 Carbon steel and low alloy steel
- P3 Medium alloy steel and heat treated steel
- P4 High alloy steel
- P5 Tool steel
- P6 High tensile strength steel
- M1-M2 Ferritic and austenitic stainless steel
- M3 Austenitic stainless steel
- M4 Martensitic stainless steel
- M5 PH stainless steel
- K1 Grey cast iron
- K2 Nodular cast iron
- K3 Austenitic cast iron
- K4 ADI cast iron
- N1 Aluminum alloy (< 12% Si)
- N2 Aluminum alloy (> 12% Si)
- N3 Copper alloy
- N4 Brass alloy and bronze alloy
- S1-S2 HRSA (~35HRC)
- S3 HRSA (35~45HRC)
- S5 Titanium alloy
- H45-55HRC Hardened steel
- H55-65HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M10x1.5										
Standard	P2	SP	SD010OANEB	SP	ISO2	100	10	2.5P	SP-2	
		SG010OANEB					7		SP-2	
		PO	PD010OANEB	PO			10	5P	PO-3	
		PG010OANEB					7		PO-3	
		PQ010OANEB					70		PO-3	
		HT	TD010OANEB	HT	ISO2	100	10	2.5P	HT-3	
	TG010OANEB					7		HT-3		
	TQ010OANEB2					70	F	HT-3		
	TQ010OANEBU						M	HT-3		
	TQ010OANEB5						V	HT-3		
	Oversize	P2	SP	SD010OMNEB	SP	ISO3	100	10	2.5P	SP-2
			N9640010+50			ISO2-50				SP-2
9640010+100					ISO2-100				SP-2	
PO			PD010OMNEB	PO	ISO3			5P	PO-3	
N9630010+100					ISO2-100				PO-3	
For left hand threads			P2	SP LH	HD010OANEB	SP	ISO2	100	10	2.5P
Oxidizing	P1 P2	SP OX	SD010OANEX	SP	ISO2	100	10	2.5P	SP-9	
		SG010OANEX					7		SP-9	
		PO OX	PD010OANEX	PO	ISO2	100	10	5P	PO-9	
	Oversize	P1 P2	SP OX	SD010OMNEX	SP	ISO3	100	10	2.5P	SP-9
			PO OX	PD010OMNEX	PO				5P	PO-9
			Coated	P1 P2 P3 P4 M1-M3 N1 N2	AU+SP	SE010OANEV	SP	ISO2	100	10
AU+SL	LE010OBNEV	SL	ISO2X				5P	SL-6		
SP(Coating)	9640010T1	SP	ISO2		100	10	2.5P	SP-7		
PO(Coating)	9630010T1	PO				5P	PO-6			
For soft structural steels	P1	E-SP	SD010OAHEX	SP	ISO2	100	10	2.5P	SP-26	
Thread forming taps for steels	P1 P2	N-RZ	RD010OBHEXB	RO	ISO2X	100	10	2P	RO-5	
Thread forming taps for soft structural steel sheets	P1	R-D	RD010OBNEBB	RO	ISO2X	100	10	2P	RO-1	
		Coated	R-D(Coating)	9353010BT1	RO	ISO2X	100	10	2P	RO-2
		R-D(Coating)	9353010BTC	RO	ISO2X	100	10	2P	RO-3	
For hard-to-machine materials	P5 P6	EH-PO	PD010OBDCB	PO	ISO2X	100	10	4.5P	PO-13	
		EH-HT	TD010OBDCBC	HT				2.5P	HT-12	
		P4 P5	PH-SP	SD010OAEEX	SP	ISO2	100	10	3P	SP-24
For titanium alloys	S5	ZET-B	SD010OBIPN	SP	ISO2X	100	10	3P	SP-40	
		ZET-P	LD010OBIPN	SL				5P	SL-8	
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SD010OBJPX	SP	ISO2X	100	10	3P	SP-38	
		ZEN-P	PD010OBJPW	PO				4.5P	PO-18	
For medium hardness carbon steels	P3 P4	MHSL	LD010OBFCLS	SL	ISO2X	100	10	5P	SL-4	

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
For stainless steels	P4 M1-M2	SP+VA	SE010OAGEX	SP	ISO2	100	10	2.5P	SP-27	
		SG010OAGEX							SP-27	
		SP-VA	SD010OAGEX						SP-29	
		SG010OAGEX					7		SP-29	
		P1 P2 P3 P4 M1-M3	SL+VA	LE010OBGEX	SL	ISO2X	100	10	5P	SL-1
			LZ010OBGEX							SL-1
	Oversize	P4 M1-M2	PO-VA	PD010OBGEX	PO				4.5P	PO-14
			PG010OBGEX					7		PO-14
	Coated	P4 M1-M2	SP-VA	SD010OMGEX	SP	ISO3	100	10	2.5P	SP-29
			SD010OAGET	SP	ISO2	100	10	2.5P	SP-31	
	For hard-to-machine materials	P1 P2 P3 P4 M1-M3	PO-VA	PD010OBGET	PO	ISO2X	100	10	4.5P	PO-17
			P3 M3-M4	SU2-SP	SD010OAGEXJ	SP	ISO2	100	10	2.5P
For cast irons	K1	GG-HT	TD010OBAENC	HT	ISO2X	100	10	2.5P	HT-14	
		TG010OBAENC					7		HT-14	
		GG-HT-OH	TD010OBAFNC				10		HT-18	
	Coated	K1	GG-HT(Coating)	9626010TC	HT	ISO2X	100	10	2.5P	HT-16
			9726010TC					7		HT-16
			GG-HT-OH(Coating)	9626010TCOH				10		HT-19
Carbide	K1 K2	CT-FC	3626010	HT	ISO2X	100	10	2.5P	CT-1	
Carbide taps for hard materials	H45-55HRC H55-65HRC	EH-CT	TD010OBCWAS	HT	ISO2X	100	10	5P	CT-4	
		UH-CT	TD010OBBWAS	HT	ISO2X	100	10	5P	CT-6	
For aluminum alloys	N1 N2 N3 N4	AL-SP	SD010OALEN	SP	ISO2	100	10	2.5P	SP-18	
		LA-HT	TD010OBLENS	HT	ISO2X	100	10	5P	HT-20	
		AXE	AXE-HT	TD010OBLPVA	HT	ISO2X	100	10	1.5P	HT-22
Thread forming taps for non-ferrous materials	N1 N2	N-RS	RD010OBKENB	RO	ISO2X	100	10	2P	RO-4	
X series	Coated	P1 P2 P3 P4 M1-M3 N1 N2	AUXSP	SX010OANEV	SP	ISO2	100	10	2.5P	SP-16
			AUXSL	LX010OBNEV	SL	ISO2X			5P	SL-7
High speed tapping	P1 P2	F-SP	SY010OBNEV	SP	ISO2X	100	10	2.5P	SP-42	
		F-SL	LY010OBNEV	SL				5P	SL-9	
		Ultra fast tapping (with coolant hole)	For steels	P1 P2 P3 P4	HFHS	SD010OBEDTZ	SP	ISO2X	100	10
HFISP	SD010OBEDTHZ	SP			ISO2X	100	10	2.5P	SP-44	
For both steels and non ferrous materials	P1 P2	HDISL			LD010OBDTLZ	SL	ISO2X	100	10	5P
For non-ferrous materials	N1 N2	HFHFS		SD010OBLDTZ	SP	ISO2X	100	10	2.5P	SP-45
		HFASP		SD010OBLDTHZ						SP-46
For dry tapping (with coolant hole)	For steels	P3 P4		HDISP	SD010OBDTLZ	SP	ISO2X	100	10	2.5P
			For non-ferrous materials	N1 N2	HDASP	SD010OBLDTLZ	SP	ISO2X	100	10
High performance thread forming taps, coated for high carbon steels	Oversize	P1 P2 P3 P4 M1-M3	HP-RZ	RD010OBFPTB	RO	ISO2X	100	10	2P	RO-8
			HP-RZ	RD010ONFPTB	RO	ISO3X	100	10	2P	RO-8
Roll taps for carbon steels of middle hardness	P3 P4 P5		MHRZ	RD010OBOCTP	RO	ISO2X	100	10	4P	RO-10
			RD010OBOCTB					2P	RO-10	

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
- P2 Carbon steel and low alloy steel
- P3 Medium alloy steel and heat treated steel
- P4 High alloy steel
- P5 Tool steel
- P6 High tensile strength steel
- M1 Ferritic and austenitic stainless steel
- M3 Austenitic stainless steel
- M4 Martensitic stainless steel
- M5 PH stainless steel
- K1 Grey cast iron
- K2 Nodular cast iron
- K3 Austenitic cast iron
- K4 ADI cast iron
- N1 Aluminum alloy (< 12% Si)
- N2 Aluminum alloy (> 12% Si)
- N3 Copper alloy
- N4 Brass alloy and bronze alloy
- S1-S2 HRSA (~35HRC)
- S3 HRSA (35~45HRC)
- S5 Titanium alloy
- H45-55HRC Hardened steel
- H55-63HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
For deep hole use	P2	SP-BLF	SD010OANEBAJ	SP	ISO2	100	10	1.5P	SP-32	
			SD010OANEBJ					2.5P	SP-32	
	Oxidizing	P2	SP-BLF OX	SD010OANEJ	SP	ISO2	100	10	2.5P	SP-35
Coated	P1 P2 P3 P4	SP-BLF (Coating)	9647010TI	SP	ISO2	100	10	2.5P	SP-34	
Low spiral	P2 P3	LO-SP	SD010OANEBH	SP	ISO2	100	10	3.5P	SP-19	
		Oxidizing	P2 P3	LO-SP OX	SD010OANEJH	SP	ISO2	100	10	3.5P
	Over-size	P2 P3	LO-SP OX	SD010OMNEJH	SP	ISO3	100	10	3.5P	SP-22
Taps M10×1.25										
Standard	P2	SP	SM010MANEB	SP	ISO2	100	7	2.5P	SP-2	
		PO	PM010MANEB	PO				5P	PO-3	
		HT	TM010MANEB	HT					2.5P	HT-3
			TR010MANEB2				70		F	HT-3
			TR010MANEB5						V	HT-3
Oxidizing	P1 P2	SP OX	SM010MANEX	SP	ISO2	100	7	2.5P	SP-9	
		PO OX	PM010MANEX	PO				5P	PO-9	
Coated	P1 P2 P3 P4 M1 M3 N1 N2	AU+SP	SN010MANEV	SP	ISO2	100	7	2.5P	SP-15	
		AU+SL	LN010MBNEV	SL	ISO2			5P	SL-6	
		SP(Coating)	9840010NTI	SP	ISO2	100	7	2.5P	SP-7	
		PO(Coating)	9830010NTI	PO				5P	PO-6	
High performance thread forming taps/coated	K1	HP-RZ	RM010NBFTB	RO	ISO2	100	7	2P	RO-8	
Roll taps for carbon steels of middle hardness	P3 P4 P5	MHRZ	RM010NBCTP	RO	ISO2	100	7	4P	RO-10	
			RM010NBCTB					2P	RO-10	
For hard-to-machine materials	P5 P6	EH-PO	PM010NBDCB	PO	ISO2	100	7	4.5P	PO-13	
		EH-HT	TM010NBDCBC	HT				2.5P	HT-12	
	P4 P5	PH-SP	SM010NAEEX	SP	ISO2	100	7	3P	SP-24	
For titanium alloys	S5	ZET-B	SM010NBIPN	SP	ISO2	100	7	3P	SP-40	
		ZET-P	LM010NBIPN	SL				5P	SL-8	
For nickel base alloys	P3 P4 M1 M3 S1 S2	ZEN-B	SM010NBJPX	SP	ISO2	100	7	3P	SP-38	
		ZEN-P	PM010NBJPW	PO				4.5P	PO-18	
For medium hardness carbon steels	P3 P4	MHSL	LM010NBFLC5	SL	ISO2	100	7	5P	SL-4	
For stainless steels	P4 M1 M2	SP-VA	SM010NAGEX	SP	ISO2	100	7	2.5P	SP-29	
		PO-VA	PM010NBGEX	PO	ISO2	100	7	4.5P	PO-14	
For cast irons	K1	GG-HT	TM010NBAENC	HT	ISO2	100	7	2.5P	HT-14	
		GG-HT-OH	TM010NBAFNC						HT-18	
		Coated	GG-HT(Coating)	9826010MTC	HT	ISO2	90	7	2.5P	HT-16
		GG-HT-OH(Coating)	9826010MTCOH					HT-19		
For aluminum alloys	AXE	N2	AXE-HT	TM010MBLPVA	HT	ISO2	90	7	1.5P	HT-22
X series	Coated	P1 P2 P3 P4 M1 M3 N1 N2	AUXSP	SX010MANEV	SP	ISO2	100	10	2.5P	SP-16
			AUXSL	LX010MBNEV	SL	ISO2			5P	SL-7
High speed tapping	P1 P2	F-SP	SY010NBNEV	SP	ISO2	100	10	2.5P	SP-42	
		F-SL	LY010NBNEV	SL				5P	SL-9	







Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Ultra fast tapping (with coolant hole)	For steels	P1 P2 P3 P4	HFIHS	SY010NBEDTZ	SP	ISO2	100	10	2.5P	SP-43
			HFISP	SY010NBEDTHZ	SP	ISO2	100	10	2.5P	SP-44
	For both steels and non ferrous materials	P1 P2 P3 P4	HDISL	LY010NBEDTLZ	SL	ISO2	100	10	5P	SL-10
			HFAHS	SY010NBLDTZ	SP	ISO2	100	10	2.5P	SP-45
	For non-ferrous materials	N1 N2	HFAHS	SY010NBLDTZ	SP	ISO2	100	10	2.5P	SP-45
			HFAASP	SY010NBLDTHZ						SP-46
For dry tapping (with coolant hole)	For steels	P3 P4	HDISP	SY010NBEDTLZ	SP	ISO2	100	10	2.5P	SP-47
			HDAASP	SY010NBLDTLZ	SP	ISO2	100	10	2.5P	SP-48
Low spiral		P2 P3	LO-SP	SM010NANEJH	SP	ISO2	100	7	3.5P	SP-20
			Oxidizing	P2 P3	LO-SP OX	SM010NANEJH	SP	ISO2	100	7
Taps M10×1										
Standard	P2	SP	SM010MANEB	SP	ISO2	90	7	2.5P	SP-2	
		PO	PM010MANEB	PO				5P	PO-3	
		HT	TM010MANEB	HT					2.5P	HT-3
			TR010MANEB2				63		F	HT-3
			TR010MANEB5						V	HT-3
Oxidizing	P1 P2	SP OX	SM010MANEX	SP	ISO2	90	7	2.5P	SP-9	
		PO OX	PM010MANEX	PO				5P	PO-9	
Coated	P1 P2 P3 P4 M1 M3 N1 N2	AU+SP	SN010MANEV	SP	ISO2	90	7	2.5P	SP-15	
		SP(Coating)	9840010MTI	SP	ISO2	90	7	2.5P	SP-7	
		PO(Coating)	9830010MTI	PO	ISO2	90	7	5P	PO-6	
Low spiral		P2 P3	LO-SP	SM010MANEBH	SP	ISO2	90	7	3.5P	SP-20
			Oxidizing	P2 P3	LO-SP OX	SM010MANEXH	SP	ISO2	90	7
For hard-to-machine materials	P5 P6	EH-PO	PM010MBDCB	PO	ISO2	90	7	4.5P	PO-13	
		EH-HT	TM010MBDCBC	HT				2.5P	HT-12	
		P4 P5	PH-SP	SM010MAEEX	SP	ISO2	90	7	3P	SP-24
For stainless steels	P4 M1 M2	SP-VA	SM010MAGEX	SP	ISO2	90	7	2.5P	SP-29	
		PO-VA	PM010MBGEX	PO	ISO2			4.5P	PO-14	
For cast irons	K1	GG-HT	TM010MBAENC	HT	ISO2	90	7	2.5P	HT-14	
		GG-HT-OH	TM010MBAFNC						HT-18	
		Coated	GG-HT(Coating)	9826010MTC	HT	ISO2	90	7	2.5P	HT-16
		GG-HT-OH(Coating)	9826010MTCOH					HT-19		
For aluminum alloys	AXE	N2	AXE-HT	TM010MBLPVA	HT	ISO2	90	7	1.5P	HT-22
X series	Coated	P1 P2 P3 P4 M1 M3 N1 N2	AUXSP	SX010MANEV	SP	ISO2	100	10	2.5P	SP-16
			AUXSL	LX010MBNEV	SL	ISO2			5P	SL-7
Taps M10×0.75										
Standard	P2	SP	SM010JANEB	SP	ISO2	90	7	2.5P	SP-2	
		PO	PM010JANEB	PO				5P	PO-3	
		HT	TR010JANEB2	HT			63		F	HT-4
			TR010JANEB5						V	HT-4
Oxidizing	P1 P2	SP OX	SM010JANEX	SP	ISO2	90	7	2.5P	SP-9	
		PO OX	PM010JANEX	PO				5P	PO-9	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM010JANEXH	SP	ISO2	90	7	3.5P	SP-22

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol	Code	Flute Class	<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>	Product page	
Taps M10×0.5									
Standard	P2	HT	TR010GANE B2	HT	ISO2	63	7	F	HT-4
			TR010GANE B5						V

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Rp threads Taps

Icons of main materials

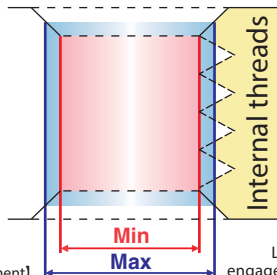
- P1 Free cutting and structural steel
- P2 Carbon steel and low alloy steel
- P3 Medium alloy steel and heat treated steel
- P4 High alloy steel
- P5 Tool steel
- P6 High tensile strength steel
- M1-M2 Ferritic and austenitic stainless steel
- M3 Austenitic stainless steel
- M4 Martensitic stainless steel
- M5 PH stainless steel
- K1 Grey cast iron
- K2 Nodular cast iron
- K3 Austenitic cast iron
- K4 ADI cast iron
- N1 Aluminium alloy (< 12% Si)
- N2 Aluminium alloy (> 12% Si)
- N3 Copper alloy
- N4 Brass alloy and bronze alloy
- S1-S2 HRSA (~35HRC)
- S3 HRSA (35~45HRC)
- S5 Titanium alloy
- H45-55HRC H55-63HRC Hardened steel

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M10×1.5									
Spiral pointed dies	HSS		DPO	6g	30	11	2~2.5P	PDH0100LNEBC	Di-2
Dies M10×1.25									
Spiral pointed dies	HSS		DPO	6g	30	11	2~2.5P	PDH0101LNEBC	Di-2
Dies M10×1									
Spiral pointed dies	HSS		DPO	6g	30	11	2~2.5P	PDH0101MLNEBC	Di-2
Dies M10×0.75									
Spiral pointed dies	HSS		DPO	6g	30	11	2~2.5P	PDH0101JLNEBC	Di-2
Dies M10×0.5									
Spiral pointed dies	HSS		DPO	6g	30	11	2~2.5P	PDH0101GLNEBC	Di-2

- M2 Dies
- M3 Dies
- M4 Dies
- M5 Dies
- M6 Dies
- M8 Dies
- M10 Dies
- M12 Dies
- M1-M7 Dies
- M8-M24 Dies
- M26-M36 Dies
- For Unified threads Dies
- For Pipe threads Dies
- For American pipe threads Dies

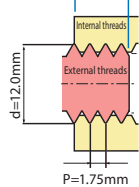
Flowchart : M12 tapping

Boring before tapping — Check 1

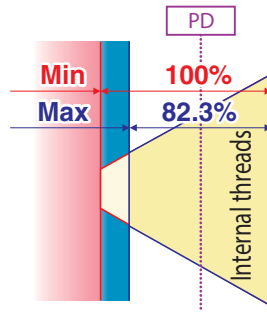


[Length of engagement]
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification	Engagement classification			Engagement length
		Fine	Middle	Coarse	
S	Short engagement length	4H	5H	—	$S \leq 6(\text{mm})$
M	Normal engagement length	5H	6H	7H	$6 < M \leq 18(\text{mm})$
L	Long engagement length	6H	7H	8H	$18 < L(\text{mm})$



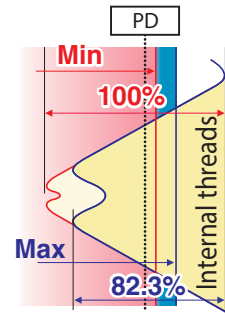
Engagement ratio on cutting taps



	Drill size (ref.)	D1	
		Min	Max
Bored hole size	10.3	10.106	10.441
Engagement ratio	89.7%	100%	82.3%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor diameter.

*Hole size for thread forming taps	
Min	Max
11.09	11.23

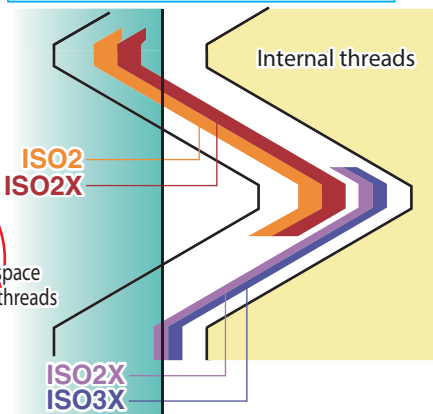
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

[Pitch diameter]
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



[Thread class of cutting taps]

Class	PD tolerance
ISO2	48 μm ~ 80 μm
ISO2X	73 μm ~ 105 μm

*Above shows the plus tolerance by setting PD basic size as "0".

[Thread class of roll taps]

Class	PD tolerance
ISO2X	127 μm ~ 140 μm
ISO3X	152 μm ~ 165 μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
6g	Solid dies

NR	6g external threads(-184~-34)	GR
GP	6H internal threads(0~200)	NP

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(-) ← Basic size of pitch diameter → (+)

10.863mm

Ring gage pitch diameter(for external threads inspection)			
NR6g	-202 ~ -184	GR6g	-51 ~ -33

NR : NOT GO ring gage
GR : GO ring gage

Plug gage pitch diameter(for internal threads inspection)			
GP6H	7 ~ 17	NP6H	200 ~ 210

GP : GO plug gage
NP : NOT GO plug gage

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	11.701 ~ 11.966	10.679 ~ 10.829	—

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	—	10.863 ~ 11.063	10.106 ~ 10.441

Icons of main materials

- P1** Free cutting and structural steel
- P2** Carbon steel and low alloy steel
- P3** Medium alloy steel and heat treated steel
- P4** High alloy steel
- P5** Tool steel
- P6** High tensile strength steel
- M1-M2** Ferritic and austenitic stainless steel
- M3** Austenitic stainless steel
- M4** Martensitic stainless steel
- M5** PH stainless steel
- K1** Grey cast iron
- K2** Nodular cast iron
- K3** Austenitic cast iron
- K4** ADI cast iron
- N1** Aluminum alloy (< 12% Si)
- N2** Aluminum alloy (> 12% Si)
- N3** Copper alloy
- N4** Brass alloy and bronze alloy
- S1-S2** HRSA (~35HRC)
- S3** HRSA (35~45HRC)
- S5** Titanium alloy
- H45-55HRC** Hardened steel
- H55-65HRC** Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M12×1.75										
Standard	P2	SP	SG012PANEB	SP	ISO2	110	9	2.5P	SP-2	
		PO	PG012PANEB	PO				5P	PO-3	
		PQ012PANEB				75			PO-3	
		HT	TG012PANEB	HT		110		2.5P	HT-4	
		TQ012PANEB2				75		F	HT-4	
		TQ012PANEBU						M	HT-4	
		TQ012PANEB5						V	HT-4	
Oversize	P2	SP	SG012PMNEB	SP	ISO3	110	9	2.5P	SP-2	
		9740012+100			ISO-110				SP-2	
		PO	PG012PMNEB	PO	ISO3			5P	PO-3	
For left hand threads	P2	SP LH	HG012PANEB	SP	ISO2	110	9	2.5P	SP-13	
Oxidizing	P1 P2	SP OX	SG012PANEX	SP	ISO2	110	9	2.5P	SP-10	
		PO OX	PG012PANEX	PO		110		5P	PO-10	
Oversize	P1 P2	SP OX	SG012PMNEX	SP	ISO3	100	10	2.5P	SP-10	
		PO OX	PG012PMNEX	PO				5P	PO-10	
Coated	P1 P2 P3 P4 M1-M3 N1 N2	AU+SP	SH012PANEV	SP	ISO2	110	9	2.5P	SP-15	
		AU+SL	LH012PBNEV	SL	ISO2X			5P	SL-6	
		SP(Coating)	9740012TI	SP	ISO2	110	9	2.5P	SP-7	
		PO(Coating)	9730012TI	PO				5P	PO-6	
For soft structural steels	P1	E-SP	SG012PAHEX	SP	ISO2	110	9	2.5P	SP-26	
Thread forming taps for steels	P1 P2	N-RZ	RG012PBHEXB	RO	ISO2X	110	9	2P	RO-5	
Thread forming taps for soft structural steel sheets	P1	R-D	RG012PBNEBB	RO	ISO2X	110	9	2P	RO-1	
		R-D(Coating)	9353012BTI	RO	ISO2X	110	9	2P	RO-2	
		R-D(Coating)	9353012BTC	RO	ISO2X	110	9	2P	RO-3	
For hard-to-machine materials	P5 P6 P4 P5	EH-PO	PG012PBDCEB	PO	ISO2X	110	9	4.5P	PO-13	
		EH-HT	TG012PBDCEB	HT				2.5P	HT-12	
		PH-SP	SG012PAEEX	SP	ISO2	110	9	3P	SP-24	
For titanium alloys	S5	ZET-B	SG012PBIPN	SP	ISO2X	110	9	3P	SP-40	
		ZET-P	LG012PBIPN	SL				5P	SL-8	
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SG012PBJPX	SP	ISO2X	110	9	3P	SP-38	
		ZEN-P	PG012PBJPW	PO				4.5P	PO-18	
For medium hardness carbon steels	P3 P4	MHSL	LG012PBFCL5	SL	ISO2X	110	9	5P	SL-4	
For stainless steels	P4 M1-M2	SP+VA	SH012PAGEX	SP	ISO2	110	9	2.5P	SP-27	
		SZ012PAGEX					12		SP-27	
		SP-VA	SG012PAGEX				9		SP-29	
	P1 P2 P3 P4 M1-M3	SL+VA	LH012PBGEX	SL	ISO2X	110	9	5P	SL-1	
		LZ012PBGEX					12		SL-1	
		PO-VA	PG012PBGEX	PO			9	4.5P	PO-14	
	Oversize	P4 M1-M2	SP-VA	SG012PMGEX	SP	ISO3	100	10	2.5P	SP-29
			Coated	SP-VA	SG012PAGET	SP	ISO2	110	9	2.5P
	Coated	P1 P2 P3 P4 M1-M3	PO-VA	PG012PBGET	PO	ISO2X			4.5P	PO-17
			For hard-to-machine materials	P4 M3-M4	SU2-SP	SG012PAGEXJ	SP	ISO2	110	9
For cast irons	K1	GG-HT	TG012PBAENC	HT	ISO2X	110	9	2.5P	HT-14	
		GG-HT-OH	TG012PBAFNC						HT-18	
		Coated	GG-HT(Coating)	9726012TC	HT	ISO2X	110	9	2.5P	HT-16
		GG-HT-OH(Coating)	9726012TCOH						HT-19	
Carbide	K1 K2	CT-FC	3726012	HT	ISO2X	110	9	2.5P	CT-1	

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page		
Carbide taps for hard materials	H45-55HRC H55-65HRC	EH-CT	TG012PBCWAS	HT	ISO2X	110	9	5P	CT-4		
		UH-CT	TG012PBBWAS	HT	ISO2X	110	9	5P	CT-6		
For aluminum alloys	N1 N2 N3 N4	AL-SP	SG012PALEN	SP	ISO2	110	9	2.5P	SP-18		
		LA-HT	TG012PBLEN5	HT	ISO2X	110	9	5P	HT-20		
		AXE	AXE-HT	TG012PBLPVA	HT	ISO2X	110	9	1.5P	HT-22	
Thread forming taps for non-ferrous materials	N1 N2	N-RS	RG012PBKENB	RO	ISO2X	110	9	2P	RO-4		
X series	Coated	P1 P2 P3 P4 M1-M3 N1 N2	AUXSP	SX012PANEV	SP	ISO2	110	12	2.5P	SP-16	
		AUXSL	LX012PBNEV	SL	ISO2X			5P	SL-7		
High speed tapping	P1 P2	F-SP	SY012PBNEV	SP	ISO2X	110	12	2.5P	SP-42		
			SG012PBNEV				9		SP-42		
		F-SL	LY012PBNEV	SL			12	5P	SL-9		
			LG012PBNEV			9		SL-9			
Ultra fast tapping (with coolant hole)	For steels	P1 P2 P3 P4	HFIHS	SY012PBEDTZ	SP	ISO2X	110	12	2.5P	SP-43	
		P1 P2 P3 P4	HFISP	SY012PBEDTHZ	SP	ISO2X	110	12	2.5P	SP-44	
Ultra fast tapping (with coolant hole)	For non-ferrous materials	N1 N2	HFAHS	SY012PBLDTZ	SP	ISO2X	110	12	2.5P	SP-45	
		HFAASP	SY012PBLDTHZ						SP-46		
		For both steels and non-ferrous materials	P1 P2	HDISL	LY012PBEDTLZ	SL	ISO2X	110	12	5P	SL-10
For dry tapping (with coolant hole)	For steels	P3 P4	HDISP	SY012PBEDTLZ	SP	ISO2X	110	12	2.5P	SP-47	
		For non-ferrous materials	N1 N2	HDAASP	SY012PBLDTLZ	SP	ISO2X	110	12	2.5P	SP-48
High performance thread forming taps, coated for high carbon steels	P1 P2 P3 P4 M1-M3	HP-RZ	RG012PBFPTB	RO	ISO2X	110	9	2P	RO-8		
			RG012PNFPTB		ISO3X				RO-8		
For deep hole use	P2	SP-BLF	SG012PANEBAJ	SP	ISO2	110	9	1.5P	SP-32		
			SG012PANEBJ					2.5P	SP-32		
		Oxidizing	P2	SP-BLF OX	SG012PANEXJ	SP	ISO2	110	9	2.5P	SP-35
Coated	P1 P2 P3 P4	SP-BLF (Coating)	9747012TI	SP	ISO2	110	9	2.5P	SP-34		
Low spiral	P2 P3	LO-SP	SG012PANEBH	SP	ISO2	110	9	3.5P	SP-20		
		Oxidizing	P2 P3	LO-SP OX	SG012PANEXH	SP	ISO2	110	9	3.5P	SP-22
		Oversize	P2 P3	LO-SP OX	SG012PMNEXH	SP	ISO3	110	9	3.5P	SP-22
Taps M12×1.5											
Standard	P2	SP	SM012OANEB	SP	ISO2	100	9	2.5P	SP-2		
		PO	PM012OANEB	PO				5P	PO-3		
		HT	TM012OANEB	HT				2.5P	HT-4		
			TR012OANEB2			70		F	HT-4		
			TR012OANEB5					V	HT-4		
Oxidizing	P1 P2	SP OX	SM012OANEX	SP	ISO2	100	9	2.5P	SP-10		
		PO OX	PM012OANEX	PO				5P	PO-10		
Coated	P1 P2 P3 P4 M1-M3 N1 N2	AU+SP	SN012OANEV	SP	ISO2	100	9	2.5P	SP-15		
		AU+SL	LN012OBNEV	SL	ISO2X			5P	SL-6		
		SP(Coating)	9840012OTI	SP	ISO2	100	9	2.5P	SP-7		
		PO(Coating)	9830012OTI	PO				5P	PO-6		
For hard-to-machine materials	P5 P6 P4 P5	EH-PO	PM012OBDCEB	PO	ISO2X	100	9	4.5P	PO-13		
		EH-HT	TM012OBDCEB	HT				2.5P	HT-12		
		PH-SP	SM012OAEEX	SP	ISO2	100	9	3P	SP-24		
For titanium alloys	S5	ZET-B	SM012OBIPN	SP	ISO2X	100	9	3P	SP-40		
		ZET-P	LM012OBIPN	SL				5P	SL-8		

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

Symbol of flute design	Spiral	Straight	Spiral point	Left hand spiral	Roll
	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
For nickel base alloys		ZEN-B	SM012OBJPX	SP	ISO2X	100	9	3P	SP-38
		ZEN-P	PM012OBJPW	PO				4.5P	PO-18
For medium hardness carbon steels		MHSL	LM012OBFCL5	SL	ISO2X	100	9	5P	SL-4
For stainless steels		SP-VA	SM012OAGEX	SP	ISO2	100	9	2.5P	SP-29
		PO-VA	PM012OBGEX	PO	ISO2X	100	9	4.5P	PO-14
For cast irons		GG-HT	TM012OBAENC	HT	ISO2X	100	9	2.5P	HT-14
		GG-HT-OH	TM012OBAFNC	HT				2.5P	HT-18
	Coated	GG-HT(Coating)	9826012OTC	HT	ISO2X	100	9	2.5P	HT-16
	GG-HT-OH(Coating)	9826012OTCOH						HT-19	
For aluminum alloys	AXE	N2	AXE-HT	HT	ISO2X	100	9	1.5P	HT-22
X series	Coated	AUXSP	SX012OANEV	SP	ISO2	110	12	2.5P	SP-16
		AUXSL	LX012OBNEV	SL	ISO2X			5P	SL-7
High speed tapping		F-SP	SY012OBNEV	SP	ISO2X	110	12	2.5P	SP-42
			SM012OBNEV		ISO2	100	9		SP-42
		F-SL	LY012OBNEV	SL	ISO2X	110	12	5P	SL-9
			LM012OBNEV			100	9		SL-9
Ultra fast tapping (with coolant hole)	For steels	HFIHS	SY012OBEDTZ	SP	ISO2X	110	12	2.5P	SP-43
		HFIHP	SY012OBEDTHZ	SP	ISO2X	110	12	2.5P	SP-44
	For non-ferrous materials	HFAHS	SY012OBLDTZ	SP	ISO2X	110	12	2.5P	SP-45
		HFAHP	SY012OBLDTHZ						SP-46
For both steels and non-ferrous materials	HDISL	LY012OBDTLZ	SL	ISO2X	110	12	5P	SL-10	
For dry tapping (with coolant hole)	For steels	HDISP	SY012OBDTLZ	SP	ISO2X	110	12	2.5P	SP-47
	For non-ferrous materials	HDASP	SY012OBLDTLZ	SP	ISO2X	110	12	2.5P	SP-48
High performance thread forming taps, coated		HP-RZ	RM012OBFPTB	RO	ISO2X	100	9	2P	RO-8
Roll Taps for Carbon Steels of Middle Hardness		MHRZ	RM012OBOCTP	RO	ISO2X	100	9	4P	RO-10
			RM012OBOCTB					2P	RO-10
Low spiral		LO-SP	SM012OANEBH	SP	ISO2	100	9	3.5P	SP-20
	Oxidizing	LO-SP OX	SM012OANEXH	SP	ISO2	100	9	3.5P	SP-22
Taps M12x1.25									
Standard		SP	SM012NANEB	SP	ISO2	100	9	2.5P	SP-3
		PO	PM012NANEB	PO				5P	PO-3
		HT	TM012NANEB	HT				2.5P	HT-4
		TR012NANEB2		70	F	HT-4			
		TR012NANEB5			V	HT-4			
Oxidizing		SP OX	SM012NANEX	SP	ISO2	100	9	2.5P	SP-10
		PO OX	PM012NANEX	PO				5P	PO-10
Coated		AU+SP	SN012NANEV	SP	ISO2	100	9	2.5P	SP-15
		AU+SL	LN012NBNEV	SL	ISO2X			5P	SL-6
		SP(Coating)	9840012NTI	SP	ISO2	100	9	2.5P	SP-7
	PO(Coating)	9830012NTI	PO				5P	PO-6	
Low spiral		LO-SP	SM012NANEBH	SP	ISO2	100	9	3.5P	SP-20
	Oxidizing	LO-SP OX	SM012NANEXH	SP	ISO2	100	9	3.5P	SP-22
High performance		HP-RZ	RM012NBFPTB	RO	ISO2X	100	9	2P	RO-8

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
For hard-to-machine materials		EH-PO	PM012NBDCB	PO	ISO2X	100	9	4.5P	PO-13
		EH-HT	TM012NBDCBC	HT				2.5P	HT-12
For stainless steels		PH-SP	SM012NAEX	SP	ISO2	100	9	3P	SP-24
		SP-VA	SM012NAGEX	SP	ISO2	100	9	2.5P	SP-29
For cast irons		GG-HT	TM012NBAENC	HT	ISO2X	100	9	2.5P	HT-14
		GG-HT-OH	TM012NBAFNC						HT-18
Coated		GG-HT(Coating)	9826012NTC	HT	ISO2X	100	9	2.5P	HT-16
		GG-HT-OH(Coating)	9826012NTCOH						HT-19
For medium hardness carbon steels		MHSL	LM012NBFCL7	SL	ISO2X	100	9	7P	SL-4
For aluminum alloys	AXE	N2	AXE-HT	HT	ISO2X	100	9	1.5P	HT-22
For titanium alloys		ZET-B	SM012NBIPN	SP	ISO2X	100	9	3P	SP-40
		ZET-P	LM012NBIPN	SL				5P	SL-8
For Nickel Base Alloys		ZEN-B	SM012NBJPX	SP	ISO2X	100	9	3P	SP-38
		ZEN-P	PM012NBJPW	PO				4.5P	PO-18
X series	Coated	AUXSP	SX012NANEV	SP	ISO2	110	12	2.5P	SP-16
		AUXSL	LX012NBNEV	SL	ISO2X	110	12	5P	SL-7
For High Speed Tapping		F-SP	SY012NBNEV	SP	ISO2X	110	12	2.5P	SP-42
			SM012NBNEV			100	9		SP-42
		F-SL	LY012NBNEV	SL		110	12	5P	SL-9
			LM012NBNEV			100	9		SL-9
Ultra fast tapping (with coolant hole)	For steels	HFIHS	SY012NBEDTZ	SP	ISO2X	110	12	2.5P	SP-43
		HFIHP	SY012NBEDTHZ	SP	ISO2X	110	12	2.5P	SP-44
	For non-ferrous materials	HFAHS	SY012NBLDTZ	SP	ISO2X	110	12	2.5P	SP-45
		HFAHP	SY012NBLDTHZ						SP-46
For both steels and non-ferrous materials	HDISL	LY012NBDTLZ	SL	ISO2X	110	12	5P	SL-10	
For dry tapping (with coolant hole)	For steels	HDISP	SY012NBDTLZ	SP	ISO2X	110	12	2.5P	SP-47
	For non-ferrous materials	HDASP	SY012NBLDTLZ	SP	ISO2X	110	12	2.5P	SP-48
Taps M12x1									
Standard		SP	SM012MANEB	SP	ISO2	100	9	2.5P	SP-3
		PO	PM012MANEB	PO				5P	PO-3
		HT	TM012MANEBC	HT				2.5P	HT-4
		TR012MANEB2		70	F	HT-4			
		TR012MANEB5			V	HT-4			
Oxidizing		SP OX	SM012MANEX	SP	ISO2	100	9	2.5P	SP-10
		PO OX	PM012MANEX	PO				5P	PO-10
Low spiral		LO-SP	SM012MANEBH	SP	ISO2	100	9	3.5P	SP-20
	Oxidizing	LO-SP OX	SM012MANEXH	SP	ISO2	100	9	3.5P	SP-22
For stainless steels		SP-VA	SM012MAGEX	SP	ISO2	100	9	2.5P	SP-29
		PO-VA	PM012MBGEX	PO	ISO2X	100	9	4.5P	PO-14
For cast irons		GG-HT	TM012MBAENC	HT	ISO2X	100	9	2.5P	HT-15
	Coated	GG-HT(Coating)	9826012MTC	HT	ISO2X	100	9	2.5P	HT-16

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC H55-65HRC Hardened steel

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M12×1.75									
Spiral pointed dies	HSS		DPO	6g	38	14	2~2.5P	PDJ012PLNEBC	Di-2
Dies M12×1.5									
Spiral pointed dies	HSS		DPO	6g	38	10	2~2.5P	PDJ0120LNEBC	Di-2
Dies M12×1.25									
Spiral pointed dies	HSS		DPO	6g	38	10	2~2.5P	PDJ012NLNEBC	Di-2
Dies M12×0.75									
Spiral pointed dies	HSS		DPO	6g	38	10	2~2.5P	PDJ012JLNEBC	Di-2
Dies M12×0.5									
Spiral pointed dies	HSS		DPO	6g	38	10	2~2.5P	PDJ012GLNEBC	Di-2

- M2 Dies
- M3 Dies
- M4 Dies
- M5 Dies
- M6 Dies
- M8 Dies
- M10 Dies
- M12 Dies
- M1-M7 Dies
- M9-M24 Dies
- M26-M36 Dies
- For Unified threads Dies
- For Pipe threads Dies
- For American pipe threads Dies

Explanation of catalogue contents

Tap selection	Main material	Symbol	Code	Flute Class	L	D _s	ℓ _c	Product page	
Taps	M2×0.4								
Standard	P2	SP	SD2.0EANEBC	SP	ISO2	45	2.8	2.5P	SP-2
		PO	PD2.0EANEBC	PO				5P	PO-2
		HT	TD2.0EANEBC	HT	ISO2	45	2.8	2.5P	HT-2
			TQ2.0EANEBC2			36		F	HT-2
			TQ2.0EANEBCU					M	HT-2
Oxidizing	P1 P2	SP OX	SD2.0EANEBC	SP	ISO2	45	2.8	2.5P	SP-9

Page shown in line-ups depending on products

Classification of materials

Kind	Chip shape after boring (drilling)	ISO Code	Examples of materials	Hardness
Ferrous		K1	Grey cast iron	150~250HB
		K2	Nodular cast iron	150~350HB
		K3	Austenitic cast iron	120~260HB
		K4	ADI cast iron	250~500HB
		H	Hardened steel	45~55HRC
		H	Hardened steel	55~63HRC
		M5	PH stainless steel	850~1250N/mm2
		M4	Martensitic stainless steel	650~950N/mm2
		M3	Austenitic stainless steel	550~850N/mm2
		M1-M2	Ferritic and austenitic stainless steel	400~750N/mm2
		P6	High tensile strength steel	1200~1480N/mm2
		P5	Tool steel	900~1200N/mm2
		Non-ferrous		S5
S3	HRSA			35~45HRC
S1-S2	HRSA			~35HRC
N1	Aluminum alloy			<12% Si
N2	Aluminum alloy			>12% Si
N3	Copper alloy			-
N4	Brass alloy and bronze alloy			-

Hardness of materials : Please refer to material composition table shown in technical data.

Flute shape of taps and chip ejection

SP= Spiral	PO= Spiral point	SL= LH spiral	HT= Straight	RO= Forming

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1** Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminum alloy (< 12% Si)
N2 Aluminum alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC
H55-63HRC
H Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M1.4X0.3										
Standard	P2	PO	96301.4	PO	ISO2	40	2.5	5P	PO-2	
Taps M1.6X0.35										
Standard	P2	PO	96301.6	PO	ISO2	40	2.5	5P	PO-2	
Taps M2.2×0.45										
Standard	P2	SP	SD2.2FANEBC	SP	ISO2	45	2.8	2.5P	SP-2	
		PO	PD2.2FANEBC	PO				5P	PO-2	
		HT	TQ2.2FANEBC	HT		36		F	HT-2	
			TQ2.2FANEBC						M	HT-2
Oxidizing	P1 P2	SP OX	SD2.2FANEBC	SP	ISO2	45	2.8	2.5P	SP-9	
		PO OX	PD2.2FANEBC	PO				5P	PO-9	
Taps M2.3×0.4										
Standard	P2	PO	PD2.3EANEBC	PO	ISO2	45	2.8	5P	PO-2	
		HT	TQ2.3EANEBC	HT		36		F	HT-2	
			TQ2.3EANEBC						M	HT-2
			TQ2.3EANEBC						V	HT-2
Oxidizing	P1 P2	SP OX	SD2.3EANEBC	SP	ISO2	45	2.8	2.5P	SP-9	
		PO OX	PD2.3EANEBC	PO				5P	PO-9	
Low spiral	P2 P3	LO-SP	SD2.3EANEBC	SP	ISO2	45	2.8	3.5P	SP-19	
Thread forming taps, for non ferrous	N1 N2	N+RS	RE2.3EBKENB	RO	ISO2X	45	2.8	2P	RO-4	
Taps M2.5×0.45										
Standard	P2	SP	SD2.5FANEBC	SP	ISO2	50	2.8	2.5P	SP-2	
		PO	PD2.5FANEBC	PO				5P	PO-2	
		HT	TD2.5FANEBC	HT				2.5P	HT-2	
			TQ2.5FANEBC			40		F	HT-2	
			TQ2.5FANEBC						M	HT-2
Oxidizing	P1 P2	SP OX	SD2.5FANEBC	SP	ISO2	50	2.8	2.5P	SP-9	
		PO OX	PD2.5FANEBC	PO				5P	PO-9	
Low spiral	P2 P3	LO-SP	SD2.5FANEBC	SP	ISO2	50	2.8	3.5P	SP-19	
		Oxidizing	P2 P3	LO-SP OX	SD2.5FANEBC	SP	ISO2	50	2.8	3.5P
For stainless steels	P4 M1-M2	SP-VA	SD2.5FAGEX	SP	ISO2	50	2.8	2.5P	SP-28	
		P1 P2 P3 P4 M1-M3	PO-VA	PD2.5FBGEX	PO	ISO2X	50	2.8	4.5P	PO-14
For aluminum alloys	N1 N2 N3 N4	AL+SP	SE2.5FALEN	SP	ISO2	50	2.8	2.5P	SP-18	
		Thread forming taps for soft structural steel sheets	P1	R-D	RD2.5FBNEBB	RO	ISO2X	50	2.8	2P
Coated	P1	R-D(Coating)	93532.5BTI	RO	ISO2X	50	2.8	2P	RO-2	
		R-D	93532.5BTC	RO	ISO2X	50	2.8	2P	RO-3	
for non-ferrous	N1 N2	N+RS	RE2.5FBKENB	RO	ISO2X	50	2.8	2P	RO-4	
high performance	P1 P2 P3 P4 M1-M3	HP+RZ	RE2.5FBFPTB	RO	ISO2X	50	2.8	2P	RO-7	
			RE2.5FNFPBTB		ISO3X				RO-7	

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M2.6×0.45										
Standard	P2	SP	SD2.6FANEBC	SP	ISO2	50	2.8	2.5P	SP-2	
		PO	PD2.6FANEBC	PO				5P	PO-2	
		HT	TQ2.6FANEBC	HT		40		F	HT-2	
			TQ2.6FANEBC						M	HT-2
Oxidizing	P1 P2	SP OX	SD2.6FANEBC	SP	ISO2	50	2.8	2.5P	SP-9	
		PO OX	PD2.6FANEBC	PO				5P	PO-9	
Low spiral	P2 P3	LO-SP	SD2.6FANEBC	SP	ISO2	50	2.8	3.5P	SP-19	
		Oxidizing	P2 P3	LO-SP OX	SD2.6FANEBC	SP	ISO2	50	2.8	3.5P
Taps M3.5×0.6										
Standard	P2	SP	SD3.5HANEBC	SP	ISO2	56	4	2.5P	SP-2	
		PO	PD3.5HANEBC	PO				5P	PO-2	
		HT	TQ3.5HANEBC	HT		45		F	HT-2	
			TQ3.5HANEBC						M	HT-2
Oxidizing	P1 P2	SP OX	SD3.5HANEBC	SP	ISO2	56	4	2.5P	SP-9	
		PO OX	PD3.5HANEBC	PO				5P	PO-9	
Low spiral	P2 P3	LO-SP	SD3.5HANEBC	SP	ISO2	56	4	3.5P	SP-19	
Thread forming taps for steels	P1 P2	N+RZ	RE3.5HBHEXC	RO	ISO2X	56	4	2P	RO-5	
Thread forming taps for soft structural steel sheets	P1	R-D	RD3.5HBNEBB	RO	ISO2X	56	4	2P	RO-1	
		Coated	P1	R-D(Coating)	93533.5BTI	RO	ISO2X	56	4	2P
	P1	R-D	93533.5BTC	RO	ISO2X	56	4	2P	RO-3	
Taps M3.5×0.35										
Standard	P2	HT	TR3.5DANEBC	HT	ISO2	45	4	F	HT-2	
			TR3.5DANEBC						V	HT-2
Taps M4.5×0.75										
Standard	P2	HT	TQ4.5JANEBC	HT	ISO2	50	6	F	HT-2	
			TQ4.5JANEBC						M	HT-2
			TQ4.5JANEBC						V	HT-2
Oxidizing	P1 P2	SP OX	SD4.5JANEBC	SP	ISO2	70	6	2.5P	SP-9	
Taps M7×1										
Standard	P2	SP	SD7.0MANEBC	SP	ISO2	80	7	2.5P	SP-2	
		PO	PD7.0MANEBC	PO	ISO2	80	7	5P	PO-2	
		HT	TD7.0MANEBC	HT				2.5P	HT-3	
			TQ7.0MANEBC			50	6	F	HT-3	
Oxidizing	P1 P2	SP OX	SD7.0MANEBC	SP	ISO2	80	7	2.5P	SP-9	
		PO OX	PD7.0MANEBC	PO				5P	PO-9	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SD7.0MANEBC	SP	ISO2	80	7	3.5P	SP-22

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute Class	<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>	Product page	
Taps M7×0.75									
Standard	P2	SP	SM7.0JANEB	SP	ISO2	80	5.5	2.5P	SP-2
		PO	PM7.0JANEB	PO				5P	PO-2
		HT	TR7.0JANEB2	HT		50	6	F	HT-3
			TR7.0JANEB5					V	HT-3
Oxidizing	P1 P2	SP OX	SM7.0JANEX	SP	ISO2	80	5.5	2.5P	SP-9
		PO OX	PM7.0JANEX	PO				5P	PO-9
Taps M7×0.5									
Standard	P2	SP	SM7.0GANEB	SP	ISO2	80	5.5	2.5P	SP-2
		PO	PM7.0GANEB	PO				5P	PO-2
Oxidizing	P1 P2	SP OX	SM7.0GANEX	SP	ISO2	80	5.5	2.5P	SP-9
		PO OX	PM7.0GANEX	PO				5P	PO-9

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC
H55-63HRC Hardened steel

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M1×0.25									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD1.0BLNEBC	Di-1
Dies M1.1×0.25									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD1.1BLNEBC	Di-1
Dies M1.2×0.25									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD1.2BLNEBC	Di-1
Dies M1.4×0.3									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD1.4CLNEBC	Di-1
Dies M1.6×0.35									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD1.6DLNEBC	Di-1
Dies M1.7×0.35									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD1.7DLNEBC	Di-1
Dies M1.8×0.35									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD1.8DLNEBC	Di-1
Dies M2.2×0.45									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD2.2FLNEBC	Di-1
Dies M2.3×0.4									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD2.3ELNEBC	Di-1
Dies M2.5×0.45									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD2.5FLNEBC	Di-1
Dies M2.5×0.35									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD2.5DLNEBC	Di-1
Dies M2.6×0.45									
Spiral pointed dies	HSS		DPO	6g	16	5	2~2.5P	PDD2.6FLNEBC	Di-1
Dies M3.5×0.6									
Spiral pointed dies	HSS		DPO	6g	20	5	2~2.5P	PDE3.5HLNEBC	Di-1
Dies M7×1									
Spiral pointed dies	HSS		DPO	6g	25	9	2~2.5P	PDG7.0MLNEBC	Di-2
Dies M7×0.75									
Spiral pointed dies	HSS		DPO	6g	25	9	2~2.5P	PDG7.0JLNEBC	Di-2

- M2 Dies
 M3 Dies
 M4 Dies
 M5 Dies
 M6 Dies
 M8 Dies
 M10 Dies
 M12 Dies
 M1-M7 Dies
 M9-M24 Dies
 M26-M36 Dies
 For Unified threads Dies
 For Pipe threads Dies
 For American pipe threads Dies

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

Symbol of flute design	Spiral	Straight	Spiral point	Left hand spiral	Roll
	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute Class	L	D _s	ℓ _c	Product page	
Taps M9×1.25									
Standard	P2	SP	SD9.0NANEB	SP ISO2	90	9	2.5P	SP-2	
			SM9.0NANEB			7		SP-2	
		PO	PD9.0NANEB	PO		9	5P	PO-2	
			PG9.0NANEB			7		PO-2	
		HT	TD9.0NANEB	HT	90	9	2.5P	HT-3	
			TQ9.0NANEB2			63	7	F	HT-3
			TQ9.0NANEBU					M	HT-3
		TQ9.0NANEB5				V	HT-3		
Oxidizing	P1 P2	SP OX	SD9.0NANEX	SP ISO2	90	9	2.5P	SP-9	
			SM9.0NANEX			7		SP-9	
		PO OX	PD9.0NANEX	PO		9	5P	PO-9	
			PG9.0NANEX			7		PO-9	
Taps M9×1									
Standard	P2	SP	SM9.0MANEB	SP ISO2	90	7	2.5P	SP-2	
			PG9.0MANEB	PO			5P	PO-2	
		HT	TR9.0MANEB2	HT	63		F	HT-3	
			TR9.0MANEB5				V	HT-3	
Oxidizing	P1 P2	SP OX	SM9.0MANEX	SP ISO2	90	7	2.5P	SP-9	
			PG9.0MANEX	PO			5P	PO-9	
Taps M9×0.75									
Standard	P2	HT	TR9.0JANEB2	HT ISO2	56	7	F	HT-3	
			TR9.0JANEB5				V	HT-3	
Taps M11×1.5									
Standard	P2	SP	SM011OANEB	SP ISO2	100	8	2.5P	SP-2	
			PG011OANEB	PO			5P	PO-3	
		HT	TQ011OANEB2	HT	70		F	HT-4	
			TQ011OANEBU				M	HT-4	
			TQ011OANEB5				V	HT-4	
Oxidizing	P1 P2	SP OX	SM011OANEX	SP ISO2	100	8	2.5P	SP-9	
			PG011OANEX	PO			5P	PO-9	
Taps M14×2									
Standard	P2	SP	SG014QANEB	SP ISO2	110	11	2.5P	SP-3	
			PG014QANEB	PO ISO2			5P	PO-3	
		HT 3F	TG014QANEB	HT			2.5P	HT-4	
			TQ014QANEB2		80		F	HT-4	
			TQ014QANEBU				M	HT-4	
			TQ014QANEB5				V	HT-4	
Oversize	P2	SP	SG014QMNEB	SP ISO3	110	11	2.5P	SP-3	
			PG014QMNEB	PO			5P	PO-3	
For left hand threads	P2	SP LH	HG014QANEB	SP ISO2	110	11	2.5P	SP-13	
Oxidizing	P1 P2	SP OX	SG014QANEX	SP ISO2	110	11	2.5P	SP-10	
			PG014QANEX	PO	110		5P	PO-10	
Oversize	P1 P2	SP	SG014QMNEB	SP ISO3	110	11	2.5P	SP-10	
			PG014QMNEB	PO			5P	PO-10	

Tap selection	Main material	Symbol	Code	Flute Class	L	D _s	ℓ _c	Product page	
Coated	P1 P2 P3 P4 M1 M2 N1 N2	AU+SP	SH014QANEV	SP ISO2	110	11	2.5P	SP-15	
		SP(Coating)	9740014TI	SP ISO2	110	11	2.5P	SP-7	
For soft structural steels	P1 P2 P3 P4	PO(Coating)	9730014TI	PO			5P	PO-6	
		E-SP	SG014QAEHX	SP ISO2	110	11	2.5P	SP-26	
High performance thread forming taps, coated	P1 P2 P3 P4 M1 M2	HP-RZ	RG014QBFBTB	RO ISO2X	110	11	2P	RO-8	
		Thread forming taps for soft structural steel sheets							
Coated	P1	R-D	RG014QBNEBB	RO ISO2X	110	11	2P	RO-1	
		R-D(Coating)	9353014BTI	RO ISO2X	110	11	2P	RO-2	
		R-D(Coating)	9353014BTC	RO ISO2X	110	11	2P	RO-3	
For hard-to-machine materials	P5 P6	EH-PO	PG014QBDCB	PO ISO2X	110	11	4.5P	PO-13	
		EH-HT	TG014QBDCBC	HT			2.5P	HT-12	
For aluminum alloys	P4 P5	PH-SP	SG014QAEEX	SP ISO2	110	11	3P	SP-24	
		AL-SP	SG014QALEN	SP ISO2	110	11	2.5P	SP-18	
For titanium alloys	S5	ZET-B	SG014QBIPN	SP ISO2X	110	11	3P	SP-40	
		ZET-P	LG014QBIPN	SL			5P	SL-8	
For nickel base alloys	P3 P4 M1 M2 S1 S2	ZEN-B	SG014QBJPX	SP ISO2X	110	11	3P	SP-38	
		ZEN-P	PG014QBJPW	PO			4.5P	PO-18	
For Stainless steels	P4 M1 M2 P1 P2 P3 P4 M1 M2	SP-VA	SG014QAGEX	SP ISO2	110	11	2.5P	SP-29	
		PO-VA	PG014QBGEEX	PO ISO2X	110	11	4.5P	PO-14	
		Coated	SP-VA	SG014QAGET	SP ISO2	110	11	2.5P	SP-31
		Coated	PO-VA	PG014QBGET	PO ISO2X	110	11	4.5P	PO-17
For hard-to-machine materials	P4 M3 M4	SU2-SP	SG014QAGEXJ	SP ISO2	110	11	2.5P	SP-36	
		For deep hole use							
For deep hole use	P2	SP-BLF	SG014QANEBJ	SP ISO2	110	11	2.5P	SP-32	
		Oxidizing	SP-BLF OX	SG014QANEXJ	SP ISO2	110	11	2.5P	SP-35
		Coated	SP-BLF (Coating)	9747014TI	SP ISO2	110	11	2.5P	SP-34
For cast irons	K1	GG-HT	TG014QBAENC	HT ISO2X	110	11	2.5P	HT-15	
		GG-HT-OH	TG014QBAFNC					HT-18	
		Coated	GG-HT(Coating)	9726014TC	HT ISO2X	110	11	2.5P	HT-17
Carbide	K1 K2	GG-HT-OH(Coating)	9726014TCOH					HT-19	
		CT-FC	3726014	HT ISO2X	110	11	2.5P	CT-1	
Carbide taps for hard materials	HSS-63HRC	UH-CT	TG014QBBWAS	HT ISO2X	110	11	5P	CT-6	
For aluminum alloys	N1 N2	LA-HT	TG014QBLEN5	HT ISO2X	110	11	5P	HT-20	
Low spiral	P2 P3	LO-SP	SG014QANEBH	SP ISO2	110	11	3.5P	SP-20	
		Oxidizing	LO-SP OX	SG014QANEXH	SP ISO2	110	11	3.5P	SP-22
		Oversize	LO-SP OX	SG014QMNEBH	SP ISO3	110	11	3.5P	SP-22
Taps M14×1.5									
Standard	P2	SP	SM014OANEB	SP ISO2	100	11	2.5P	SP-3	
			PM014OANEB	PO			5P	PO-3	
		HT 3F	TM014OANEB	HT			2.5P	HT-4	
			TR014OANEB2		70		F	HT-4	
			TR014OANEB5				V	HT-4	
For left hand threads	P2	SP LH	HM014OANEB	SP ISO2	100	11	2.5P	SP-13	
Oxidizing	P1 P2	SP OX	SM014OANEX	SP ISO2	100	11	2.5P	SP-10	
			PM014OANEX	PO			5P	PO-10	

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Rp threads Taps

Icons of main materials

- P1** Free cutting and structural steel
- P2** Carbon steel and low alloy steel
- P3** Medium alloy steel and heat treated steel
- P4** High alloy steel
- P5** Tool steel
- P6** High tensile strength steel
- M1-M2** Ferritic and austenitic stainless steel
- M3** Austenitic stainless steel
- M4** Martensitic stainless steel
- M5** PH stainless steel
- K1** Grey cast iron
- K2** Nodular cast iron
- K3** Austenitic cast iron
- K4** ADI cast iron
- N1** Aluminum alloy (< 12% Si)
- N2** Aluminum alloy (> 12% Si)
- N3** Copper alloy
- N4** Brass alloy and bronze alloy
- S1-S2** HRSA (~35HRC)
- S3** HRSA (35~45HRC)
- S5** Titanium alloy
- H45-55HRC** Hardened steel
- H55-65HRC** Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Coated	P1 P2 P3 P4 M1-M2 N1 N2	AU+SP	SN0140ANEV	SP	ISO2X	100	11	2.5P	SP-15
	P1 P2 P3 P4	SP(Coating)	98400140TI	SP	ISO2X	100	11	2.5P	SP-7
		PO(Coating)	98300140TI	PO				5P	PO-6
For hard-to-machine materials	P5 P6	EH-PO	PM0140BDCB	PO	ISO2X	100	11	4.5P	PO-13
		EH-HT	TM0140BDCBC	HT				2.5P	HT-12
For titanium alloys	S5	ZET-B	SM0140BIPN	SP	ISO2X	100	11	3P	SP-40
		ZET-P	LM0140BIPN	SL				5P	SL-8
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SM0140BJPX	SP	ISO2X	100	11	3P	SP-38
		ZEN-P	PM0140BJPW	PO				4.5P	PO-18
For medium hardness carbon steels	P3 P4	MHSL	LM0140BFCL7	SL	ISO2X	100	11	7P	SL-4
For stainless steels	P4 M1-M2	SP-VA	SM0140AGEX	SP	ISO2X	100	11	2.5P	SP-29
	P1 P2 P3 P4 M1-M3	PO-VA	PM0140BGEX	PO	ISO2X	100	11	4.5P	PO-14
For cast irons	K1	GG-HT	TM0140BAENC	HT	ISO2X	100	11	2.5P	HT-15
		GG-HT-OH	TM0140BAFNC						HT-18
	Coated	K1	GG-HT(Coating)	98260140TC	HT	ISO2X	100	11	2.5P
		GG-HT-OH(Coating)	98260140TCOH						HT-19
High performance thread forming taps, coated	P1 P2 P3 P4 M1-M3	HP-RZ	RM0140BFPTB	RO	ISO2X	100	11	2P	RO-8
Roll taps for carbon steels of middle hardness	P3 P4 P5	MHRZ	RM0140BOCTP	RO	ISO2X	100	11	4P	RO-10
			RM0140BOCTB					2P	RO-10
Low spiral	P2 P3	LO-SP	SM0140ANEHB	SP	ISO2X	100	11	3.5P	SP-20
	Oxidizing	P2 P3	LO-SP OX	SM0140ANEXH	SP	ISO2X	100	11	3.5P

Taps M14x1.25

Standard	P2	SP	SM014MANEB	SP	ISO2X	100	11	2.5P	SP-3
		PO	PM014MANEB	PO				5P	PO-3
		HT	TR014MANEB2	HT		70		F	HT-4
			TR014MANEB5					V	HT-4
Oxidizing	P1 P2	SPOX	SM014MANEX	SP	ISO2X	100	11	2.5P	SP-10
		POOX	PM014MANEX	PO				5P	PO-10

Taps M14x1

Standard	P2	SP	SM014MANEB	SP	ISO2X	100	11	2.5P	SP-3	
		PO	PM014MANEB	PO				5P	PO-3	
		HT 3F	TM014MANEBC	HT				2.5P	HT-4	
			TR014MANEB2			70		F	HT-4	
			TR014MANEB5					V	HT-4	
Oxidizing	P1 P2	SPOX	SM014MANEX	SP	ISO2X	100	11	2.5P	SP-10	
		POOX	PM014MANEX	PO				5P	PO-10	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM014MANEXH	SP	ISO2X	100	11	3.5P	SP-22
For stainless steels	P4 M1-M2	SP-VA	SM014MAGEX	SP	ISO2X	100	11	2.5P	SP-29	
For cast irons	K1	GG-HT-OH	TM014MBAFNC	HT	ISO2X	100	11	2.5P	HT-18	
	Coated	K1	GG-HT(Coating)	9826014MTCOH	HT	ISO2X	100	11	2.5P	HT-19

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
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Taps M16x2

Standard	P2	SP	SG016QANEV	SP	ISO2X	110	12	2.5P	SP-3	
		PO	PG016QANEV	PO				5P	PO-3	
		HT 3F	TG016QANEBC	HT				2.5P	HT-4	
			TQ016QANEBC2			80		F	HT-4	
			TQ016QANEBC5					V	HT-4	
Oversize	P2	SP	SG016QMNEB	SP	ISO3	110	12	2.5P	SP-3	
		PO	PG016QMNEB	PO				5P	PO-3	
For left hand threads	P2	SP LH	HG016QANEV	SP	ISO2X	110	12	2.5P	SP-13	
Oxidizing	P1 P2	SP OX	SG016QANEX	SP	ISO2X	110	12	2.5P	SP-10	
		PO OX	PG016QANEX	PO				5P	PO-10	
Oversize	P1 P2	SP	SG016QMNEB	SP	ISO3	110	12	2.5P	SP-10	
		PO	PG016QMNEB	PO				5P	PO-10	
Coated	P1 P2 P3 P4 M1-M2 N1 N2	AU+SP	SH016QANEV	SP	ISO2X	110	12	2.5P	SP-15	
	P1 P2 P3 P4	SP(Coating)	9740016TI	SP	ISO2X	110	12	2.5P	SP-7	
		PO(Coating)	9730016TI	PO				5P	PO-6	
For soft structural steels	P1	E-SP	SG016QAHEX	SP	ISO2X	110	12	2.5P	SP-26	
For hard-to-machine materials	P5 P6	EH-PO	PG016QBDCB	PO	ISO2X	110	12	4.5P	PO-13	
		EH-HT	TG016QBDCBC	HT				2.5P	HT-12	
Oversize	P4 P5	PH-SP	SG016QAEEX	SP	ISO2X	110	12	3P	SP-24	
For titanium alloys	S5	ZET-B	SG016QBIPN	SP	ISO2X	110	12	3P	SP-40	
		ZET-P	LG016QBIPN	SL				5P	SL-8	
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SG016QBJPX	SP	ISO2X	110	12	3P	SP-38	
		ZEN-P	PG016QBJPW	PO				4.5P	PO-18	
For stainless steels	P4 M1-M2	SP-VA	SG016QAGEX	SP	ISO2X	110	12	2.5P	SP-29	
	P1 P2 P3 P4 M1-M3	PO-VA	PG016QBGEV	PO	ISO2X	110	12	4.5P	PO-15	
	Coated	P4 M1-M2	SP-VA	SG016QAGET	SP	ISO2X	110	12	2.5P	SP-31
	P1 P2 P3 P4 M1-M3	PO-VA	PG016QBGET	PO	ISO2X	110	12	4.5P	PO-17	
For hard-to-machine materials	P4 M1-M2	SU2-SP	SG016QAGEXJ	SP	ISO2X	110	12	2.5P	SP-36	
For cast irons	K1	GG-HT	TG016QBAENC	HT	ISO2X	110	12	2.5P	HT-15	
		GG-HT-OH	TG016QBAFNC						HT-18	
	Coated	K1	GG-HT(Coating)	9726016TC	HT	ISO2X	110	12	2.5P	HT-17
		GG-HT-OH(Coating)	9726016TCOH						HT-19	
Carbide	K1 K2	CT-FC	3726016	HT	ISO2X	110	12	2.5P	CT-1	
Carbide taps for hard materials	H55-65HRC	UH-CT	TG016QBBWAS	HT	ISO2X	110	12	5P	CT-6	
For aluminum alloys	N1 N2 N3 N4	AL-SP	SG016QALEN	SP	ISO2X	110	12	2.5P	SP-18	
	N1 N2	LA-HT	TG016QBLENS	HT	ISO2X	110	12	5P	HT-20	
High performance thread forming taps, coated	P1 P2 P3 P4 M1-M3	HP-RZ	RG016QBFPB	RO	ISO2X	110	12	2P	RO-8	
Thread forming taps for steels	P1 P2	N-RZ	RG016QBHEXB	RO	ISO2X	110	12	2P	RO-5	
Thread forming taps for soft structural steel sheets	P1	R-D	RG016QBNEBB	RO	ISO2X	110	12	2P	RO-1	
	Coated	P1	R-D(Coating)	9353016BTI	RO	ISO2X	110	12	2P	RO-2
		P1	R-D(Coating)	9353016BTC	RO	ISO2X	110	12	2P	RO-3
For deep hole use	P2	SP-BLF	SG016QANEVJ	SP	ISO2X	110	12	2.5P	SP-32	

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M8-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Pg threads Taps

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

Symbol of flute design	Spiral	Straight	Spiral point	Left hand spiral	Roll
	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
	Oxidizing	P2	SP-BLF OX	SG016QANEXJ	SP	ISO2	110	12	2.5P	SP-35
	Coated	P1 P2 P3 P4	SP-BLF (Coating)	9747016T1	SP	ISO2	110	12	2.5P	SP-34
Low spiral		P2 P3	LO-SP	SG016QANEHBH	SP	ISO2	110	12	3.5P	SP-20
	Oxidizing	P2 P3	LO-SP OX	SG016QANEXH	SP	ISO2	110	12	3.5P	SP-22
	Override	P2 P3	LO-SP OX	SG016QMNEHX	SP	ISO3	110	12	3.5P	SP-22
Taps M16×1.5										
Standard		P2	SP	SM016OANEB	SP	ISO2	100	12	2.5P	SP-3
			PO	PM016OANEB	PO				5P	PO-3
			HT 3F	TM016OANEB	HT				2.5P	HT-4
				TR016OANEB2			70		F	HT-4
				TR016OANEB5					V	HT-4
For left hand threads		P2	SP LH	HM016OANEB	SP	ISO2	100	12	2.5P	SP-13
Oxidizing		P1 P2	SP OX	SM016OANEX	SP	ISO2	100	12	2.5P	SP-10
			PO OX	PM016OANEX	PO				5P	PO-10
Coated		P1 P2 P3 P4 M1-M3 N1 N2	AU+SP	SN016OANEV	SP	ISO2	100	12	2.5P	SP-15
		P1 P2 P3 P4	SP(Coating)	9840016OT1	SP	ISO2	100	12	2.5P	SP-7
		P4	PO(Coating)	9830016OT1	PO				5P	PO-6
For hard-to-machine materials		P5 P6	EH-PO	PM016OBDCEB	PO	ISO2X	100	12	4.5P	PO-13
			EH-HT	TM016OBDCEB	HT				2.5P	HT-12
		P4 P5	PH-SP	SM016OAEEX	SP	ISO2	100	12	3P	SP-24
For titanium alloys		S5	ZET-B	SM016OBIPN	SP	ISO2X	100	12	3P	SP-40
			ZET-P	LM016OBIPN	SL				5P	SL-8
For nickel base alloys		P3 P4 M1-M3 S1-S2	ZEN-B	SM016OBJPX	SP	ISO2X	100	12	3P	SP-38
			ZEN-P	PM016OBJPW	PO				4.5P	PO-18
For medium hardness carbon steels		P3 P4	MHSL	LM016OBFCL7	SL	ISO2X	100	12	7P	SL-4
For stainless steels		P4 M1-M3	SP-VA	SM016OAGEX	SP	ISO2	100	12	2.5P	SP-29
		P4 M1-M3	PO-VA	PM016OBGEX	PO	ISO2X			4.5P	PO-15
		P1 P2 P3 P4 M1-M3								
For cast irons		K1	GG-HT	TM016OBAENC	HT	ISO2X	100	12	2.5P	HT-15
			GG-HT-OH	TM016OBAFNC						HT-18
	Coated	K1	GG-HT(Coating)	9826016OTC	HT	ISO2X	100	12	2.5P	HT-17
			GG-HT-OH(Coating)	9826016OTCOH					HT-19	
High performance thread forming taps, coated		P1 P2 P3 P4 M1-M3	HP-RZ	RM016OBFPTB	SP	ISO2X	100	12	2P	RO-8
Low spiral		P2 P3	LO-SP	SM016OANEHBH	SP	ISO2	100	12	3.5P	SP-20
	Oxidizing	P2 P3	LO-SP OX	SM016OANEXH	SP	ISO2	100	12	3.5P	SP-22
Taps M16×1										
Standard		P2	SP	SM016MANEB	SP	ISO2	100	12	2.5P	SP-3
			PO	PM016MANEB	PO				5P	PO-3
			HT 3F	TM016MANEB	HT				2.5P	HT-4
				TR016MANEB2			70		F	HT-4
				TR016MANEB5					V	HT-4
Oxidizing		P1 P2	SP OX	SM016MANEX	SP	ISO2	100	12	2.5P	SP-10
			PO OX	PM016MANEX	PO				5P	PO-10
Low spiral		P2 P3	LO-SP	SM016MANEBH	SP	ISO2	100	12	3.5P	SP-20
	Oxidizing	P2 P3	LO-SP OX	SM016MANEXH	SP	ISO2	100	12	3.5P	SP-22

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M18×2.5										
Standard		P2	SP	SG018RANEB	SP	ISO2	125	14	2.5P	SP-3
			PO	PG018RANEB	PO				5P	PO-3
			HT	TQ018RANEB2	HT		95		F	HT-4
				TQ018RANEBU					M	HT-4
				TQ018RANEB5					V	HT-4
For left hand threads		P2	SP LH	HG018RANEB	SP	ISO2	125	14	2.5P	SP-13
Oxidizing		P1 P2	SP OX	SG018RANEX	SP	ISO2	125	14	2.5P	SP-10
			PO OX	PG018RANEX	PO				5P	PO-10
Coated		P1 P2 P3 P4 M1-M3 N1 N2	AU+SP	SH018RANEV	SP	ISO2	125	14	2.5P	SP-15
		P1 P2 P3 P4	SP(Coating)	9740018T1	SP	ISO2	125	14	2.5P	SP-7
			PO(Coating)	9730018T1	PO				5P	PO-6
For soft structural steels		P1	E-SP	SG018RAHEX	SP	ISO2	125	14	2.5P	SP-26
For hard-to-machine materials		P5 P6	EH-PO	PG018RBDCEB	PO	ISO2X	125	14	4.5P	PO-13
			EH-HT	TG018RBDCEB	HT				2.5P	HT-12
		P4 P5	PH-SP	SG018RAEEX	SP	ISO2	125	14	3P	SP-25
For titanium alloys		S5	ZET-B	SG018RBIPN	SP	ISO2X	125	14	3P	SP-40
For nickel base alloys		P3 P4 M1-M3 S1-S2	ZEN-B	SG018RBJPX	SP	ISO2X	125	14	3P	SP-38
			ZEN-P	PG018RBJPW	PO				4.5P	PO-18
For stainless steels		P4 M1-M3	SP-VA	SG018RAGEX	SP	ISO2	125	14	2.5P	SP-29
		P1 P2 P3 P4 M1-M3	PO-VA	PG018RBGEX	PO	ISO2X	125	14	4.5P	PO-15
	For hard-to-machine materials		P4 M3-M4	SU2-SP	SG018RAGEXJ	SP	ISO2	125	14	2.5P
For cast irons		K1	GG-HT	TG018RBAENC	HT	ISO2X	125	14	2.5P	HT-15
			GG-HT-OH	TG018RBAFNC						HT-18
	Coated	K1	GG-HT(Coating)	9726018TC	HT	ISO2X	125	14	2.5P	HT-17
			GG-HT-OH(Coating)	9726018TCOH					HT-19	
Carbide taps for hard materials		HSS-65HRC	UH-CT	TG018RBBWA5	HT	ISO2X	125	14	5P	CT-6
For deep hole use		P2	SP-BLF	SG018RANEBJ	SP	ISO2	125	14	2.5P	SP-32
	Oxidizing	P2	SP-BLF OX	SG018RANEXJ	SP	ISO2	125	14	2.5P	SP-35
	Coated	P1 P2 P3 P4	SP-BLF (Coating)	9747018T1	SP	ISO2	125	14	2.5P	SP-34
Low spiral	Oxidizing	P2 P3	LO-SP OX	SG018RANEXH	SP	ISO2	125	14	3.5P	SP-22
Taps M18×2										
Standard		P2	SP	SM018QANEB	SP	ISO2	125	14	2.5P	SP-3
			PO	PM018QANEB	PO				5P	PO-3
			HT 3F	TM018QANEB	HT				2.5P	HT-4
				TR018QANEB2			80		F	HT-4
				TR018QANEB5					V	HT-4
Oxidizing		P1 P2	SP OX	SM018QANEX	SP	ISO2	125	14	2.5P	SP-10
			PO OX	PM018QANEX	PO				5P	PO-10
Taps M18×1.5										
Standard		P2	SP	SM018OANEB	SP	ISO2	110	14	2.5P	SP-3
			PO	PM018OANEB	PO				5P	PO-3
			HT 3F	TM018OANEB	HT				2.5P	HT-5
				TR018OANEB2			80		F	HT-5
				TR018OANEB5					V	HT-5

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
- P2 Carbon steel and low alloy steel
- P3 Medium alloy steel and heat treated steel
- P4 High alloy steel
- P5 Tool steel
- P6 High tensile strength steel
- M1-M2 Ferritic and austenitic stainless steel
- M3 Austenitic stainless steel
- M4 Martensitic stainless steel
- M5 PH stainless steel
- K1 Grey cast iron
- K2 Nodular cast iron
- K3 Austenitic cast iron
- K4 ADI cast iron
- N1 Aluminum alloy (< 12% Si)
- N2 Aluminum alloy (> 12% Si)
- N3 Copper alloy
- N4 Brass alloy and bronze alloy
- S1-S2 HRSA (~35HRC)
- S3 HRSA (35~45HRC)
- S5 Titanium alloy
- H45-55HRC H45-55HRC
- H55-63HRC H55-63HRC
- H Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	Ds	lc	Product page		
Oxidizing	P1 P2	SP OX	SM0180ANEX	SP	ISO2	110	14	2.5P	SP-10		
		PO OX	PM0180ANEX	PO				5P	PO-10		
Coated	P1 P2 P3 P4 M1-M2 N1 N2	AU+SP	SN0180ANEV	SP	ISO2	110	14	2.5P	SP-15		
		SP(Coating)	9840018OTI	SP	ISO2	110	14	2.5P	SP-7		
		PO(Coating)	9830018OTI	PO				5P	PO-6		
		Low spiral	P2 P3	LO-SP	SM0180ANEHB	SP	ISO2	110	14	3.5P	SP-20
Oxidizing	P2 P3	LO-SP OX	SM0180ANEXH	SP	ISO2	110	14	3.5P	SP-22		
For hard-to-machine materials	P5 P6	EH-PO	PM0180BDCB	PO	ISO2X	110	14	4.5P	PO-13		
		EH-HT	TM0180BDCBC	HT				2.5P	HT-12		
		PH-SP	SM0180AEEX	SP	ISO2	110	14	3P	SP-25		
		For stainless steels	P4 M1-M2	SP-VA	SM0180AGEX	SP	ISO2	110	14	2.5P	SP-29
For cast irons	K1	GG-HT	TM0180BAENC	HT	ISO2X	110	14	2.5P	HT-15		
		GG-HT-OH	TM0180BAFNC						HT-18		
		Coated	K1	GG-HT(Coating)	9826018OTC	HT	ISO2X	110	14	2.5P	HT-17
		GG-HT-OH(Coating)	9826018OTCOH						HT-19		

Taps M18x1	
Standard	P2 SP SM018MANEB SP ISO2 110 14 2.5P SP-3
	PO PM018MANEB PO 5P PO-3
	HT 3F TM018MANEBC HT 2.5P HT-5
	TR018MANEB2 80 F HT-5
	TR018MANEB5 V HT-5
Oxidizing	P1 P2 SP OX SM018MANEX SP ISO2 110 14 2.5P SP-10
	PO OX PM018MANEX PO 5P PO-10

Taps M20x2.5	
Standard	P2 SP SG020RANEB SP ISO2 140 16 2.5P SP-3
	PO PG020RANEB PO 5P PO-3
	PQ020RANEB 95 PO-3
	HT TQ020RANEB2 HT 95 F HT-5
	TQ020RANEBU M HT-5
	TQ020RANEB5 V HT-5
For left hand threads	P2 SP LH HG020RANEB SP ISO2 140 16 2.5P SP-13
Oxidizing	P1 P2 SP OX SG020RANEX SP ISO2 140 16 2.5P SP-10
	PO OX PG020RANEX PO 140 5P PO-10
Coated	P5 P6 AU+SP SH020RANEV SP ISO2 140 16 2.5P SP-15
	P1 P2 P3 SP(Coating) 9740020TI SP ISO2 140 16 2.5P SP-7
	P4 PO(Coating) 9730020TI PO 5P PO-7
For hard-to-machine materials	P5 P6 EH-PO PG020RBD CB PO ISO2X 140 16 4.5P PO-13
	EH-HT TG020RBD CBC HT 2.5P HT-12
	P4 P5 PH-SP SG020RAEEX SP ISO2 140 16 3P SP-25
	For titanium alloys S5 ZET-B SG020RBIPN SP ISO2X 140 16 3P SP-40
For nickel base alloys	P3 P4 M1-M2 ZEN-B SG020RBJPX SP ISO2X 140 16 3P SP-38
	S1-S2 ZEN-P PG020RBJPW PO 4.5P PO-18

Tap selection	Main material	Symbol	Code	Flute	Class	L	Ds	lc	Product page	
For stainless steels	P4 M1-M2	SP-VA	SG020RAGEX	SP	ISO2	140	16	2.5P	SP-29	
		P1 P2 P3 P4 M1-M2	PO-VA	PG020RBGEX	PO	ISO2X			4.5P	PO-15
		Coated P4 M1-M2	SP-VA	SG020RAGET	SP	ISO2	140	16	2.5P	SP-31
		P1 P2 P3 P4 M1-M2	PO-VA	PG020RBGET	PO	ISO2X			4.5P	PO-17
For hard-to-machine materials	P4 M3-M4	SU2-SP	SG020RAGEXJ	SP	ISO2	140	16	2.5P	SP-36	
For cast irons	K1	GG-HT	TG020RBAENC	HT	ISO2X	140	16	2.5P	HT-15	
		GG-HT-OH	TG020RBAFNC						HT-18	
		Coated K1	GG-HT(Coating)	9726020TC	HT	ISO2X	140	16	2.5P	HT-17
GG-HT-OH(Coating)	9726020TCOH						HT-19			
Carbide taps for hard materials	H55-63HRC	UH-CT	TG020RBBWAS	HT	ISO2X	140	16	5P	CT-6	
For soft structural steels	P1	E-SP	SG020RAHEX	SP	ISO2	140	16	2.5P	SP-26	
For deep hole	P2	SP-BLF	SG020RANEBJ	SP	ISO2	140	16	2.5P	SP-32	
		Oxidizing P2	SP-BLF OX	SG020RANEXJ	SP	ISO2	140	16	2.5P	SP-35
		Coated P1 P2 P3 P4	SP-BLF (Coating)	9747020TI	SP	ISO2	140	16	2.5P	SP-34
Low spiral	P2 P3	LO-SP	SG020RANEHB	SP	ISO2	140	16	3.5P	SP-20	
		Oxidizing P2 P3	LO-SP OX	SG020RANEXH	SP	ISO2	140	16	3.5P	SP-22

Taps M20x2	
Standard	P2 SP SM020QANEB SP ISO2 140 16 2.5P SP-3
	PO PM020QANEB PO 5P PO-3
	HT 3F TM020QANEBC HT 2.5P HT-5
	TR020QANEB2 80 F HT-5
	TR020QANEB5 V HT-5
Oxidizing	P1 P2 SP OX SM020QANEX SP ISO2 140 16 2.5P SP-10
	PO OX PM020QANEX PO 5P PO-10
Low spiral	Oxidizing P2 P3 LO-SP OX SM020QANEXH SP ISO2 140 16 3.5P SP-22

Taps M20x1.5		
Standard	P2 SP SM020OANEB SP ISO2 125 16 2.5P SP-3	
	PO PM020OANEB PO 5P PO-3	
	HT 3F TM020OANEBC HT 2.5P HT-5	
	TR020OANEB2 80 F HT-5	
	TR020OANEB5 V HT-5	
	Oxidizing	P1 P2 SP OX SM020OANEX SP ISO2 125 16 2.5P SP-10
Coated	PO OX PM020OANEX PO 5P PO-10	
	P1 P2 P3 P4 M1-M2 N1 N2	AU+SP SN020OANEV SP ISO2 125 16 2.5P SP-15
	P1 P2 P3 P4	SP(Coating) 9840020OTI SP ISO2 125 16 2.5P SP-7
	PO(Coating) 9830020OTI PO 5P PO-7	
For hard-to-machine materials	P5 P6 EH-PO PM020OBD CB PO ISO2X 125 16 4.5P PO-13	
	EH-HT TM020OBD CBC HT 2.5P HT-13	
	P4 P5 PH-SP SM020OAEEX SP ISO2 125 16 3P SP-25	
For stainless steels	P4 M1-M2 SP-VA SM020OAGEX SP ISO2 125 16 2.5P SP-29	
	P1 P2 P3 P4 M1-M2	PO-VA PM020OBGEX PO ISO2X 4.5P PO-15
Low spiral	Oxidizing P2 P3 LO-SP OX SM020OANEXH SP ISO2 125 16 3.5P SP-22	

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M8-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For JIS threads Taps



Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

Symbol of flute design	Spiral	Straight	Spiral point	Left hand spiral	Roll
	SP	HT	PO	SL	RO
Drill hole shape					

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
For cast irons	K1	GG-HT	TM020OBAENC	HT	ISO2X	125	16	2.5P	HT-15
		GG-HT-OH	TM020OBAFNC						HT-18
	Coated	K1	GG-HT(Coating)	9826020OTC	HT	ISO2X	125	16	2.5P
		GG-HT-OH(Coating)	9826020OTCOH						HT-19

Taps M20x1

Standard	P2	SP	SM010MANEB	SP	ISO2	125	16	2.5P	SP-2
		PO	PM020MANEB	PO				5P	PO-3
		HT 3F	TM020MANEBC	HT				2.5P	HT-5
			TR020MANEB2			80	F		HT-5
			TR020MANEB5				V	HT-5	

Oxidizing	P1 P2	SP OX	SM020MANEX	SP	ISO2	125	16	2.5P	SP-10
		PO OX	PM020MANEX	PO				5P	PO-10

Low spiral	Oxidizing	P2 P3	LO-SP OX	SM020MANEXH	SP	ISO2	125	16	3.5P	SP-22
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Taps M22x2.5

Standard	P2	SP	SG022RANEB	SP	ISO2	140	18	2.5P	SP-3
		PO	PG022RANEB	PO				5P	PO-3
		HT	TQ022RANEB2	HT		100	F		HT-5
			TQ022RANEBU				M		HT-5
			TQ022RANEB5				V		HT-5

Oxidizing	P1 P2	SP OX	SG022RANEX	SP	ISO2	140	18	2.5P	SP-10
		PO OX	PG022RANEX	PO				5P	PO-10

Coated	P1 P2 P3 P4	SP(Coating)	9740022TI	SP	ISO2	140	18	2.5P	SP-7
		PO(Coating)	9730022TI	PO				5P	PO-7

For soft structural steels		P1	E-SP	SG022RAHEX	SP	ISO2	140	18	2.5P	SP-26
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For hard-to-machine materials	P5 P6	EH-PO	PG022RBDDBC	PO	ISO2X	140	18	4.5P	PO-13
		EH-HT	TG022RBDDBC	HT				2.5P	HT-13
	P4 P5	PH-SP	SG022RAEEX	SP	ISO2	140	18	3P	SP-25

For titanium alloys		S5	ZET-B	SG022RBIPN	SP	ISO2X	140	18	3P	SP-40
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For nickel base alloys	P3 P4 M1-M3	ZEN-B	SG022RBJPX	SP	ISO2X	140	18	3P	SP-38
		ZEN-P	PG022RBJPW	PO				4.5P	PO-18

For stainless steels	P4 M1-M2	SP-VA	SG022RAGEX	SP	ISO2	140	18	2.5P	SP-29
		PO-VA	PG022RBGEX	PO	ISO2X	140	18	4.5P	PO-15

		P1 P2 P3 P4 M1-M3	SP-VA	PG022RBGEX	SP	ISO2X	140	18	4.5P	PO-15
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	For hard-to-machine-materials	P4 M3-M4	SU2-SP	SG022RAGEXJ	SP	ISO2	140	18	2.5P	SP-36
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For cast irons	K1	GG-HT	TG022RBAENC	HT	ISO2X	140	18	2.5P	HT-15
		TiCN coated	GG-HT	9726022TC	HT	ISO2X	140	18	2.5P

For deep hole use	P2	SP-BLF	SG022RANEBJ	SP	ISO2	140	18	2.5P	SP-32	
		Oxidizing	SP-BLF OX	SG022RANEXJ	SP	ISO2	140	18	2.5P	SP-35
		Coated	P1 P2 P3 P4	SP-BLF (Coating)	9747022TI	SP	ISO2	140	18	2.5P

Low spiral	Oxidizing	P2 P3	LO-SP OX	SG022RANEXH	SP	ISO2	140	18	3.5P	SP-22
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Taps M22x2

Standard	P2	SP	SM022QANEB	SP	ISO2	140	18	2.5P	SP-3
		PO	PM022QANEB	PO				5P	PO-3
		HT	TR022QANEB2	HT		80	F		HT-5
			TR022QANEB5				V		HT-5

Oxidizing	P1 P2	SP OX	SM022QANEX	SP	ISO2	140	18	2.5P	SP-10
		PO OX	PM022QANEX	PO				5P	PO-10

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
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Taps M22x1.5

Standard	P2	SP	SM022OANEB	SP	ISO2	125	18	2.5P	SP-3
		PO	PM022OANEB	PO				5P	PO-3
		HT 3F	TM022OANEB2	HT				2.5P	HT-5
			TR022OANEB2			80	F		HT-5
			TR022OANEB5				V	HT-5	

Oxidizing	P1 P2	SP OX	SM022OANEX	SP	ISO2	125	18	2.5P	SP-10
		PO OX	PM022OANEX	PO				5P	PO-10

Coated	P1 P2 P3 P4	SP (Coating)	9840022OTI	SP	ISO2	125	18	2.5P	SP-7

Low spiral	Oxidizing	P2 P3	LO-SP OX	SM022OANEXH	SP	ISO2	125	18	3.5P	SP-23
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For hard-to-machine materials		P4 P5	PH-SP	SM022OAEEX	SP	ISO2	125	18	3P	SP-25
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For stainless steels	P4 M1-M2	SP-VA	SM022OAGEX	SP	ISO2	125	18	2.5P	SP-29
		PO-VA	PM022OBGEX	PO	ISO2X	125	18	4.5P	PO-15

For cast irons	K1	GG-HT	TM022OBAENC	HT	ISO2X	125	18	2.5P	HT-15	
		GG-HT-OH	TM022OBAFNC						HT-18	
	Coated	K1	GG-HT(Coating)	9826022OTC	HT	ISO2X	125	18	2.5P	HT-17
			GG-HT-OH(Coating)	9826022OTCOH						HT-19

Taps M22x1

Standard	P2	SP	SM022MANEB	SP	ISO2	125	18	2.5P	SP-3
		PO	PM022MANEB	PO				5P	PO-3
		HT	TR022MANEB2	HT		80	F		HT-5
			TR022MANEB5				V	HT-5	

Oxidizing	P1 P2	SP OX	SM022MANEX	SP	ISO2	125	18	2.5P	SP-10
		PO OX	PM022MANEX	PO				5P	PO-10

Low spiral	Oxidizing	P2 P3	LO-SP OX	SM022MANEXH	SP	ISO2	125	18	3.5P	SP-23
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Taps M24x3

Standard	P2	SP	SG024SANEB	SP	ISO2	160	18	2.5P	SP-3
		PO	PG024SANEB	PO				5P	PO-3
		HT 3F	TG024SANEB2	HT				2.5P	HT-5
			TQ024SANEB2			110	F		HT-5
			TQ024SANEBU				M		HT-5
			TQ024SANEB5				V	HT-5	

Oxidizing	P1 P2	SP OX	SG024SANEX	SP	ISO2	160	18	2.5P	SP-10
		PO OX	PG024SANEX	PO				5P	PO-10

Coated	P1 P2 P3 P4	SP(Coating)	9740024TI	SP	ISO2	160	18	2.5P	SP-7
		PO(Coating)	9730024TI	PO				5P	PO-7

Low spiral	P2 P3	LO-SP	SG024SANEBH	SP	ISO2	160	18	3.5P	SP-20
		Oxidizing	P2 P3	LO-SP OX	SG024SANEXH	SP	ISO2	160	18

For hard-to-machine materials	P5 P6	EH-PO	PG024SBDDBC	PO	ISO2X	160	18	4.5P	PO-13
		EH-HT	TG024SBDDBC	HT				2.5P	HT-13
	P4 P5	PH-SP	SG024SAEEX	SP	ISO2	160	18	3P	SP-25

For soft structural steels		P1	E-SP	SG024SAHEX	SP	ISO2	160	18	2.5P	SP-26
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For titanium alloys		S5	ZET-B	SG024SBIPN	SP	ISO2X	160	18	3P	SP-40
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For nickel base alloys	P3 P4 M1-M3	ZEN-B	SG024SBJPX	SP	ISO2X	160	18	3P	SP-38
		ZEN-P	PG024SBJPW	PO				4.5P	PO-18

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC H55-65HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
For stainless steels		P4 M1-M2 SP-VA	SG024SAGEX	SP	ISO2	160	18	2.5P	SP-29
		P1 P2 P3 P4 M1-M3 PO-VA	PG024SBGEX	PO	ISO2X	160	18	4.5P	PO-15
	For hard-to-machine materials	P4 M3-M4 SU2-SP	SG024SAGEXJ	SP	ISO2	160	18	2.5P	SP-36
For cast irons		K1 GG-HT	TG0245BAENC	HT	ISO2X	160	18	2.5P	HT-15
	Coated	K1 GG-HT(Coating)	9726024TC	HT	ISO2X	160	18	2.5P	HT-17
For deep hole use		P2 SP-BLF	SG0245ANEBJ	SP	ISO2	160	18	2.5P	SP-32
	Oxidizing	P2 SP-BLF OX	SG0245ANEXJ	SP	ISO2	160	18	2.5P	SP-35
	Coated	P1 P2 P3 P4 SP-BLF (Coating)	9747024TI	SP	ISO2	160	18	2.5P	SP-34

Taps M24×2									
Standard		P2 SP	SM024QANEB	SP	ISO2	140	18	2.5P	SP-3
		PO	PM024QANEB	PO				5P	PO-3
		HT 3F	TM024QANEB	HT				2.5P	HT-5
		TR024QANEB2			90			F	HT-5
		TR024QANEB5						V	HT-5
Oxidizing		P1 P2 SP OX	SM024QANEX	SP	ISO2	140	18	2.5P	SP-10
		PO OX	PM024QANEX	PO				5P	PO-10
Low spiral	Oxidizing	P2 P3 LO-SP OX	SM024QANEXH	SP	ISO2	140	18	3.5P	SP-23
For hard-to-machine materials		P4 P5 PH-SP	SM024QAEEX	SP	ISO2	140	18	3P	SP-25

Taps M24×1.5									
Standard		P2 SP	SM024OANEB	SP	ISO2	140	18	2.5P	SP-3
		PO	PM024OANEB	PO				5P	PO-3
		HT 3F	TM024OANEB	HT				2.5P	HT-5
		TR024OANEB2			90			F	HT-5
		TR024OANEB5						V	HT-5
Oxidizing		P1 P2 SP OX	SM024OANEX	SP	ISO2	140	18	2.5P	SP-10
		PO OX	PM024OANEX	PO				5P	PO-10
Low spiral		P2 P3 LO-SP	SM024OANEBH	SP	ISO2	140	18	3.5P	SP-20
	Oxidizing	P2 P3 LO-SP OX	SM024OANEXH	SP	ISO2	140	18	3.5P	SP-23
For hard-to-machine materials		P4 P5 PH-SP	SM024OAEEX	SP	ISO2	140	18	3P	SP-25
For stainless steels		P4 M1-M2 SP-VA	SM024OAGEX	SP	ISO2	140	18	2.5P	SP-29
		P1 P2 P3 P4 M1-M3 PO-VA	PM024OBGEX	PO	ISO2X	140	18	4.5P	PO-15
For cast irons		K1 GG-HT	TM024OBAENC	HT	ISO2X	140	18	2.5P	HT-15
	Coated	K1 GG-HT(Coating)	9826024OTC	HT	ISO2X	140	18	2.5P	HT-17

Taps M24×1									
Standard		P2 SP	SM024MANEB	SP	ISO2	140	18	2.5P	SP-3
		PO	PM024MANEB	PO				5P	PO-3
		HT 3F	TM024MANEB	HT				2.5P	HT-5
		TR024MANEB2			90			F	HT-5
		TR024MANEB5						V	HT-5
Oxidizing		P1 P2 SP OX	SM024MANEX	SP	ISO2	140	18	2.5P	SP-10
		PO OX	PM024MANEX	PO				5P	PO-10
Low spiral	Oxidizing	P2 P3 LO-SP OX	SM024MANEXH	SP	ISO2	140	18	3.5P	SP-23

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M8-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Pg threads Taps

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M9×1.25									
Spiral pointed dies	HSS		DPO	6g	25	9	2~2.5P	PDG901NLNEBC	Di-2
Dies M9×1									
Spiral pointed dies	HSS		DPO	6g	25	9	2~2.5P	PDG901MLNEBC	Di-2
Dies M11×1.5									
Spiral pointed dies	HSS		DPO	6g	30	11	2~2.5P	PDH0110LNEBC	Di-2
Dies M14×2									
Spiral pointed dies	HSS		DPO	6g	38	14	2~2.5P	PDJ0140LNEBC	Di-2
Dies M14×1.5									
Spiral pointed dies	HSS		DPO	6g	38	10	2~2.5P	PDJ0140LNEBC	Di-2
Dies M14×1.25									
Spiral pointed dies	HSS		DPO	6g	38	10	2~2.5P	PDJ014NLNEBC	Di-2
Dies M14×1									
Spiral pointed dies	HSS		DPO	6g	38	10	2~2.5P	PDJ014MLNEBC	Di-2
Dies M15×1.5									
Spiral pointed dies	HSS		DPO	6g	38	10	2~2.5P	PDJ0150LNEBC	Di-2
Dies M16×2									
Spiral pointed dies	HSS		DPO	6g	45	18	2~2.5P	PDL0160LNEBC	Di-2
Dies M16×1.5									
Spiral pointed dies	HSS		DPO	6g	45	14	2~2.5P	PDL0160LNEBC	Di-2
Dies M16×1									
Spiral pointed dies	HSS		DPO	6g	45	14	2~2.5P	PDL016MLNEBC	Di-2
Dies M18×2.5									
Spiral pointed dies	HSS		DPO	6g	45	18	2~2.5P	PDL0180LNEBC	Di-2
Dies M18×2									
Spiral pointed dies	HSS		DPO	6g	45	14	2~2.5P	PDL0180LNEBC	Di-2
Dies M18×1.5									
Spiral pointed dies	HSS		DPO	6g	45	14	2~2.5P	PDL0180LNEBC	Di-2
Dies M18×1									
Spiral pointed dies	HSS		DPO	6g	45	14	2~2.5P	PDL018MLNEBC	Di-2
Dies M20×2.5									
Spiral pointed dies	HSS		DPO	6g	45	18	2~2.5P	PDL0200LNEBC	Di-2
Dies M20×2									
Spiral pointed dies	HSS		DPO	6g	45	14	2~2.5P	PDL0200LNEBC	Di-2

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M20×1.5									
Spiral pointed dies	HSS		DPO	6g	45	14	2~2.5P	PDL0200LNEBC	Di-2
Dies M20×1									
Spiral pointed dies	HSS		DPO	6g	45	14	2~2.5P	PDL020MLNEBC	Di-2
Dies M22×2									
Spiral pointed dies	HSS		DPO	6g	55	16	2~2.5P	PDP0220LNEBC	Di-2
Dies M22×1.5									
Spiral pointed dies	HSS		DPO	6g	55	16	2~2.5P	PDP0220LNEBC	Di-2
Dies M22×1									
Spiral pointed dies	HSS		DPO	6g	55	16	2~2.5P	PDP022MLNEBC	Di-2
Dies M24×2									
Spiral pointed dies	HSS		DPO	6g	55	16	2~2.5P	PDP0240LNEBC	Di-2
Dies M24×1.5									
Spiral pointed dies	HSS		DPO	6g	55	16	2~2.5P	PDP0240LNEBC	Di-2
Dies M24×1									
Spiral pointed dies	HSS		DPO	6g	55	16	2~2.5P	PDP024MLNEBC	Di-2

- M2 Dies
- M3 Dies
- M4 Dies
- M5 Dies
- M6 Dies
- M8 Dies
- M10 Dies
- M12 Dies
- M1-M7 Dies
- M9-M24 Dies
- M26-M36 Dies
- For Unified threads Dies
- For Pipe threads Dies
- For American pipe threads Dies

Icons of main materials

- P1** Free cutting and structural steel
- P2** Carbon steel and low alloy steel
- P3** Medium alloy steel and heat treated steel
- P4** High alloy steel
- P5** Tool steel
- P6** High tensile strength steel
- M1-M2** Ferritic and austenitic stainless steel
- M3** Austenitic stainless steel
- M4** Martensitic stainless steel
- M5** PH stainless steel
- K1** Grey cast iron
- K2** Nodular cast iron
- K3** Austenitic cast iron
- K4** ADI cast iron
- N1** Aluminum alloy (< 12% Si)
- N2** Aluminum alloy (> 12% Si)
- N3** Copper alloy
- N4** Brass alloy and bronze alloy
- S1-S2** HRSA (~35HRC)
- S3** HRSA (35~45HRC)
- S5** Titanium alloy
- H45-55HRC** Hardened steel
- H55-63HRC** Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M25×2										
Standard	P2	HT	TR025QANEB2	HT	ISO2	90	18	F	HT-5	
			TR025QANEB5					V	HT-5	
Taps M25×1.5										
Standard	P2	SP	SM025OANEB	SP	ISO2	140	18	2.5P	SP-3	
		PO	PM025OANEB	PO				5P	PO-3	
		HT	TM025OANEB	HT				2.5P	HT-5	
			TR025OANEB2			90		F	HT-5	
			TR025OANEB5					V	HT-5	
Oxidizing	P1 P2	SP OX	SM025OANEX	SP	ISO2	140	18	2.5P	SP-10	
		PO OX	PM025OANEX	PO				5P	PO-10	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM025OANEXH	SP	ISO2	140	18	3.5P	SP-23
Taps M26×1.5										
Standard	P2	SP	SM026OANEB	SP	ISO2	140	18	2.5P	SP-3	
		PO	PM026OANEB	PO				5P	PO-3	
		HT	TM026OANEB	HT				2.5P	HT-5	
			TR026OANEB2			90		F	HT-5	
			TR026OANEB5					V	HT-5	
Oxidizing	P1 P2	SP OX	SM026OANEX	SP	ISO2	140	18	2.5P	SP-10	
		PO OX	PM026OANEX	PO				5P	PO-10	
Taps M27×3										
Standard	P2	SP	SG027SANEB	SP	ISO2	160	20	2.5P	SP-3	
		PO	PG027SANEB	PO				5P	PO-3	
		HT	TG027SANEB	HT				2.5P	HT-6	
			TQ027SANEB2			110		F	HT-6	
			TQ027SANEBU					M	HT-6	
	TQ027SANEB5					V	HT-6			
Oxidizing	P1 P2	SP OX	SG027SANEX	SP	ISO2	160	20	2.5P	SP-10	
		PO OX	PG027SANEX	PO				5P	PO-10	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SG027SANEXH	SP	ISO2	160	20	3.5P	SP-23
For hard-to-machine materials		P4 P5	PH-SP	SG027SAEEX	SP	ISO2	160	20	3P	SP-25
For stainless steels	P4 M1-M2	SP-VA	SG027SAGEX	SP	ISO2	160	20	2.5P	SP-29	
		P1 P2 P3	PO-VA	PG027SBGEX	PO	ISO2	160	20	4.5P	PO-15
For deep hole use	Oxidizing	P2	SP-BLF OX	SG027SANEXJ	SP	ISO2	160	20	2.5P	SP-35
Taps M27×2										
Standard	P2	SP	SM027QANEB	SP	ISO2	140	20	2.5P	SP-3	
		PO	PM027QANEB	PO				5P	PO-3	
		HT	TM027QANEB	HT				2.5P	HT-6	
			TR027QANEB2			90		F	HT-6	
			TR027QANEB5					V	HT-6	
Oxidizing	P1 P2	SP OX	SM027QANEX	SP	ISO2	140	20	2.5P	SP-10	
		PO OX	PM027QANEX	PO				5P	PO-10	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM027QANEXH	SP	ISO2	140	20	3.5P	SP-23
For hard-to-machine materials		P4 P5	PH-SP	SM027QAEEX	SP	ISO2	140	20	3P	SP-25

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps M27×1.5										
Standard	P2	SP	SM027OANEB	SP	ISO2	140	20	2.5P	SP-3	
		PO	PM027OANEB	PO				5P	PO-3	
		HT	TR027OANEB2	HT		90		F	HT-6	
			TR027OANEB5					V	HT-6	
Oxidizing	P1 P2	SP OX	SM027OANEX	SP	ISO2	140	20	2.5P	SP-10	
		PO OX	PM027OANEX	PO				5P	PO-10	
Taps M27×1										
Standard	P2	SP	SM027MANEB	SP	ISO2	140	20	2.5P	SP-3	
		PO	PM027MANEB	PO				5P	PO-3	
Oxidizing	P1 P2	SP OX	SM027MANEX	SP	ISO2	140	20	2.5P	SP-10	
		PO OX	PM027MANEX	PO				5P	PO-10	
Taps M28×2										
Standard	P2	SP	SM028QANEB	SP	ISO2	140	20	2.5P	SP-3	
		PO	PM028QANEB	PO				5P	PO-3	
		HT	TR028QANEB2	HT		90		F	HT-6	
			TR028QANEB5					V	HT-6	
Oxidizing	P1 P2	SP OX	SM028QANEX	SP	ISO2	140	20	2.5P	SP-10	
		PO OX	PM028QANEX	PO				5P	PO-10	
Taps M28×1.5										
Standard	P2	SP	SM028OANEB	SP	ISO2	140	20	2.5P	SP-3	
		PO	PM028OANEB	PO				5P	PO-3	
		HT	TM028OANEB	HT				2.5P	HT-6	
			TR028OANEB2			90		F	HT-6	
			TR028OANEB5					V	HT-6	
Oxidizing	P1 P2	SP OX	SM028OANEX	SP	ISO2	140	20	2.5P	SP-10	
		PO OX	PM028OANEX	PO				5P	PO-10	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM028OANEXH	SP	ISO2	140	20	3.5P	SP-23
Taps M28×1										
Standard	P2	SP	SM028MANEB	SP	ISO2	140	20	2.5P	SP-3	
		PO	PM028MANEB	PO				5P	PO-3	
Oxidizing	P1 P2	SP OX	SM028MANEX	SP	ISO2	140	20	2.5P	SP-10	
		PO OX	PM028MANEX	PO				5P	PO-10	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM028MANEXH	SP	ISO2	140	20	3.5P	SP-23
Taps M28×3.5										
Standard	P2	SP	SG030TANEB	SP	ISO2	180	22	2.5P	SP-3	
		PO	PG030TANEB	PO				5P	PO-4	
		HT	TG030TANEB	HT				2.5P	HT-6	
			TQ030TANEB2			125		F	HT-6	
			TQ030TANEBU					M	HT-6	
	TQ030TANEB5					V	HT-6			
Oxidizing	P1 P2	SP OX	SG030TANEX	SP	ISO2	180	22	2.5P	SP-10	
		PO OX	PG030TANEX	PO				5P	PO-10	
Low spiral	Oxidizing	P2 P3	LO-SP	SG030TANEBH	SP	ISO2	180	22	3.5P	SP-20
	Oxidizing	P2 P3	LO-SP OX	SG030TANEXH	SP	ISO2	180	22	3.5P	SP-23
For hard-to-machine materials		P4 P5	PH-SP	SG030TAEEX	SP	ISO2	180	22	3P	SP-25

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
For stainless steels	P4 M1 M2	SP-VA	SG030TAGEX	SP	ISO2	180	22	2.5P	SP-29	
		PO-VA	PG030TBGEX	PO	ISO2X	180	22	4.5P	PO-15	
For deep hole use	P2	SP-BLF	SG030TANEBJ	SP	ISO2	180	22	2.5P	SP-33	
		Oxidizing	SP-BLF OX	SG030TANEXJ	SP	ISO2	180	22	2.5P	SP-35
Taps M30x2										
Standard	P2	SP	SM030QANEB	SP	ISO2	150	22	2.5P	SP-3	
		PO	PM030QANEB	PO				5P	PO-4	
		HT	TM030QANEB	HT				2.5P	HT-6	
		TR030QANEB2			90	F			HT-6	
Oxidizing	P1 P2	SP OX	SM030QANEX	SP	ISO2	150	22	2.5P	SP-10	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM030QANEXH	SP	ISO2	150	22	3.5P	SP-23
For hard-to-machine materials	P4 P5	PH-SP	SM030QAEEX	SP	ISO2	150	22	3P	SP-25	
Taps M30x1.5										
Standard	P2	SP	SM030QANEB	SP	ISO2	150	22	2.5P	SP-3	
		PO	PM030QANEB	PO				5P	PO-4	
		HT	TM030QANEB	HT				2.5P	HT-6	
		TR030QANEB2			90	F			HT-6	
Oxidizing	P1 P2	SP OX	SM030QANEX	SP	ISO2	150	22	2.5P	SP-10	
Low spiral	Oxidizing	P2 P3	LO-SP OX	SM030QANEXH	SP	ISO2	150	22	3.5P	SP-23
For hard-to-machine materials	P4 P5	PH-SP	SM030QAEEX	SP	ISO2	150	22	3P	SP-25	
Taps M30x1										
Standard	P2	SP	SM030MANEB	SP	ISO2	150	22	2.5P	SP-3	
		PO	PM030MANEB	PO				5P	PO-4	
		HT	TM030MANEB	HT				2.5P	HT-6	
		TR030MANEB2			90	F			HT-6	
Oxidizing	P1 P2	SP OX	SM030MANEX	SP	ISO2	150	22	2.5P	SP-10	
Taps M32x2										
Standard	P2	SP	SM032QANEB	SP	ISO2	150	22	2.5P	SP-3	
		PO	PM032QANEB	PO				5P	PO-4	
		HT	TM032QANEB	HT				2.5P	HT-6	
		TR032QANEB2			90	F			HT-6	
Oxidizing	P1 P2	SP OX	SM032QANEX	SP	ISO2	150	22	2.5P	SP-10	
Taps M32x1.5										
Standard	P2	SP	SM032QANEB	SP	ISO2	150	22	2.5P	SP-3	
		PO	PM032QANEB	PO				5P	PO-4	
		HT	TM032QANEB	HT				2.5P	HT-6	
		TR032QANEB2			90	F			HT-6	
Oxidizing	P1 P2	SP OX	SM032QANEX	SP	ISO2	150	22	2.5P	SP-10	

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Oxidizing	P1 P2	SP OX	SM032OANEX	SP	ISO2	150	22	2.5P	SP-10
		PO OX	PM032OANEX	PO				5P	PO-10
Taps M32x1									
Standard	P2	SP	SM032MANEB	SP	ISO2	150	22	2.5P	SP-3
		PO	PM032MANEB	PO				5P	PO-4
Oxidizing	P1 P2	SP OX	SM032MANEX	SP	ISO2	150	22	2.5P	SP-10
Taps M33x3.5									
Standard	P2	SP	SG033TANEB	SP	ISO2	180	25	2.5P	SP-3
		PO	PG033TANEB	PO				5P	PO-4
		HT	TG033TANEB	HT				2.5P	HT-6
		TR033QANEB2				125	F		HT-6
		TR033QANEB5					V		HT-6
		Oxidizing	P1 P2	SP OX	SG033TANEX	SP	ISO2	180	25
For deep hole use	P2	SP-BLF	SG033TANEBJ	SP	ISO2	180	25	2.5P	SP-33
Oxidizing		SP-BLF OX	SG033TANEXJ	SP	ISO2	180	25	2.5P	SP-35
Taps M33x3									
Standard	P2	HT	TR033SANEB2	HT	ISO2	125	25	F	HT-6
			TR033SANEB5					V	HT-6
Taps M33x2									
Standard	P2	SP	SM033QANEB	SP	ISO2	160	25	2.5P	SP-3
		PO	PM033QANEB	PO				5P	PO-4
		HT	TM033QANEB	HT				2.5P	HT-6
		TR033QANEB2			100	F			HT-6
Oxidizing	P1 P2	SP OX	SM033QANEX	SP	ISO2	160	25	2.5P	SP-11
Taps M33x1.5									
Standard	P2	SP	SM033OANEB	SP	ISO2	160	25	2.5P	SP-3
		PO	PM033OANEB	PO				5P	PO-4
		HT	TM033OANEB	HT				2.5P	HT-6
		TR033OANEB2			100	F			HT-6
Oxidizing	P1 P2	SP OX	SM033OANEX	SP	ISO2	160	25	2.5P	SP-11
Taps M33x1									
Standard	P2	SP	SM033MANEB	SP	ISO2	160	25	2.5P	SP-3
		PO	PM033MANEB	PO				5P	PO-4
Oxidizing	P1 P2	SP OX	SM033MANEX	SP	ISO2	160	25	2.5P	SP-11
Taps M34x1.5									
Standard	P2	HT	TR034OANEB2	HT	ISO2	100	28	F	HT-6
			TR034OANEB5					V	HT-6

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1** Free cutting and structural steel
- P2** Carbon steel and low alloy steel
- P3** Medium alloy steel and heat treated steel
- P4** High alloy steel
- P5** Tool steel
- P6** High tensile strength steel
- M1-M2** Ferritic and austenitic stainless steel
- M3** Austenitic stainless steel
- M4** Martensitic stainless steel
- M5** PH stainless steel
- K1** Grey cast iron
- K2** Nodular cast iron
- K3** Austenitic cast iron
- K4** ADI cast iron
- N1** Aluminum alloy (< 12% Si)
- N2** Aluminum alloy (> 12% Si)
- N3** Copper alloy
- N4** Brass alloy and bronze alloy
- S1-S2** HRSA (~35HRC)
- S3** HRSA (35~45HRC)
- S5** Titanium alloy
- H45-55HRC** Hardened steel
- H55-63HRC** Hardened steel

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Pg threads Taps

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps M35X1.5									
Standard	P2	HT	TR035OANE2	HT	ISO2	100	28	F	HT-6
			TR035OANE5					V	HT-6
Oxidizing	P1 P2	SP OX	SM035OANEX	SP	ISO2	170	28	2.5P	SP-11
Taps M36x4									
Standard	P2	SP	SG036UANEB	SP	ISO2	200	28	2.5P	SP-3
		PO	PG036UANEB	PO				5P	PO-4
		HT	TG036UANEB	HT				2.5P	HT-7
			TQ036UANEB2			150		F	HT-7
			TQ036UANEBU					M	HT-7
			TQ036UANEB5					V	HT-7
		Oxidizing	P1 P2	SP OX	SG036UANEX	SP	ISO2	200	28
		PO OX	PG036UANEX	PO				5P	PO-11
For stainless steels	P4 M1 M2	SP-VA	SG036UAGEX	SP	ISO2	200	28	2.5P	SP-29
		P1 P2 P3 P4 M1 M2	PO-VA	PG036UBGEX	PO	ISO2	200	28	4.5P
For deep hole use	P2	SP-BLF	SG036UANEBJ	SP	ISO2	200	28	2.5P	SP-33
		Oxidizing	SP-BLF OX	SG036UANEXJ	SP	ISO2	200	28	2.5P
Taps M36x3									
Standard	P2	SP	SG036SANEB	SP	ISO2	200	28	2.5P	SP-3
		PO	PG036SANEB	PO				5P	PO-4
		HT	TR036SANEB2	HT				F	HT-7
			TR036SANEB5					V	HT-7
Oxidizing	P1 P2	SP OX	SM036SANEX	SP	ISO2	200	28	2.5P	SP-11
			PO OX	PM036SANEX	PO				5P
Taps M36x2									
Standard	P2	SP	SM036QANEB	SP	ISO2	170	28	2.5P	SP-3
		PO	PM036QANEB	PO				5P	PO-4
		HT	TM036QANEB	HT				2.5P	HT-7
			TR036QANEB2			125		F	HT-7
			TR036QANEB5					V	HT-7
		Oxidizing	P1 P2	SP OX	SM036QANEX	SP	ISO2	170	28
		PO OX	PM036QANEX	PO				5P	PO-11
Taps M36x1.5									
Standard	P2	SP	SM036OANEB	SP	ISO2	170	28	2.5P	SP-4
		PO	PM036OANEB	PO				5P	PO-4
		HT	TM036OANEB	HT				2.5P	HT-7
			TR036OANEB2			100		F	HT-7
			TR036OANEB5					V	HT-7
Oxidizing	P1 P2	SP OX	SM036OANEX	SP	ISO2	170	28	2.5P	SP-11
			PO OX	PM036OANEX	PO				5P
Taps M36x1									
Standard	P2	SP	SM036MANEB	SP	ISO2	170	28	2.5P	SP-4
		PO	PM036MANEB	PO				5P	PO-4
		Oxidizing	P1 P2	SP OX	SM036MANEX	SP	ISO2	170	28
		PO OX	PM036MANEX	PO				5P	PO-11

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps M38x1.5									
Standard	P2	HT	TR038OANE2	HT	ISO2	100	28	F	HT-7
			TR038OANE5					V	HT-7
Taps M39x4									
Standard	P2	SP	SG039UANEB	SP	ISO2	200	32	2.5P	SP-4
		PO	PG039UANEB	PO				5P	PO-4
		HT	TG039UANEB	HT				2.5P	HT-7
			TQ039UANEB2			150		F	HT-7
			TQ039UANEBU					M	HT-7
			TQ039UANEB5					V	HT-7
		Oxidizing	P1 P2	SP OX	SG039UANEX	SP	ISO2	200	32
		PO OX	PG039UANEX	PO				5P	PO-11
For deep hole use	P2	SP-BLF	SG039UANEBJ	SP	ISO2	200	32	2.5P	SP-33
		Oxidizing	SP-BLF OX	SG039UANEXJ	SP	ISO2	200	32	2.5P
Taps M39x2									
Standard	P2	SP	SM039QANEB	SP	ISO2	170	32	2.5P	SP-4
		PO	PM039QANEB	PO				5P	PO-4
		HT	TM039QANEB	HT				2.5P	HT-7
			TR039QANEB2			125		F	HT-7
			TR039QANEB5					V	HT-7
Oxidizing	P1 P2	SP OX	SM039QANEX	SP	ISO2	170	32	2.5P	SP-11
			PO OX	PM039QANEX	PO				5P
Taps M39x1.5									
Standard	P2	SP	SM039OANEB	SP	ISO2	170	32	2.5P	SP-4
		PO	PM039OANEB	PO				5P	PO-4
		HT	TM039OANEB	HT				2.5P	HT-7
			TR039OANEB2			110		F	HT-7
			TR039OANEB5					V	HT-7
Oxidizing	P1 P2	SP OX	SM039OANEX	SP	ISO2	170	32	2.5P	SP-11
			PO OX	PM039OANEX	PO				5P
Taps M39x1									
Standard	P2	SP	SM039MANEB	SP	ISO2	170	32	2.5P	SP-4
		PO	PM039MANEB	PO	ISO2			5P	PO-4
Oxidizing	P1 P2	SP OX	SM039MANEX	SP	ISO2	170	32	2.5P	SP-11
			PO OX	PM039MANEX	PO				5P
Taps M40x2									
Standard	P2	HT	TR040QANEB2	HT	ISO2	125	32	F	HT-7
			TR040QANEB5					V	HT-7
Taps M40x1.5									
Standard	P2	HT	TR040OANEB2	HT	ISO2	110	32	F	HT-7
			TR040OANEB5					V	HT-7

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

Symbol of flute design	Spiral	Straight	Spiral point	Left hand spiral	Roll
	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps M42×4.5									
Standard	P2	SP	SG042VANEB	SP	ISO2	200	32	2.5P	SP-4
		PO	PG042VANEB	PO				5P	PO-4
		HT	TG042VANEB	HT				2.5P	HT-7
			TQ042VANEB2			150		F	HT-7
			TQ042VANEB5					M	HT-7
Oxidizing	P1 P2	SP OX	SG042VANEX	SP	ISO2	200	32	2.5P	SP-11
		PO OX	PG042VANEX	PO				5P	PO-11
Taps M42×2									
Standard	P2	SP	SM042QANEB	SP	ISO2	170	32	2.5P	SP-4
		PO	PM042QANEB	PO				5P	PO-4
		HT	TM042QANEB	HT				2.5P	HT-7
			TR042QANEB2			125		F	HT-7
			TR042QANEB5					V	HT-7
Oxidizing	P1 P2	SP OX	SM042QANEX	SP	ISO2	170	32	2.5P	SP-11
		PO OX	PM042QANEX	PO				5P	PO-11
Taps M42×1.5									
Standard	P2	SP	SM042OANEB	SP	ISO2	170	32	2.5P	SP-4
		PO	PM042OANEB	PO				5P	PO-4
		HT	TM042OANEB	HT				2.5P	HT-7
			TR042OANEB2			110		F	HT-7
			TR042OANEB5					V	HT-7
Oxidizing	P1 P2	SP OX	SM042OANEX	SP	ISO2	170	32	2.5P	SP-11
		PO OX	PM042OANEX	PO				5P	PO-11
Taps M42×1									
Standard	P2	SP	SM042MANEB	SP	ISO2	170	32	2.5P	SP-4
		PO	PM042MANEB	PO				5P	PO-4
		HT	TM042MANEB	HT				2.5P	HT-7
			TQ042MANEB2			180		F	HT-8
			TQ042MANEB5					M	HT-8
Oxidizing	P1 P2	SP OX	SM042MANEX	SP	ISO2	170	32	2.5P	SP-11
		PO OX	PM042MANEX	PO				5P	PO-11
Taps M45×4.5									
Standard	P2	SP	SG045VANEB	SP	ISO2	220	36	2.5P	SP-4
		PO	PG045VANEB	PO				5P	PO-4
		HT	TG045VANEB	HT				2.5P	HT-7
			TQ045VANEB2			160		F	HT-7
			TQ045VANEB5					M	HT-7
Oxidizing	P1 P2	SP OX	SG045VANEX	SP	ISO2	220	36	2.5P	SP-11
		PO OX	PG045VANEX	PO				5P	PO-11
Taps M45×3									
Standard	P2	SP	SM045SANEB	SP	ISO2	200	36	2.5P	SP-4
		PO	PM045SANEB	PO				5P	PO-4
		HT	TM045SANEB	HT				2.5P	HT-7
			TR045SANEB2			125		F	HT-7
			TR045SANEB5					V	HT-7

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Oxidizing	P1 P2	SP OX	SM045SANEX	SP	ISO2	200	36	2.5P	SP-11
		PO OX	PM045SANEX	PO				5P	PO-11
Taps M45×2									
Standard	P2	SP	SM045QANEB	SP	ISO2	180	36	2.5P	SP-4
		PO	PM045QANEB	PO				5P	PO-4
		HT	TM045QANEB	HT				2.5P	HT-7
			TR045QANEB2			125		F	HT-7
			TR045QANEB5					V	HT-7
Oxidizing	P1 P2	SP OX	SM045QANEX	SP	ISO2	180	36	2.5P	SP-11
		PO OX	PM045QANEX	PO				5P	PO-11
Taps M45×1.5									
Standard	P2	SP	SM045OANEB	SP	ISO2	180	36	2.5P	SP-4
		PO	PM045OANEB	PO				5P	PO-4
		HT	TM045OANEB	HT				2.5P	HT-8
			TR045OANEB2			110		F	HT-8
			TR045OANEB5					V	HT-8
Oxidizing	P1 P2	SP OX	SM045OANEX	SP	ISO2	180	36	2.5P	SP-11
		PO OX	PM045OANEX	PO				5P	PO-11
Taps M45×1									
Standard	P2	SP	SM045MANEB	SP	ISO2	180	36	2.5P	SP-4
		PO	PM045MANEB	PO	ISO2			5P	PO-4
		HT	TM045MANEB	HT				2.5P	HT-8
			TQ045MANEB2			110		F	HT-8
			TQ045MANEB5					V	HT-8
Oxidizing	P1 P2	SP OX	SM045MANEX	SP	ISO2	180	36	2.5P	SP-11
		PO OX	PM045MANEX	PO				5P	PO-11
Taps M48×5									
Standard	P2	SP	SG048WANEB	SP	ISO2	250	36	2.5P	SP-4
		PO	PG048WANEB	PO				5P	PO-4
		HT	TG048WANEB	HT				2.5P	HT-8
			TQ048WANEB2			180		F	HT-8
			TQ048WANEB5					M	HT-8
Oxidizing	P1 P2	SP OX	SG048WANEX	SP	ISO2	250	36	2.5P	SP-11
		PO OX	PG048WANEX	PO				5P	PO-11
Taps M48×3									
Standard	P2	SP	SM048SANEB	SP	ISO2	225	36	2.5P	SP-4
		PO	PM048SANEB	PO				5P	PO-4
		HT	TM048SANEB	HT				2.5P	HT-8
			TR048SANEB2			140		F	HT-8
			TR048SANEB5					V	HT-8
Oxidizing	P1 P2	SP OX	SM048SANEX	SP	ISO2	225	36	2.5P	SP-11
		PO OX	PM048SANEX	PO				5P	PO-11
Taps M48×2									
Standard	P2	SP	SM048QANEB	SP	ISO2	190	36	2.5P	SP-4
		PO	PM048QANEB	PO				5P	PO-4
		HT	TM048QANEB	HT				2.5P	HT-8
			TR048QANEB2			140		F	HT-8
			TR048QANEB5					V	HT-8

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC H55-63HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Oxidizing	P1 P2	SP OX	SM048QANEX	SP	ISO2	190	36	2.5P	SP-11
		PO OX	PM048QANEX	PO				5P	PO-11
Taps M48×1.5									
Standard	P2	SP	SM048OANEB	SP	ISO2	190	36	2.5P	SP-4
		PO	PM048OANEB	PO				5P	PO-4
		HT	TM048OANEB	HT				2.5P	HT-8
		TR048OANEB2			140		F	HT-8	
		TR048OANEB5					V	HT-8	
Oxidizing	P1 P2	SP OX	SM048OANEX	SP	ISO2	190	36	2.5P	SP-11
		PO OX	PM048OANEX	PO				5P	PO-11
Taps M48×1									
Standard	P2	SP	SM048MANEB	SP	ISO2	190	36	2.5P	SP-4
		PO	PM048MANEB	PO				5P	PO-4
Oxidizing	P1 P2	SP OX	SM048MANEX	SP	ISO2	190	36	2.5P	SP-11
		PO OX	PM048MANEX	PO				5P	PO-11

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Pg threads Taps

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies M26×1.5									
Spiral pointed dies	HSS		DPO	6g	55	16	2~2.5P	PDS026QLNEBC	Di-2
Dies M27×3									
Spiral pointed dies	HSS		DPO	6g	65	25	2~2.5P	PDS027SLNEBC	Di-3
Dies M27×2									
Spiral pointed dies	HSS		DPO	6g	65	18	2~2.5P	PDS027QLNEBC	Di-3
Dies M27×1.5									
Spiral pointed dies	HSS		DPO	6g	65	18	2~2.5P	PDS027QLNEBC	Di-3
Dies M27×1									
Spiral pointed dies	HSS		DPO	6g	65	18	2~2.5P	PDS027MLNEBC	Di-3
Dies M28×2									
Spiral pointed dies	HSS		DPO	6g	65	18	2~2.5P	PDS028QLNEBC	Di-3
Dies M28×1.5									
Spiral pointed dies	HSS		DPO	6g	65	18	2~2.5P	PDS028QLNEBC	Di-3
Dies M30×1.5									
Spiral pointed dies	HSS		DPO	6g	65	18	2~2.5P	PDS030QLNEBC	Di-3
Dies M33×3.5									
Spiral pointed dies	HSS		DPO	6g	65	25	2~2.5P	PDS033TLNEBC	Di-3
Dies M36×4									
Spiral pointed dies	HSS		DPO	6g	65	25	2~2.5P	PDS036ULNEBC	Di-3

M2 Dies
M3 Dies
M4 Dies
M5 Dies
M6 Dies
M8 Dies
M10 Dies
M12 Dies
M1-M7 Dies
M9-M24 Dies
M26-M36 Dies
For Unified threads Dies
For Pipe threads Dies
For American pipe threads Dies

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminum alloy (< 12% Si)
N2 Aluminum alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC
H55-65HRC Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps No.4-40UNC									
Standard	P2	SP	SDUN4HXNEB	SP	2B	56	3.5	2.5P	SP-4
		PO	PDUN4HXNEB	PO				5P	PO-4
		HT	TDUN4HXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUN4HXNEX	SP	2B	56	3.5	2.5P	SP-11
		PO OX	PDUN4HXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDUN4HXGEX	SP	2B	56	3.5	2.5P	SP-29
		P1 P2 P3 P4 M1-M3	PO-VA	PDUN4HYGEX	PO	2BX	56	3.5	4.5P
For titanium alloys	S5	ZET-B	SDUN4HYIPN	SP	2BX	56	3.5	3P	SP-41
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SDUN4HYJPX	SP	2BX	56	3.5	3P	SP-39
Taps No.4-48UNF									
Standard	P2	SP	SDUN4FXNEB	SP	2B	56	3.5	2.5P	SP-4
		PO	PDUN4FXNEB	PO				5P	PO-4
		HT	TDUN4FXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUN4FXNEX	SP	2B	56	3.5	2.5P	SP-11
		PO OX	PDUN4FXNEX	PO				5P	PO-11
Taps No.5-40UNC									
Standard	P2	SP	SDUN5HXNEB	SP	2B	56	3.5	2.5P	SP-4
		PO	PDUN5HXNEB	PO				5P	PO-4
		HT	TDUN5HXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUN5HXNEX	SP	2B	56	3.5	2.5P	SP-11
		PO OX	PDUN5HXNEX	PO				5P	PO-11
Taps No.5-44UNF									
Standard	P2	SP	SDUN5GXNEB	SP	2B	56	3.5	2.5P	SP-4
		PO	PDUN5GXNEB	PO				5P	PO-4
		HT	TDUN5GXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUN5GXNEX	SP	2B	56	3.5	2.5P	SP-11
		PO OX	PDUN5GXNEX	PO				5P	PO-11
Taps No.6-32UNC									
Standard	P2	SP	SDUN6JXNEB	SP	2B	56	4	2.5P	SP-4
		PO	PDUN6JXNEB	PO				5P	PO-4
		HT	TDUN6JXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUN6JXNEX	SP	2B	56	4	2.5P	SP-11
		PO OX	PDUN6JXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDUN6JXGEX	SP	2B	56	4	2.5P	SP-29
	P1 P2 P3 P4 M1-M3	PO-VA	PDUN6JYGEX	PO	2BX	56	4	2.5P	PO-15
For titanium alloys	S5	ZET-B	SDUN6JYIPN	SP	2BX	56	4	3P	SP-41
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SDUN6JYJPX	SP	2BX	56	4	3P	SP-39
	S1-S2	ZEN-P	PDUN6JYJPW	PO				4.5P	PO-18
Taps No.6-40UNF									
Standard	P2	SP	SDUN6HXNEB	SP	2B	56	4	2.5P	SP-4
		PO	PDUN6HXNEB	PO				5P	PO-4
		HT	TDUN6HXNEBC	HT				2.5P	HT-8

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Oxidizing	P1 P2	SP OX	SDUN6HXNEX	SP	2B	56	4	2.5P	SP-11
		PO OX	PDUN6HXNEX	PO				5P	PO-11
For titanium alloys	S5	ZET-B	SDUN6HYIPN	SP	2BX	56	4	3P	SP-41
Taps No.8-32UNC									
Standard	P2	SP	SDUN8JXNEB	SP	2B	63	4.5	2.5P	SP-4
		PO	PDUN8JXNEB	PO				5P	PO-4
		HT	TDUN8JXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUN8JXNEX	SP	2B	63	4.5	2.5P	SP-11
		PO OX	PDUN8JXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDUN8JXGEX	SP	2B	63	4.5	2.5P	SP-29
	P1 P2 P3 P4 M1-M3	PO-VA	PDUN8JYGEX	PO	2BX	63	4.5	4.5P	PO-15
For titanium alloys	S5	ZET-B	SDUN8JYIPN	SP	2BX	63	4.5	3P	SP-41
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SDUN8JYJPX	SP	2BX	63	4.5	3P	SP-39
	S1-S2	ZEN-P	PDUN8JYJPW	PO				4.5P	PO-18
Taps No.8-36UNF									
Standard	P2	SP	SDUN8IXNEB	SP	2B	63	4.5	2.5P	SP-4
		PO	PDUN8IXNEB	PO				5P	PO-4
		HT	TDUN8IXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUN8IXNEX	SP	2B	63	4.5	2.5P	SP-11
		PO OX	PDUN8IXNEX	PO				5P	PO-11
Taps No.10-24UNC									
Standard	P2	SP	SDUNAMXNEB	SP	2B	70	6	2.5P	SP-4
		PO	PDUNAMXNEB	PO				5P	PO-4
		HT	TDUNAMXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUNAMXNEX	SP	2B	70	6	2.5P	SP-11
		PO OX	PDUNAMXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDUNAMXGEX	SP	2B	70	6	2.5P	SP-29
	P1 P2 P3 P4 M1-M3	PO-VA	PDUNAMYGEX	PO	2BX	70	6	4.5P	PO-15
For titanium alloys	S5	ZET-B	SDUNAMYIPN	SP	2BX	70	6	3P	SP-41
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SDUNAMYJPX	SP	2BX	70	6	3P	SP-39
	S1-S2	ZEN-P	PDUNAMYJPW	PO				4.5P	PO-18
Taps No.10-32UNF									
Standard	P2	SP	SDUNAJXNEB	SP	2B	70	6	2.5P	SP-4
		PO	PDUNAJXNEB	PO				5P	PO-4
		HT	TDUNAJXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUNAJXNEX	SP	2B	70	6	2.5P	SP-11
		PO OX	PDUNAJXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDUNAJXGEX	SP	2B	70	6	2.5P	SP-29
	P1 P2 P3 P4 M1-M3	PO-VA	PDUNAJYGEX	PO	2BX	70	6	4.5P	PO-15
For titanium alloys	S5	ZET-B	SDUNAJYIPN	SP	2BX	70	6	3P	SP-41
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SDUNAJYJPX	SP	2BX	70	6	3P	SP-39
	S1-S2	ZEN-P	PDUNAJYJPW	PO				4.5P	PO-19

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unfinished threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Pg threads Taps



Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

Symbol of flute design	Spiral	Straight	Spiral point	Left hand spiral	Roll
	SP	HT	PO	SL	RO
Drill hole shape					

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps No.12-24UNC									
Standard	P2	SP	SDUNCMXNEB	SP	2B	80	6	2.5P	SP-4
		PO	PDUNCMXNEB	PO				5P	PO-4
		HT	TDUNCMXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUNCMXNEX	SP	2B	80	6	2.5P	SP-11
		PO OX	PDUNCMXNEX	PO				5P	PO-11
Taps No.12-28UNF									
Standard	P2	SP	SDUNCKXNEB	SP	2B	80	6	2.5P	SP-4
		PO	PDUNCKXNEB	PO				5P	PO-4
		HT	TDUNCKXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDUNCKXNEX	SP	2B	80	6	2.5P	SP-11
		PO OX	PDUNCKXNEX	PO				5P	PO-11
Taps 1/4-20UNC									
Standard	P2	SP	SDU04NXNEB	SP	2B	80	7	2.5P	SP-4
		PO	PDU04NXNEB	PO				5P	PO-5
		HT	TDU04NXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDU04NXNEX	SP	2B	80	7	2.5P	SP-11
		PO OX	PDU04NXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDU04NXGEX	SP	2B	80	7	2.5P	SP-29
		PO-VA	PDU04NYGEX	PO	2BX	80	7	4.5P	PO-15
For titanium alloys	SS	ZET-B	SDU04NYIPN	SP	2BX	80	7	3P	SP-41
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SDU04NYJPX	SP	2BX	80	7	3P	SP-39
		ZEN-P	PDU04NYJPW	PO				4.5P	PO-19
Taps 1/4-28UNF									
Standard	P2	SP	SDU04KXNEB	SP	2B	80	7	2.5P	SP-4
		PO	PDU04KXNEB	PO				5P	PO-5
		HT	TDU04KXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDU04KXNEX	SP	2B	80	7	2.5P	SP-11
		PO OX	PDU04KXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDU04KXGEX	SP	2B	80	7	2.5P	SP-29
		PO-VA	PDU04KYGEX	PO	2BX			4.5P	PO-15
For titanium alloys	SS	ZET-B	SDU04KYIPN	SP	2BX	80	7	3P	SP-41
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SDU04KYJPX	SP	2BX	80	7	3P	SP-39
		ZEN-P	PDU04KYJPW	PO				4.5P	PO-19
Taps 5/16-18UNC									
Standard	P2	SP	SDU05OXNEB	SP	2B	90	8	2.5P	SP-4
		PO	PDU05OXNEB	PO				5P	PO-5
		HT	TDU05OXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDU05OXNEX	SP	2B	90	8	2.5P	SP-11
		PO OX	PDU05OXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDU05OXGEX	SP	2B	90	8	2.5P	SP-29
		PO-VA	PDU05OYGEX	PO	2BX	90	8	4.5P	PO-15
For titanium alloys	SS	ZET-B	SDU05OYIPN	SP	2BX	90	8	3P	SP-41

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SDU05OYJPX	SP	2BX	90	8	3P	SP-39
		ZEN-P	PDU05OYJPW	PO				4.5P	PO-19
Taps 5/16-24UNF									
Standard	P2	SP	SMU05MXNEB	SP	2B	90	6	2.5P	SP-4
		PO	PMU05MXNEB	PO				5P	PO-5
		HT	TMU05MXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SMU05MXNEX	SP	2B	90	6	2.5P	SP-11
		PO OX	PMU05MXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SMU05MXGEX	SP	2B	90	6	2.5P	SP-29
		PO-VA	PMU05MYGEX	PO	2BX	90	6	4.5P	PO-15
For titanium alloys	SS	ZET-B	SMU05MYIPN	SP	2BX	90	6	3P	SP-41
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SMU05MYJPX	SP	2BX	90	6	3P	SP-39
		ZEN-P	PMU05MYJPW	PO				4.5P	PO-19
Taps 3/8-16UNC									
Standard	P2	SP	SDU06PXNEB	SP	2B	100	9	2.5P	SP-4
		PO	PDU06PXNEB	PO				5P	PO-5
		HT	TDU06PXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SDU06PXNEX	SP	2B	100	9	2.5P	SP-11
		PO OX	PDU06PXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SDU06PXGEX	SP	2B	100	9	2.5P	SP-29
		PO-VA	PDU06PYGEX	PO	2BX	100	9	4.5P	PO-15
For titanium alloys	SS	ZET-B	SDU06PYIPN	SP	2BX	100	9	3P	SP-41
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SDU06PYJPX	SP	2BX	100	9	3P	SP-39
		ZEN-P	PDU06PYJPW	PO				4.5P	PO-19
Taps 3/8-24UNF									
Standard	P2	SP	SMU06MXNEB	SP	2B	100	7	2.5P	SP-4
		PO	PMU06MXNEB	PO				5P	PO-5
		HT	TMU06MXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SMU06MXNEX	SP	2B	100	7	2.5P	SP-11
		PO OX	PMU06MXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SMU06MXGEX	SP	2B	100	7	2.5P	SP-29
		PO-VA	PMU06MYGEX	PO	2BX	100	7	4.5P	PO-15
For titanium alloys	SS	ZET-B	SMU06MYIPN	SP	2BX	100	7	3P	SP-41
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SMU06MYJPX	SP	2BX	100	7	3P	SP-39
		ZEN-P	PMU06MYJPW	PO				4.5P	PO-19
Taps 7/16-14UNC									
Standard	P2	SP	SGU07QXNEB	SP	2B	100	8	2.5P	SP-4
		PO	PGU07QXNEB	PO				5P	PO-5
		HT	TGU07QXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SGU07QXNEX	SP	2B	100	8	2.5P	SP-11
		PO OX	PGU07QXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SGU07QXGEX	SP	2B	100	8	2.5P	SP-29
		PO-VA	PGU07QYGEX	PO	2BX	100	8	4.5P	PO-15

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Rp threads Taps

Icons of main materials

- P1** Free cutting and structural steel
- P2** Carbon steel and low alloy steel
- P3** Medium alloy steel and heat treated steel
- P4** High alloy steel
- P5** Tool steel
- P6** High tensile strength steel
- M1-M2** Ferritic and austenitic stainless steel
- M3** Austenitic stainless steel
- M4** Martensitic stainless steel
- M5** PH stainless steel
- K1** Grey cast iron
- K2** Nodular cast iron
- K3** Austenitic cast iron
- K4** ADI cast iron
- N1** Aluminum alloy (< 12% Si)
- N2** Aluminum alloy (> 12% Si)
- N3** Copper alloy
- N4** Brass alloy and bronze alloy
- S1-S2** HRSA (~35HRC)
- S3** HRSA (35~45HRC)
- S5** Titanium alloy
- H45-55HRC** Hardened steel
- H55-63HRC** Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps 7/16-20UNF									
Standard	P2	SP	SMU07NXNEB	SP	2B	100	8	2.5P	SP-4
		PO	PMU07NXNEB	PO				5P	PO-5
		HT	TMU07NXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SMU07NXNEX	SP	2B	100	8	2.5P	SP-11
		PO OX	PMU07NXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SMU07NXGEX	SP	2B	100	8	2.5P	SP-29
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SMU07NYJXP	SP	2BX	100	8	2.5P	SP-39
Taps 1/2-13UNC									
Standard	P2	SP	SGU08RXNEB	SP	2B	110	9	2.5P	SP-4
		PO	PGU08RXNEB	PO				5P	PO-5
		HT	TGU08RXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SGU08RXNEX	SP	2B	110	9	2.5P	SP-12
		PO OX	PGU08RXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SGU08RXGEX	SP	2B	110	9	2.5P	SP-29
For nickel base alloys	P1 P2 P3 P4 M1-M3	PO-VA	PGU08RYGEX	PO	2BX			4.5P	PO-15
		ZEN-B	SGU08RYJXP	SP	2BX	110	9	3P	SP-39
For titanium alloys	S5	ZET-B	SGU08RYIPN	SP	2BX	110	9	3P	SP-41
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SGU08RYJXP	SP	2BX	110	9	3P	SP-39
		ZEN-P	PGU08RYJPW	PO				4.5P	PO-19
Taps 1/2-20UNF									
Standard	P2	SP	SMU08NXNEB	SP	2B	100	9	2.5P	SP-4
		PO	PMU08NXNEB	PO				5P	PO-5
		HT	TMU08NXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SMU08NXNEX	SP	2B	100	9	2.5P	SP-12
		PO OX	PMU08NXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SMU08NXGEX	SP	2B	100	9	2.5P	SP-29
		PO-VA	PMU08NYGEX	PO	2BX	100	9	4.5P	PO-15
For titanium alloys	P1 P2 P3 P4 M1-M3	ZEN-B	SMU08NYIPN	SP	2BX	100	9	3P	SP-41
		ZEN-P	PMU08NYJPW	PO				4.5P	PO-19
Taps 9/16-12UNC									
Standard	P2	SP	SGU09SXNEB	SP	2B	110	11	2.5P	SP-4
		PO	PGU09SXNEB	PO				5P	PO-5
		HT	TGU09SXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SGU09SXNEX	SP	2B	110	11	2.5P	SP-12
		PO OX	PGU09SXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SGU09SXGEX	SP	2B	110	11	2.5P	SP-29
		PO-VA	PGU09SYGEX	PO	2BX	110	11	4.5P	PO-15
Taps 9/16-18UNF									
Standard	P2	SP	SMU09OXNEB	SP	2B	100	11	2.5P	SP-4
		PO	PMU09OXNEB	PO				5P	PO-5
		HT	TMU09OXNEBC	HT				2.5P	HT-8

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Oxidizing	P1 P2	SP OX	SMU09OXNEX	SP	2B	100	11	2.5P	SP-12
		PO OX	PMU09OXNEX	PO				5P	PO-11
For stainless steels	P4 M1-M2	SP-VA	SMU09OXGEX	SP	2B	100	11	2.5P	SP-29
		PO-VA	PMU09OYGEX	PO	2BX	100	11	4.5P	PO-15
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SMU09OYJXP	SP	2BX	100	11	3P	SP-39
Taps 5/8-11UNC									
Standard	P2	SP	SGU10UXNEB	SP	2B	110	12	2.5P	SP-4
		PO	PGU10UXNEB	PO				5P	PO-5
		HT	TGU10UXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SGU10UXNEX	SP	2B	110	12	2.5P	SP-12
		PO OX	PGU10UXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SGU10UXGEX	SP	2B	110	12	2.5P	SP-30
		PO-VA	PGU10UYGEX	PO	2BX	110	12	4.5P	PO-15
For titanium alloys	S5	ZET-B	SGU10UYIPN	SP	2BX	110	12	3P	SP-41
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SGU10UYJXP	SP	2BX	110	12	3P	SP-39
		ZEN-P	PGU10UYJPW	PO				4.5P	PO-19
Taps 5/8-18UNF									
Standard	P2	SP	SMU10OXNEB	SP	2B	100	12	2.5P	SP-4
		PO	PMU10OXNEB	PO				5P	PO-5
		HT	TMU10OXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SMU10OXNEX	SP	2B	100	12	2.5P	SP-12
		PO OX	PMU10OXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU10OXGEX	SP	2B	100	12	2.5P	SP-30
		PO-VA	PMU10OYGEX	PO	2BX	100	12	4.5P	PO-15
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SMU10OYJXP	SP	2BX	100	12	3P	SP-39
		ZEN-P	PMU10OYJPW	PO				4.5P	PO-19
Taps 3/4-10UNC									
Standard	P2	SP	SGU12VXNEB	SP	2B	125	14	2.5P	SP-4
		PO	PGU12VXNEB	PO				5P	PO-5
		HT	TGU12VXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SGU12VXNEX	SP	2B	125	14	2.5P	SP-12
		PO OX	PGU12VXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SGU12VXGEX	SP	2B	125	14	2.5P	SP-30
		PO-VA	PGU12VYGEX	PO	2BX	125	14	4.5P	PO-15
For titanium alloys	S5	ZET-B	SGU12VYIPN	SP	2BX	125	14	3P	SP-41
For nickel base alloys	P3 P4 M1-M3 S1-S2	ZEN-B	SGU12VYJXP	SP	2BX	125	14	3P	SP-39

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unifit threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Pg threads Taps

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps 3/4-16UNF									
Standard	P2	SP	SMU12PXNEB	SP	2B	110	14	2.5P	SP-5
		PO	PMU12PXNEB	PO				5P	PO-5
		HT	TMU12PXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SMU12PXNEX	SP	2B	110	14	2.5P	SP-12
		PO OX	PMU12PXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU12PXGEX	SP	2B	110	14	2.5P	SP-30
		PO-VA	PMU12PYGEX	PO	2BX			4.5P	PO-15
For nickel base alloys	P3 P4 M1-M2 S1-S2	ZEN-B	SMU12PYJX	SP	2BX	110	14	3P	SP-39
Taps 7/8-9UNC									
Standard	P2	SP	SGU14WXNEB	SP	2B	140	18	2.5P	SP-5
		PO	PGU14WXNEB	PO				5P	PO-5
		HT	TGU14WXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SGU14WXNEX	SP	2B	140	18	2.5P	SP-12
		PO OX	PGU14WXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SGU14WXGEX	SP	2B	140	18	2.5P	SP-30
		PO-VA	PGU14WYGEX	PO	2BX	140	18	4.5P	PO-15
Taps 7/8-14UNF									
Standard	P2	SP	SMU14QXNEB	SP	2B	125	18	2.5P	SP-5
		PO	PMU14QXNEB	PO				5P	PO-5
		HT	TMU14QXNEBC	HT				2.5P	HT-8
Oxidizing	P1 P2	SP OX	SMU14QXNEX	SP	2B	125	18	2.5P	SP-12
		PO OX	PMU14QXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU14QXGEX	SP	2B	125	18	2.5P	SP-30
		PO-VA	PMU14QYGEX	PO	2BX	125	18	4.5P	PO-15
Taps 1-8UNC									
Standard	P2	SP	SGU16XXNEB	SP	2B	160	18	2.5P	SP-5
		PO	PGU16XXNEB	PO				5P	PO-5
		HT	TGU16XXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SGU16XXNEX	SP	2B	160	18	2.5P	SP-12
		PO OX	PGU16XXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SGU16XXGEX	SP	2B	160	18	2.5P	SP-30
		PO-VA	PGU16XYGEX	PO	2BX	160	18	4.5P	PO-15
Taps 1-12UNF									
Standard	P2	SP	SMU16SXNEB	SP	2B	140	18	2.5P	SP-5
		PO	PMU16SXNEB	PO				5P	PO-5
		HT	TMU16SXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SMU16SXNEX	SP	2B	140	18	2.5P	SP-12
		PO OX	PMU16SXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	140	18	2.5P	SP-30
		PO-VA	PMU16SYGEX	PO	2BX	140	18	4.5P	PO-15

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps 1 1/8-7UNC									
Standard	P2	SP	SGU18YXNEB	SP	2B	180	22	2.5P	SP-5
		PO	PGU18YXNEB	PO				5P	PO-5
		HT	TGU18YXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SGU18YXNEX	SP	2B	180	22	2.5P	SP-12
		PO OX	PGU18YXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	180	22	2.5P	SP-30
Taps 1 1/8-8UN									
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	180	22	2.5P	SP-30
Taps 1 1/8-12UNF									
Standard	P2	SP	SMU18SXNEB	SP	2B	150	22	2.5P	SP-5
		PO	PMU18SXNEB	PO				5P	PO-5
		HT	TMU18SXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SMU18SXNEX	SP	2B	150	22	2.5P	SP-12
		PO OX	PMU18SXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	150	22	2.5P	SP-30
Taps 1 1/4-7UNC									
Standard	P2	SP	SGU20YXNEB	SP	2B	180	22	2.5P	SP-5
		PO	PGU20YXNEB	PO				5P	PO-5
		HT	TGU20YXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SGU20YXNEX	SP	2B	180	22	2.5P	SP-12
		PO OX	PGU20YXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	180	22	2.5P	SP-30
Taps 1 1/4-8UN									
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	180	22	2.5P	SP-30
Taps 1 1/4-12UNF									
Standard	P2	SP	SMU20SXNEB	SP	2B	150	22	2.5P	SP-5
		PO	PMU20SXNEB	PO				5P	PO-5
		HT	TMU20SXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SMU20SXNEX	SP	2B	150	22	2.5P	SP-12
		PO OX	PMU20SXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	150	22	2.5P	SP-30
Taps 1 3/8-6UNC									
Standard	P2	SP	SGU22ZXNEB	SP	2B	200	28	2.5P	SP-5
		PO	PGU22ZXNEB	PO				5P	PO-5
		HT	TGU22ZXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SGU22ZXNEX	SP	2B	200	28	2.5P	SP-12
		PO OX	PGU22ZXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	200	28	2.5P	SP-30
Taps 1 3/8-UN									
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	200	28	2.5P	SP-30

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC
H55-63HRC
 Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps 1 3/8-12UNF									
Standard	P2	SP	SMU22SXNEB	SP	2B	170	28	2.5P	SP-5
		PO	PMU22SXNEB	PO				5P	PO-5
		HT	TMU22SXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SMU22SXNEX	SP	2B	170	28	2.5P	SP-12
		PO OX	PMU22SXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	170	28	2.5P	SP30P0-15
Taps 1 1/2-6UNC									
Standard	P2	SP	SGU24ZXNEB	SP	2B	200	32	2.5P	SP-5
		PO	PGU24ZXNEB	PO				5P	PO-5
		HT	TGU24ZXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SGU24ZXNEX	SP	2B	200	32	2.5P	SP-12
		PO OX	PGU24ZXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	200	32	2.5P	SP30P0-15
Taps 1 1/2-8UN									
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	200	32	2.5P	SP30P0-15
Taps 1 1/2-12UNF									
Standard	P2	SP	SMU24SXNEB	SP	2B	170	32	2.5P	SP-5
		PO	PMU24SXNEB	PO				5P	PO-5
		HT	TMU24SXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SMU24SXNEX	SP	2B	170	32	2.5P	SP-12
		PO OX	PMU24SXNEX	PO				5P	PO-12
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	170	32	2.5P	SP30P0-15
Taps 1 5/8-8UN									
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	200	32	2.5P	SP30P0-15
Taps 1 3/4-5UNC									
Standard	P2	SP	SGU287XNEB	SP	2B	220	36	2.5P	SP-5
		PO	PGU287XNEB	PO				5P	PO-5
		HT	TGU287XNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SGU287XNEX	SP	2B	220	36	2.5P	SP-12
		PO OX	PGU287XNEX	PO				5P	PO-12
Taps 1 3/4-8UN									
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	200	36	2.5P	SP30P0-15
Taps 1 3/4-12UNF									
Standard	P2	SP	SMU28SXNEB	SP	2B	180	36	2.5P	SP-5
		PO	PMU28SXNEB	PO				5P	PO-5
		HT	TMU28SXNEBC	HT				2.5P	HT-9
Oxidizing	P1 P2	SP OX	SMU28SXNEX	SP	2B	180	36	2.5P	SP-12
		PO OX	PMU28SXNEX	PO				5P	PO-12
Taps 2-8UN									
For stainless steels	P4 M1-M2	SP-VA	SMU16SXGEX	SP	2B	225	40	2.5P	SP30P0-15

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M9-M24 Taps
M25-M48 Taps
For Unifit threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Pg threads Taps

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies NO.0-80UNF									
Spiral pointed dies	HSS		DPO	2A	16	5	2~2.5P	PD0UN08GNBIC	Di-3
Dies NO.1-64UNC									
Spiral pointed dies	HSS		DPO	2A	16	5	2~2.5P	PD0UN16GNBIC	Di-3
Dies NO.1-72UNF									
Spiral pointed dies	HSS		DPO	2A	16	5	2~2.5P	PD0UN17GNBIC	Di-3
Dies NO.2-56UNC									
Spiral pointed dies	HSS		DPO	2A	16	5	2~2.5P	PD0UN25GNBIC	Di-3
Dies NO.2-64UNF									
Spiral pointed dies	HSS		DPO	2A	16	5	2~2.5P	PD0UN26GNBIC	Di-3
Dies NO.3-48UNC									
Spiral pointed dies	HSS		DPO	2A	16	5	2~2.5P	PD0UN36GNBIC	Di-3
Dies NO.3-56UNF									
Spiral pointed dies	HSS		DPO	2A	16	5	2~2.5P	PD0UN37GNBIC	Di-3
Dies NO.4-40UNC									
Spiral pointed dies	HSS		DPO	2A	20	5	2~2.5P	PD0UN40GNBIC	Di-3
Dies NO.4-48UNF									
Spiral pointed dies	HSS		DPO	2A	20	5	2~2.5P	PD0UN48GNBIC	Di-3
Dies NO.5-40UNC									
Spiral pointed dies	HSS		DPO	2A	20	5	2~2.5P	PD0UN50GNBIC	Di-3
Dies NO.5-44UNF									
Spiral pointed dies	HSS		DPO	2A	20	5	2~2.5P	PD0UN54GNBIC	Di-3
Dies NO.6-32UNC									
Spiral pointed dies	HSS		DPO	2A	20	7	2~2.5P	PD0UN63GNBIC	Di-3
Dies NO.6-40UNF									
Spiral pointed dies	HSS		DPO	2A	20	5	2~2.5P	PD0UN64GNBIC	Di-3
Dies NO.8-32UNC									
Spiral pointed dies	HSS		DPO	2A	20	7	2~2.5P	PD0UN83GNBIC	Di-3
Dies NO.8-36UNF									
Spiral pointed dies	HSS		DPO	2A	20	7	2~2.5P	PD0UN86GNBIC	Di-3
Dies NO.10-24UNC									
Spiral pointed dies	HSS		DPO	2A	20	7	2~2.5P	PD0UN10GNBIC	Di-3
Dies NO.10-32UNF									
Spiral pointed dies	HSS		DPO	2A	20	7	2~2.5P	PD0UN12GNBIC	Di-3

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies NO.12-24UNC									
Spiral pointed dies	HSS		DPO	2A	20	7	2~2.5P	PD0UN12GNBIC	Di-3
Dies NO.12-28UNF									
Spiral pointed dies	HSS		DPO	2A	20	7	2~2.5P	PD0UN14GNBIC	Di-3
Dies 1/4-20UNC									
Spiral pointed dies	HSS		DPO	2A	25	9	2~2.5P	PD0UN20GNBIC	Di-3
Dies 1/4-28UNF									
Spiral pointed dies	HSS		DPO	2A	25	9	2~2.5P	PD0UN24GNBIC	Di-3
Dies 5/16-18UNC									
Spiral pointed dies	HSS		DPO	2A	25	9	2~2.5P	PD0UN30GNBIC	Di-3
Dies 5/16-24UNF									
Spiral pointed dies	HSS		DPO	2A	25	9	2~2.5P	PD0UN36GNBIC	Di-3
Dies 3/8-16UNC									
Spiral pointed dies	HSS		DPO	2A	30	11	2~2.5P	PD0UN48GNBIC	Di-3
Dies 3/8-24UNF									
Spiral pointed dies	HSS		DPO	2A	30	11	2~2.5P	PD0UN60GNBIC	Di-3
Dies 7/16-14UNC									
Spiral pointed dies	HSS		DPO	2A	30	11	2~2.5P	PD0UN70GNBIC	Di-3
Dies 7/16-20UNF									
Spiral pointed dies	HSS		DPO	2A	30	11	2~2.5P	PD0UN84GNBIC	Di-3
Dies 1/2-13UNC									
Spiral pointed dies	HSS		DPO	2A	38	14	2~2.5P	PD0UN13GNBIC	Di-3
Dies 1/2-20UNF									
Spiral pointed dies	HSS		DPO	2A	38	10	2~2.5P	PD0UN20GNBIC	Di-3
Dies 9/16-12UNC									
Spiral pointed dies	HSS		DPO	2A	38	14	2~2.5P	PD0UN9GNBIC	Di-3
Dies 9/16-18UNF									
Spiral pointed dies	HSS		DPO	2A	38	10	2~2.5P	PD0UN18GNBIC	Di-3
Dies 5/8-11UNC									
Spiral pointed dies	HSS		DPO	2A	45	18	2~2.5P	PD0UN11GNBIC	Di-3
Dies 5/8-18UNF									
Spiral pointed dies	HSS		DPO	2A	45	14	2~2.5P	PD0UN18GNBIC	Di-3
Dies 3/4-10UNC									
Spiral pointed dies	HSS		DPO	2A	45	18	2~2.5P	PD0UN10GNBIC	Di-3

- M2 Dies
- M3 Dies
- M4 Dies
- M5 Dies
- M6 Dies
- M8 Dies
- M10 Dies
- M12 Dies
- M1-M7 Dies
- M9-M24 Dies
- M26-M36 Dies
- For Unified threads Dies
- For Pipe threads Dies
- For American pipe threads Dies

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC
H55-63HRC Hardened steel

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies 3/4-16UNF									
Spiral pointed dies	HSS		DPO	2A	45	14	2~2.5P	PDLU12PGNEBC	Di-3
Dies 7/8-9UNC									
Spiral pointed dies	HSS		DPO	2A	55	22	2~2.5P	PDPU14WGNEBC	Di-4
Dies 7/8-14UNF									
Spiral pointed dies	HSS		DPO	2A	55	16	2~2.5P	PDPU14QGNBEC	Di-4
Dies 1-8UNC									
Spiral pointed dies	HSS		DPO	2A	55	22	2~2.5P	PDPU16XGNBEC	Di-4
Dies 1-12UNF									
Spiral pointed dies	HSS		DPO	2A	55	16	2~2.5P	PDPU16SGNEBC	Di-4







- M2 Dies
- M3 Dies
- M4 Dies
- M5 Dies
- M6 Dies
- M8 Dies
- M10 Dies
- M12 Dies
- M1-M7 Dies
- M8-M24 Dies
- M26-M36 Dies
- For Unified threads Dies
- For Pipe threads Dies
- For American pipe threads Dies

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol	Code	Flute	Class	<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>	Product page
Taps 3/32W48									
Standard	P2	HT	TPW1HF0NEB2	HT	-	36	2.8	F	HT-9
			TPW1HF0NEBU				M	HT-9	
			TPW1HF0NEB5				V	HT-9	
Taps 1/8W40									
Standard	P2	HT	TPW2H0NEB2	HT	-	40	3.5	F	HT-9
			TPW2H0NEBU				M	HT-9	
			TPW2H0NEB5				V	HT-9	
Taps 5/32W32									
Standard	P2	HT	TPW2HJ0NEB2	HT	-	45	4.5	F	HT-9
			TPW2HJ0NEBU				M	HT-9	
			TPW2HJ0NEB5				V	HT-9	
Taps 3/16W24									
Standard	P2	HT	TPW03M0NEB2	HT	-	50	5.5	F	HT-9
			TPW03M0NEBU				M	HT-9	
			TPW03M0NEB5				V	HT-9	
Taps 1/4W20									
Standard	P2	HT	TPW04N0NEB2	HT	-	56	6	F	HT-9
			TPW04N0NEBU				M	HT-9	
			TPW04N0NEB5				V	HT-9	
Taps 5/16W18									
Standard	P2	HT	TPW05O0NEB2	HT	-	63	6	F	HT-9
			TPW05O0NEBU				M	HT-9	
			TPW05O0NEB5				V	HT-9	
Taps 3/8W16									
Standard	P2	HT	TPW06P0NEB2	HT	-	70	7	F	HT-9
			TPW06P0NEBU				M	HT-9	
			TPW06P0NEB5				V	HT-9	
Taps 7/16W14									
Standard	P2	HT	TPW07Q0NEB2	HT	-	70	8	F	HT-9
			TPW07Q0NEBU				M	HT-9	
			TPW07Q0NEB5				V	HT-9	
Taps 1/2W12									
Standard	P2	HT	TPW08S0NEB2	HT	-	80	9	F	HT-9
			TPW08S0NEBU				M	HT-9	
			TPW08S0NEB5				V	HT-9	
Taps 9/16W12									
Standard	P2	HT	TPW09S0NEB2	HT	-	80	11	F	HT-9
			TPW09S0NEBU				M	HT-9	
			TPW09S0NEB5				V	HT-9	

Tap selection	Main material	Symbol	Code	Flute	Class	<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>	Product page
Taps 5/8W11									
Standard	P2	HT	TPW10U0NEB2	HT	-	90	12	F	HT-9
			TPW10U0NEBU				M	HT-9	
			TPW10U0NEB5				V	HT-9	
Taps 3/4W10									
Standard	P2	HT	TPW12V0NEB2	HT	-	95	14	F	HT-9
			TPW12V0NEBU				M	HT-9	
			TPW12V0NEB5				V	HT-9	
Taps 7/8W9									
Standard	P2	HT	TPW14W0NEB2	HT	-	100	18	F	HT-10
			TPW14W0NEBU				M	HT-10	
			TPW14W0NEB5				V	HT-10	
Taps 1W8									
Standard	P2	HT	TPW16X0NEB2	HT	-	110	20	F	HT-10
			TPW16X0NEBU				M	HT-10	
			TPW16X0NEB5				V	HT-10	
Taps 1 1/8W7									
Standard	P2	HT	TPW18Y0NEB2	HT	-	125	22	F	HT-10
			TPW18Y0NEBU				M	HT-10	
			TPW18Y0NEB5				V	HT-10	
Taps 1 1/4W7									
Standard	P2	HT	TPW20Y0NEB2	HT	-	125	22	F	HT-10
			TPW20Y0NEBU				M	HT-10	
			TPW20Y0NEB5				V	HT-10	
Taps 1 3/8W6									
Standard	P2	HT	TPW22Z0NEB2	HT	-	150	28	F	HT-10
			TPW22Z0NEBU				M	HT-10	
			TPW22Z0NEB5				V	HT-10	
Taps 1 1/2W6									
Standard	P2	HT	TPW24Z0NEB2	HT	-	150	32	F	HT-10
			TPW24Z0NEBU				M	HT-10	
			TPW24Z0NEB5				V	HT-10	
Taps 1 5/8W5									
Standard	P2	HT	TPW2670NEB2	HT	-	150	32	F	HT-10
			TPW2670NEBU				M	HT-10	
			TPW2670NEB5				V	HT-10	
Taps 1 3/4W5									
Standard	P2	HT	TPW2870NEB2	HT	-	160	36	F	HT-10
			TPW2870NEBU				M	HT-10	
			TPW2870NEB5				V	HT-10	

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1** Free cutting and structural steel
- P2** Carbon steel and low alloy steel
- P3** Medium alloy steel and heat treated steel
- P4** High alloy steel
- P5** Tool steel
- P6** High tensile strength steel
- M1-M2** Ferritic and austenitic stainless steel
- M3** Austenitic stainless steel
- M4** Martensitic stainless steel
- M5** PH stainless steel
- K1** Grey cast iron
- K2** Nodular cast iron
- K3** Austenitic cast iron
- K4** ADI cast iron
- N1** Aluminum alloy (< 12% Si)
- N2** Aluminum alloy (> 12% Si)
- N3** Copper alloy
- N4** Brass alloy and bronze alloy
- S1-S2** HRSA (~35HRC)
- S3** HRSA (35~45HRC)
- S5** Titanium alloy
- H45-55HRC** Hardened steel
- H55-63HRC** Hardened steel

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps G1/16-28									
Standard (ISO standard)	P2	SP	SVG0010NEB	SP	-	90	6	2.5P	SP-5
		PO	PVG0010NEB	PO				5P	PO-5
		HT	TVG0010NEBC	HT				2.5P	HT-10
			T9G0010NEB2			56		F	HT-10
			T9G0010NEB5					V	HT-10
Oxidizing	P1 P2	SP OX	SVG0010NEX	SP	-	90	6	2.5P	SP-12
		PO OX	PVG0010NEX	PO				5P	PO-12
Taps G1/8-28									
Standard (ISO standard)	P2	SP	SVG0020NEB	SP	-	90	7	2.5P	SP-5
		PO	PVG0020NEB	PO				5P	PO-5
		HT	TVG0020NEBC	HT				2.5P	HT-10
			T9G0020NEB2			63		F	HT-10
			T9G0020NEB5					V	HT-10
Oxidizing	P1 P2	SP OX	SVG0020NEX	SP	-	90	7	2.5P	SP-12
		PO OX	PVG0020NEX	PO				5P	PO-12
Coated	P1 P2 P3 P4	SP(Coating)	9940R02TI	SP	-	90	7	2.5P	SP-7
		PO(Coating)	9930R02TI	PO				5P	PO-7
Thread forming taps for soft structural steel sheets	P1	R-D	RVG0026NEBB	RO	-	90	7	2P	RO-1
Coated	P1	R-D(Coating)	9953R02TI	RO	-	90	7	2P	RO-2
For hard-to-machine materials	P5 P6	EH-HT	TVG0020DCBC	HT	-	90	7	2.5P	HT-13
	P4 P5	PH-SP	SVG0020EEX	SP	-	90	7	3P	SP-25
For stainless steels	P4 M1 M2	SP-VA	SVG0020GEX	SP	-	90	7	2.5P	SP-30
	P4 M3 M4	SU2-SP	SVG0020GEXJ	SP	-	90	7	2.5P	SP-36
Low spiral	P2 P3	LO-SP	SVG0020NEBH	SP	-	90	7	3.5P	SP-20
	P2 P3	LO-SP OX	SVG0020NEXH	SP	-	90	7	3.5P	SP-23
For cast irons	K1	GG-HT	TVG0020AENC	HT	-	90	7	2.5P	HT-15
	K1	GG-HT(Coating)	9926R02TC	HT	-	90	7	2.5P	HT-17
Taps G1/4-19									
Standard (ISO standard)	P2	SP	SVG0040NEB	SP	-	100	11	2.5P	SP-5
		PO	PVG0040NEB	PO				5P	PO-5
		HT	TVG0040NEBC	HT				2.5P	HT-10
			T9G0040NEB2			70		F	HT-10
			T9G0040NEB5					V	HT-10
Oxidizing	P1 P2	SP OX	SVG0040NEX	SP	-	100	11	2.5P	SP-12
		PO OX	PVG0040NEX	PO				5P	PO-12
Coated	P1 P2 P3 P4	SP(Coating)	9940R04TI	SP	-	100	11	2.5P	SP-7
		PO(Coating)	9930R04TI	PO				5P	PO-7
Thread forming taps for soft structural steel sheets	P1	R-D	RVG0047NEBB	RO	-	100	11	2P	RO-1
Coated	P1	R-D(Coating)	9953R04TI	RO	-	100	11	2P	RO-2
For hard-to-machine materials	P5 P6	EH-HT	TVG0040DCBC	HT	-	100	11	2.5P	HT-13
	P4 P5	PH-SP	SVG0040EEX	SP	-	100	11	3P	SP-25
For stainless steels	P4 M1 M2	SP-VA	SVG0040GEX	SP	-	100	11	2.5P	SP-30
	P4 M3 M4	SU2-SP	SVG0040GEXJ	SP	-	100	11	2.5P	SP-36
Low spiral	P2 P3	LO-SP	SVG0040NEBH	SP	-	100	11	3.5P	SP-20
	P2 P3	LO-SP OX	SVG0040NEXH	SP	-	100	11	3.5P	SP-23
For cast irons	K1	GG-HT	TVG0040AENC	HT	-	100	11	2.5P	HT-15
	K1	GG-HT(Coating)	9926R04TC	HT	-	100	11	2.5P	HT-17

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps G3/8-19									
Standard (ISO standard)	P2	SP	SVG0060NEB	SP	-	100	12	2.5P	SP-5
		PO	PVG0060NEB	PO				5P	PO-5
		HT	TVG0060NEBC	HT				2.5P	HT-10
			T9G0060NEB2			70		F	HT-10
			T9G0060NEB5					V	HT-10
Oxidizing	P1 P2	SP OX	SVG0060NEX	SP	-	100	12	2.5P	SP-12
		PO OX	PVG0060NEX	PO				5P	PO-12
Coated	P1 P2 P3 P4	SP(Coating)	9940R06TI	SP	-	100	12	2.5P	SP-7
		PO(Coating)	9930R06TI	PO				5P	PO-7
Thread forming taps for soft structural steel sheets	P1	R-D	RVG0067NEBB	RO	-	100	12	2P	RO-1
Coated	P1	R-D(Coating)	9953R06TI	RO	-	100	12	2P	RO-2
For hard-to-machine materials	P5 P6	EH-HT	TVG0060DCBC	HT	-	100	12	2.5P	HT-13
	P4 P5	PH-SP	SVG0060EEX	SP	-	100	12	3P	SP-25
For stainless steels	P4 M1 M2	SP-VA	SVG0060GEX	SP	-	100	12	2.5P	SP-30
	P4 M3 M4	SU2-SP	SVG0060GEXJ	SP	-	100	12	2.5P	SP-36
Low spiral	P2 P3	LO-SP	SVG0060NEBH	SP	-	100	12	3.5P	SP-20
	P2 P3	LO-SP OX	SVG0060NEXH	SP	-	100	12	3.5P	SP-23
For cast irons	K1	GG-HT	TVG0060AENC	HT	-	100	12	2.5P	HT-15
	K1	GG-HT(Coating)	9926R06TC	HT	-	100	12	2.5P	HT-17
	K1 K2	CT-FC	3926G06	HT	-	100	12	2.5P	CT-1
Taps G1/2-14									
Standard (ISO standard)	P2	SP	SVG0080NEB	SP	-	125	16	2.5P	SP-5
		PO	PVG0080NEB	PO				5P	PO-5
		HT	TVG0080NEBC	HT				2.5P	HT-11
			T9G0080NEB2			80		F	HT-11
			T9G0080NEB5					V	HT-11
Oxidizing	P1 P2	SP OX	SVG0080NEX	SP	-	125	16	2.5P	SP-12
		PO OX	PVG0080NEX	PO				5P	PO-12
Coated	P1 P2 P3 P4	SP(Coating)	9940R08TI	SP	-	125	16	2.5P	SP-7
		PO(Coating)	9930R08TI	PO				5P	PO-7
For hard-to-machine materials	P5 P6	EH-HT	TVG0080DCBC	HT	-	125	16	2.5P	HT-13
	P4 P5	PH-SP	SVG0080EEX	SP	-	125	16	3P	SP-25
For stainless steels	P4 M1 M2	SP-VA	SVG0080GEX	SP	-	125	16	2.5P	SP-30
	P4 M3 M4	SU2-SP	SVG0080GEXJ	SP	-	125	16	2.5P	SP-36
Low spiral	P2 P3	LO-SP	SVG0080NEBH	SP	-	125	16	3.5P	SP-20
	P2 P3	LO-SP OX	SVG0080NEXH	SP	-	125	16	3.5P	SP-23
For cast irons	K1	GG-HT	TVG0080AENC	HT	-	125	16	2.5P	HT-15
	K1	GG-HT(Coating)	9926R08TC	HT	-	125	16	2.5P	HT-17
Taps G5/8-14									
Standard (ISO standard)	P2	PO	PVG0100NEB	PO	-	125	18	5P	PO-5
		HT	TVG0100NEBC	HT				2.5P	HT-11
			T9G0100NEB2			80		F	HT-11
			T9G0100NEB5					V	HT-11
Oxidizing	P1 P2	SP OX	SVG0100NEX	SP	-	125	18	2.5P	SP-12
		PO OX	PVG0100NEX	PO				5P	PO-12

M2 Taps
M3 Taps
M4 Taps
M5 Taps
M6 Taps
M8 Taps
M10 Taps
M12 Taps
M1-M7 Taps
M8-M24 Taps
M25-M48 Taps
For Unified threads Taps
For Whitworth threads Taps
For Pipe threads Taps
For Pg threads Taps

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D _s	ℓ _c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps G3/4-14										
Standard (ISO standard)	P2	SP	SVG0120NEB	SP	-	140	20	2.5P	SP-5	
		PO	PVG0120NEB	PO				5P	PO-5	
		HT	TVG0120NEBC	HT				2.5P	HT-11	
			T9G0120NEB2			90		F	HT-11	
			T9G0120NEB5					V	HT-11	
Oxidizing	P1 P2	SP OX	SVG0120NEX	SP	-	140	20	2.5P	SP-12	
		PO OX	PVG0120NEX	PO				5P	PO-12	
For stainless steels	P4 M1 M2	SP-VA	SVG0120GEX	SP	-	140	20	2.5P	SP-30	
			SU2-SP	SVG0120GEXJ	SP	-	140	20	2.5P	SP-37
Low spiral	Oxidizing	P2 P3	LO-SP OX	SVG0120NEXH	SP	-	140	20	3.5P	SP-23
For cast irons		K1	GG-HT	TVG0120AENC	HT	-	140	20	2.5P	HT-15

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps G7/8-14									
Standard (ISO standard)	P2	SP	SVG0140NEB	SP	-	150	22	2.5P	SP-5
		PO	PVG0140NEB	PO				5P	PO-5
		HT	TVG0140NEBC	HT				2.5P	HT-11
			T9G0140NEB2			90		F	HT-11
			T9G0140NEB5					V	HT-11
Oxidizing	P1 P2	SP OX	SVG0140NEX	SP	-	150	22	2.5P	SP-12
		PO OX	PVG0140NEX	PO				5P	PO-12

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page	
Taps G1-11										
Standard (ISO standard)	P2	SP	SVG0160NEB	SP	-	160	25	2.5P	SP-5	
		PO	PVG0160NEB	PO				5P	PO-5	
		HT	TVG0160NEBC	HT				2.5P	HT-11	
			T9G0160NEB2			100		F	HT-11	
			T9G0160NEB5					V	HT-11	
Oxidizing	P1 P2	SP OX	SVG0160NEX	SP	-	160	25	2.5P	SP-12	
		PO OX	PVG0160NEX	PO				5P	PO-12	
For cast irons		K1	GG-HT	TVG0160AENC	HT	-	160	25	2.5P	HT-15
Low spiral	P2 P3	LO-SP	SVG0160NEBH	SP	-	160	25	3.5P	SP-20	
		Oxidizing	LO-SP OX	SVG0160NEXH	SP	-	160	25	3.5P	SP-23

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps G1 1/8-11									
Standard (ISO standard)	P2	SP	SVG0180NEB	SP	-	170	28	2.5P	SP-5
		PO	PVG0180NEB	PO				5P	PO-5
		HT	TVG0180NEBC	HT				2.5P	HT-11
			T9G0180NEB2			125		F	HT-11
			T9G0180NEB5					V	HT-11
Oxidizing	P1 P2	SP OX	SVG0180NEX	SP	-	170	28	2.5P	SP-12
		PO OX	PVG0180NEX	PO				5P	PO-12

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps G1 1/4-11									
Standard (ISO standard)	P2	SP	SVG0200NEB	SP	-	170	32	2.5P	SP-5
		PO	PVG0200NEB	PO				5P	PO-5
		HT	TVG0200NEBC	HT				2.5P	HT-11
			T9G0200NEB2			125		F	HT-11
			T9G0200NEB5					V	HT-11
Oxidizing	P1 P2	SP OX	SVG0200NEX	SP	-	170	32	2.5P	SP-12
		PO OX	PVG0200NEX	PO				5P	PO-12

Tap selection	Main material	Symbol	Code	Flute	Class	L	D _s	ℓ _c	Product page
Taps G1 1/2-11									
Standard (ISO standard)	P2	SP	SVG0240NEB	SP	-	190	36	2.5P	SP-5
		PO	PVG0240NEB	PO				5P	PO-5
		HT	TVG0240NEBC	HT				2.5P	HT-11
			T9G0240NEB2			140		F	HT-11
			T9G0240NEB5					V	HT-11
Oxidizing	P1 P2	SP OX	SVG0240NEX	SP	-	190	36	2.5P	SP-12
		PO OX	PVG0240NEX	PO				5P	PO-12

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Pa threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC H55-65HRC Hardened steel

Dies selection	Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies G1/8-28									
For G threads	Spiral pointed dies	HSS	DPO	-	30	11	2~2.5P	PVHG0020NEBC	Di-4
Dies G1/4-19									
For G threads	Spiral pointed dies	HSS	DPO	-	38	10	2~2.5P	PVJG0040NEBC	Di-4
Dies G3/8-19									
For G threads	Spiral pointed dies	HSS	DPO	-	45	14	2~2.5P	PVLG0060NEBC	Di-4
Dies G1/2-14									
For G threads	Spiral pointed dies	HSS	DPO	-	45	16	2~2.5P	PVLG0080NEBC	Di-4
Dies G5/8-14									
For G threads	Spiral pointed dies	HSS	DPO	-	55	16	2~2.5P	PVPG0100NEBC	Di-4
Dies G3/4-14									
For G threads	Spiral pointed dies	HSS	DPO	-	55	16	2~2.5P	PVPG0120NEBC	Di-4
Dies G7/8-14									
For G threads	Spiral pointed dies	HSS	DPO	-	65	18	2~2.5P	PVSG0140NEBC	Di-4
Dies G1-11									
For G threads	Spiral pointed dies	HSS	DPO	-	65	18	2~2.5P	PVSG0160NEBC	Di-4
Dies G1 1/4-11									
For G threads	Spiral pointed dies	HSS	DPO	-	75	20	2~2.5P	PVLG0200NEBC	Di-4
Dies G1 1/2-11									
For G threads	Spiral pointed dies	HSS	DPO	-	90	22	2~2.5P	PVXG0240NEBC	Di-4

- M2 Dies
 M3 Dies
 M4 Dies
 M5 Dies
 M6 Dies
 M8 Dies
 M10 Dies
 M12 Dies
 M1-M7 Dies
 M9-M24 Dies
 M26-M36 Dies
 For Unified threads Dies
 For Pipe threads Dies
 For American pipe threads Dies

Note 1: Product symbols shown in red mean the tap special for full rigid tapping

Symbol of size

Overall length	Shank dia.	Chamfer length
<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P: B:

Tap selection	Main material	Symbol	Code	Flute Class	<i>L</i>	<i>D_s</i>	<i>ℓ_c</i>	Product page
Taps Pg 7								
Pg	Standard	P2	TYPG070NEBU	HT	- 70	9	3.5P	HT-10
Taps Pg 9								
Pg	Standard	P2	TYPG090NEBU	HT	- 70	12	3.5P	HT-10
Taps Pg 11								
Pg	Standard	P2	TYPG110NEBU	HT	- 80	14	3.5P	HT-10
Taps Pg 13.5								
Pg	Standard	P2	TYPG130NEBU	HT	- 80	16	3.5P	HT-10
Taps Pg 16								
Pg	Standard	P2	TYPG160NEBU	HT	- 80	18	3.5P	HT-10
Taps Pg 21								
Pg	Standard	P2	TYPG210NEBU	HT	- 90	22	3.5P	HT-10
Taps Pg 29								
Pg	Standard	P2	TYPG290NEBU	HT	- 100	28	3.5P	HT-10
Taps Pg 36								
Pg	Standard	P2	TYPG360NEBU	HT	- 140	36	3.5P	HT-10

- M2 Taps
- M3 Taps
- M4 Taps
- M5 Taps
- M6 Taps
- M8 Taps
- M10 Taps
- M12 Taps
- M1-M7 Taps
- M9-M24 Taps
- M25-M48 Taps
- For Unified threads Taps
- For Whitworth threads Taps
- For Pipe threads Taps
- For Rp threads Taps

Icons of main materials

- P1 Free cutting and structural steel
 P2 Carbon steel and low alloy steel
 P3 Medium alloy steel and heat treated steel
 P4 High alloy steel
 P5 Tool steel
 P6 High tensile strength steel
 M1-M2 Ferritic and austenitic stainless steel
 M3 Austenitic stainless steel
M4 Martensitic stainless steel
M5 PH stainless steel
K1 Grey cast iron
K2 Nodular cast iron
K3 Austenitic cast iron
K4 ADI cast iron
N1 Aluminium alloy (< 12% Si)
N2 Aluminium alloy (> 12% Si)
N3 Copper alloy
N4 Brass alloy and bronze alloy
S1-S2 HRSA (~35HRC)
S3 HRSA (35~45HRC)
S5 Titanium alloy
H45-55HRC
H55-63HRC
 Hardened steel

Dies selection		Material	Main material	Symbol	Class	Outside diameter	Thickness	Front face	Code	Product page
				Note 1						
Dies NPT1/8-27										
NPT	For NPT threads	Spiral pointed dies	HSS	DPO NPT	-	38	10	2~2.5P	PDJNT020NEBC	Di-4
Dies NPT1/4-18										
NPT	For NPT threads	Spiral pointed dies	HSS	DPO NPT	-	38	15	2~2.5P	PDJNT040NEBC	Di-4
Dies NPT3/8-18										
NPT	For NPT threads	Spiral pointed dies	HSS	DPO NPT	-	45	15	2~2.5P	PDJNT060NEBC	Di-4
Dies NPT1/2-14										
NPT	For NPT threads	Spiral pointed dies	HSS	DPO NPT	-	45	19	2~2.5P	PDJNT080NEBC	Di-4
Dies NPT3/4-14										
NPT	For NPT threads	Spiral pointed dies	HSS	DPO NPT	-	65	20	2~2.5P	PDJNT120NEBC	Di-4
Dies NPT1-11.5										
NPT	For NPT threads	Spiral pointed dies	HSS	DPO NPT	-	65	25	2~2.5P	PDJNT160NEBC	Di-4

- M2 Dies
 M3 Dies
 M4 Dies
 M5 Dies
 M6 Dies
 M8 Dies
 M10 Dies
 M12 Dies
 M1-M7 Dies
 M9-M24 Dies
 M26-M36 Dies
 For Unified threads Dies
 For Pipe threads Dies
 For American pipe threads Dies

? What is PRAD system ?

PRAD system is the new system which has never been seen before.

PRAD enables us to make the tap most suitable for specified applications by using taps in Yamawa or those stocked at customers' hands. It also enables us to manufacture special taps by using Yamawa standard tap blanks.

Efficient use of limited resources.

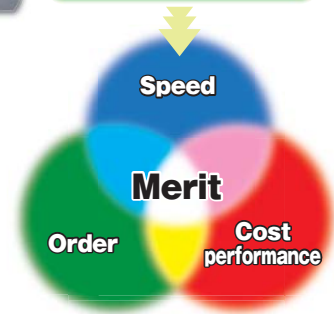
P Product
R Reborn
A According
D Demand

? What is standard blank ? ...



- Blank is generic designation of semi-finished product before forming a tap.
- Standard blank is the blank for manufacturing standard tap.
- Special taps will be completed only after the process of edging (on flute, thread and chamfer), by using the blanks which are already heat treated and shank ground.
- 5 kinds of thread standard (unified, whitworth, SM-sewing machine screw, STI metric, STI unified)

Standard blank system



For 5 kinds of thread standard, let's use Metric thread blanks.

Metric thread blanks

Standardization can realize commonization of tap collets.

Unified (U)	Whitworth (W)	Sewing machine screw (SM)
STI metric	STI unified	

Commonization of tap collets. (Example) In the case of M20 x2.5 and 3/4-10 UNC

Before	Dimension of old blanks	After	Dimension of new blanks
M20X2.5 Ds : $\phi 15$		<p>Standardization of shank diameter</p>	M20X2.5 3/4-10UNC Ds : $\phi 15$
3/4-10UNC Ds : $\phi 14$			

! Circumstances surrounding tool materials

Depletion of resources

Main tool materials for Yamawa taps use a lot of rare metals as the substrate. Today market price of rare metals has risen due to collapse of the balance between supply and demand.

In the world, rare metals omnipresent. Political situation can make it more difficult for us to obtain these rare metals. So, it is quite important to assure stable supply and recycling technique.



PRAD system is globally- friendly and stands on customer's eye.

Product
Reborn
According to
Demand

Solution tool

PRAD system

Version of recycling

Through PRAD system, taps at your hand or taps at Yamawa may be used effectively.

▶ **PRAD uses tap stock effectively.**

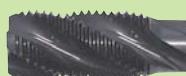
▶ **Consulting** (check of customer's demand)

Problem analysis and design (design proposal corresponding to the cutting condition)

Manufacturing of recycling product



Yamawa standard tap or tap at your hand



oxide coating



TiN coating



coolant hole to be added



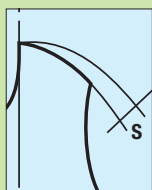
guide to be added



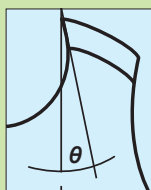
threads to be ground off



heal cut



relief adjustment on chamfer



rake angle adjustment

applicable to more than 1000 kinds of adjustments by combining various modifications.

Delivery

▶ **Follow-up-consulting** (Analysis of result of use)

PRAD responds to demands for versatile products

Industries needing threads are various, and requests to YAMAWA are getting quite diversified. Yamawa is widely offering products from standard products to special products. However, standard taps sometimes cannot come at the exact truth of customer's demand, and special taps developed and manufactured specially ask for longer delivery and higher cost.

PRAD system was born in this situation.

Using standard products can restrict the rise of cost, and customer can choose what he really wants from more than 1000 kinds of modifications such as dimension change, surface treatment and cutting angle change (intensive support). PRAD system has simultaneously realized high productivity of special products and economy on price and delivery of standard products.

Chasing the most suitable product

PRAD system is much different from previous additional modifications such as regrinding and surface treatment. Consulting is the start of PRAD system. We try to fully understand customer's true intention, and carefully analyse current cutting condition and problems. Based on this observation, we propose optimal design, and manufacture the product which meets customer needs. Further after delivery, we try to collect the result after use and connect our analysis of the result to future proposals to our customers. Through the process of this combination, we aim to continuously improve quality and manufacture optimal products for customers.

Environmentally friendly products for recycling of resources.

Don't you have taps which you think you cannot use any further and are sleeping in your warehouse? In PRAD system, it is even possible to recycle your stocked products. Yamawa's PRAD system makes sleeping products reborn by receiving your products and recycling/modifying them into what you need.

Manufacturing system of special taps beginning from the use of standard blanks.

Manufacturing of special taps usually starts from cutting-off process of materials to finished product through tens of manufacturing processes.

If we use standard blanks to make special taps, we can complete finished product only by edging (on flutes, thread and chamfer).

1 Flow chart of special tap manufacturing

By not using YAMAWA standard blanks, we make special taps.

Step 1. material supplier 

Step 2. blank manufacturing 

Step 3. edging 

Step 4. delivery 

BY using YAMAWA standard blanks, we make special taps.

Step 1. edging 

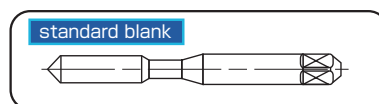
Step 2. delivery 

By using YAMAWA standard blanks, we can start only from the process of edging.

USER

2 Corresponding tap specifications derived from standard blanks

Standard blanks can be modified into various tap geometries.



Special spiral fluted tap



Special spiral pointed tap



Special roll tap



Special spiral fluted tap (BLF)



Special spiral pointed tap (BLF)



Special HT tap



Thread crests are ground off up to imaginary line of pitch diameter. BLF design is quite efficient in avoiding chipping.

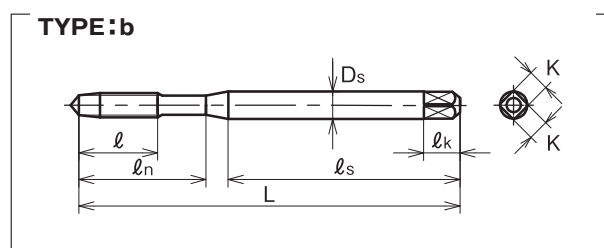
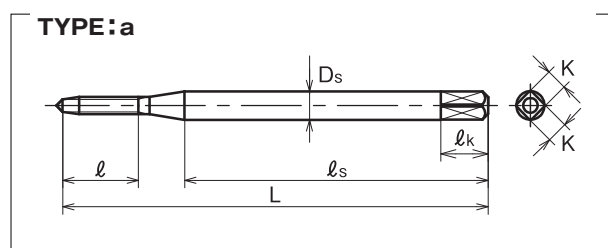
Corresponding tap specifications derived from standard blanks



Specification of corresponding standard blanks (for European market)

DIN371 TYPE

Main size designation and specification								
① metric	② unified	L	l	l_n	l_s (reference)	D_s	K	l_k
M2×0.4		45	8	-	32	2.8	2.1	5
M2.2×0.45		45	9	-	32	2.8	2.1	5
M2.3×0.4		45	9	-	32	2.8	2.1	5
M2.5×0.45		50	8	15	33	2.8	2.1	5
M2.6×0.45		50	8	15	33	2.8	2.1	5
M3×0.5	No.4-40UNC No.4-48UNF	56	9	18	34	3.5	2.7	6
M3.5×0.6	No.6-32UNC No.6-40UNF	56	11	20	32	4	3	6
M4×0.7	No.8-32UNC No.8-36UNF	63	13	21	38	4.5	3.4	6
M4.5×0.75	No.10-24UNC No.10-32UNF	70	14	24	39	6	4.9	8
M5×0.8		70	14	25	39	6	4.9	8
M6×1		80	15	30	45	6	4.9	8
	1/4-20UNC 1/4-28UNF	80	15	30	42	7	5.5	8
M8×1.25	5/16-18UNC	90	19	35	47	8	6.2	9
	3/8-16UNC	100	23	39	54	9	7	10
M10×1.5		100	23	39	52	10	8	11





Solution tool

PRAD system

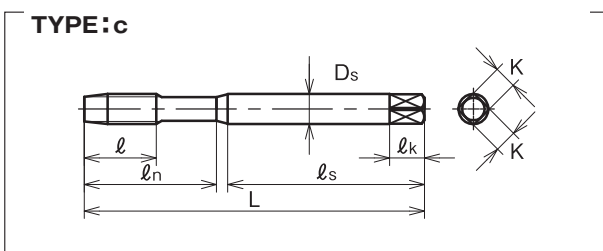
HSS

HSS-E

HSS-Co

HSS-P

Material			Max. thread length	Applicable class		TYPE
HSS-E (HSS)	HSS-Co	HSS-P		Cutting	Forming	
●		●	9	ISO 3	ISO 3X	a
●		●	9	ISO 3	ISO 3X	a
●		●	9	ISO 3	-	a
●	●	●	8	ISO 3	ISO 3X	b
●	●	●	8	ISO 3	-	b
●	●	●	9	ISO 3	-	b
●		●	11	ISO 3	ISO 3X	b
●	●	●	13	ISO 3	ISO 3X	b
●	●	●	14	ISO 3	ISO 3X	b
●	●	●	14	ISO 3	-	b
●	●	●	15	ISO 3	-	b
●		●	15	ISO 3	-	b
●	●	●	19	ISO 3	-	c
●			23	ISO 3	-	c
●	●	●	23	ISO 3	-	c



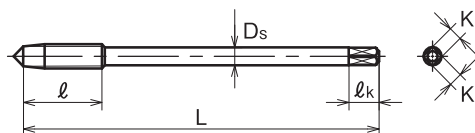


Specification of corresponding standard blanks (for European market)

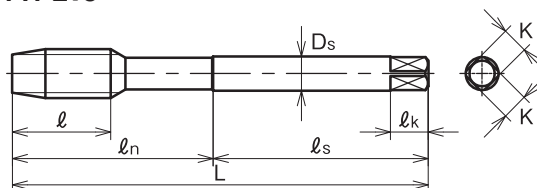
DIN376 TYPE

Main size designation and specification								
① metric	② unified	L	l	l_n	l_s (reference)	D_s	K	l_k
M4×0.7		63	13	-	-	2.8	2.1	5
M4.5×0.75		70	14	-	-	3.5	2.7	6
M5×0.8		70	14	-	-	3.5	2.7	6
M6×1		80	15	-	-	4.5	3.4	6
M8×1.25		90	19	44	46	6	4.9	8
M10×1.5		100	23	49	51	7	5.5	8
M12×1.75		110	26	54	56	9	7	10
M14×2	9/16-12UNC	110	26	54	56	11	9	12
M16×2	5/8-11UNC	110	26	54	56	12	9	12
M18×2.5		125	33	61	64	14	11	14
M20×2.5		140	33	69	71	16	12	15
M22×2.5	7/8-9UNC	140	33	69	71	18	14.5	17
M24×3		160	37	78	82	18	14.5	17
M27×3		160	37	78	82	20	16	19
M30×3.5	1 1/8-7UNC	180	44	88	92	22	18	21

TYPE:d



TYPE:e





Solution tool

PRAD system

HSS

HSS-E

HSS-Co

HSS-P

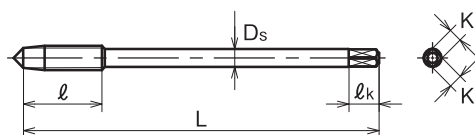
Material			Max. thread length	Applicable class		TYPE
HSS-E (HSS)	HSS-Co	HSS-P		Cutting	Forming	
●		●	13	ISO 3	-	d
●		●	14	ISO 3	-	d
●		●	14	ISO 3	-	d
●		●	15	ISO 3	-	d
●	●	●	19	ISO 3	-	e
●	●	●	23	ISO 3	-	e
●	●	●	26	ISO 3	-	e
●	●	●	26	ISO 3	-	e
●	●	●	26	ISO 3	-	e
●	●	●	33	ISO 3	-	e
●	●	●	33	ISO 3	-	e
●	●	●	33	ISO 3	-	e
●	●	●	37	ISO 3	-	e
●		●	37	ISO 3	-	e
●			44	ISO 3	-	e

Specification of corresponding standard blanks (for European market)

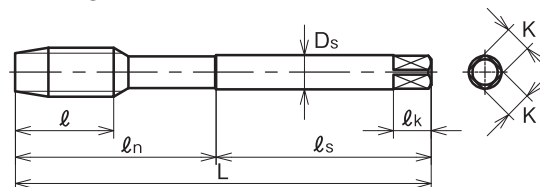
DIN374 TYPE

Main size designation and specification								
① metric	② unified	L	l	l_n	l_s (reference)	D_s	K	l_k
M4×0.5		63	9	-	-	2.8	2.1	5
M5×0.5		70	11	-	-	3.5	2.7	6
M6×0.75 M6×0.5		80	13	-	-	4.5	3.4	6
M8×1	5/16-24UNF	90	19	44	46	6	4.9	8
M8×0.75 M8×0.5		80	19	39	41	6	4.9	8
M10×1.25	3/8-24UNF	100	23	49	51	7	5.5	8
M10×1 M10×0.75		90	19	44	46	7	5.5	8
M12×1.5 M12×1.25 M12×1		100	21	49	51	9	7	10
M14×1.5 M14×1.25 M14×1		100	21	49	51	11	9	12
M16×1.5 M16×1	5/8-18UNF	100	21	49	51	12	9	12
M18×2		125	33	61	64	14	11	14
M18×1.5 M18×1		110	24	54	56	14	11	14
M20×2		140	33	69	71	16	12	15
M20×1.5 M20×1		125	24	61	64	16	12	15
M22×2		140	33	69	71	18	14.5	17
M22×1.5 M22×1	7/8-14UNF	125	24	61	64	18	14.5	17
M24×2 M24×1.5 M24×1		140	27	69	71	18	14.5	17
M26×1.5		140	27	69	71	18	14.5	17
M27×2 M27×1.5 M27×1		140	27	69	71	20	16	19
M30×2 M30×1.5 M30×1	1 1/8-12UNF	150	27	73	77	22	18	21

TYPE:d



TYPE:e





Solution tool

PRAD system**HSS****HSS-E****HSS-Co****HSS-P**

PRAD system

PRAD SYSTEM

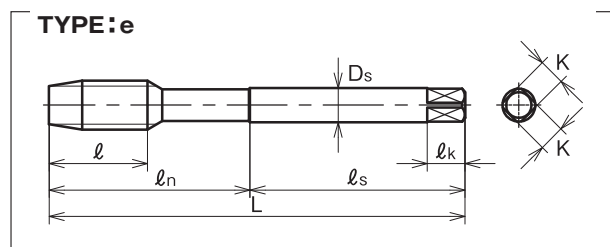
Material			Max. thread length	Applicable class		TYPE
HSS-E (HSS)	HSS-Co	HSS-P		Cutting	Forming	
●			13	ISO 3	ISO 2X	d
●			14	ISO 3	ISO 2X	d
●			15	ISO 3	-	d
●			19	ISO 3	ISO 3X	e
●			19	ISO 3	ISO 3X	e
●	●		23	ISO 3	ISO 2X	e
●	●		19	ISO 3	ISO3X	e
●	●	●	21	ISO 3	ISO 2X	e
●	●	●	21	ISO 3	ISO 2X	e
●	●	●	21	ISO 3	ISO 2X	e
●	●	●	33	ISO 3	ISO 2X	e
●	●		24	ISO 3	ISO 2X	e
●	●	●	33	ISO 3	ISO 3X	e
●	●		24	ISO 3	ISO 3X	e
●		●	33	ISO 3	ISO 3X	e
●		●	24	ISO 3	ISO 3X	e
●			27	ISO 3	ISO 3X	e
●			27	ISO 3	ISO 3X	e
●			27	ISO 3	ISO 3X	e
●			27	ISO 3	ISO 3X	e



Specification of corresponding standard blanks (for European market)

DIN5156 TYPE

Main size designation and specification							
① parallel pipe	L	l	l_n	l_s (reference)	D_s	K	l_k
G1/16-28	90	19	44	46	6	4.9	8
G1/8-28	90	19	44	46	7	5.5	8
G1/4-19	100	21	49	51	11	9	12
G3/8-19	100	21	49	51	12	9	12
G1/2-14	125	24	61	64	16	12	15
G5/8-14	125	24	61	64	18	14.5	17
G3/4-14	140	27	69	71	20	16	19
G7/8-14	150	27	73	77	22	18	21





Solution tool

PRAD system

HSS

HSS-E

HSS-Co

HSS-P

Material			Max. thread length	Applicable class		TYPE
HSS-E (HSS)	HSS-Co	HSS-P		Cutting	Forming	
●	●	●	19	-	-	e
●	●		19	-	-	e
●	●	●	21	-	-	e
●			21	-	-	e
●			24	-	-	e
●			24	-	-	e
●			27	-	-	e
●			27	-	-	e

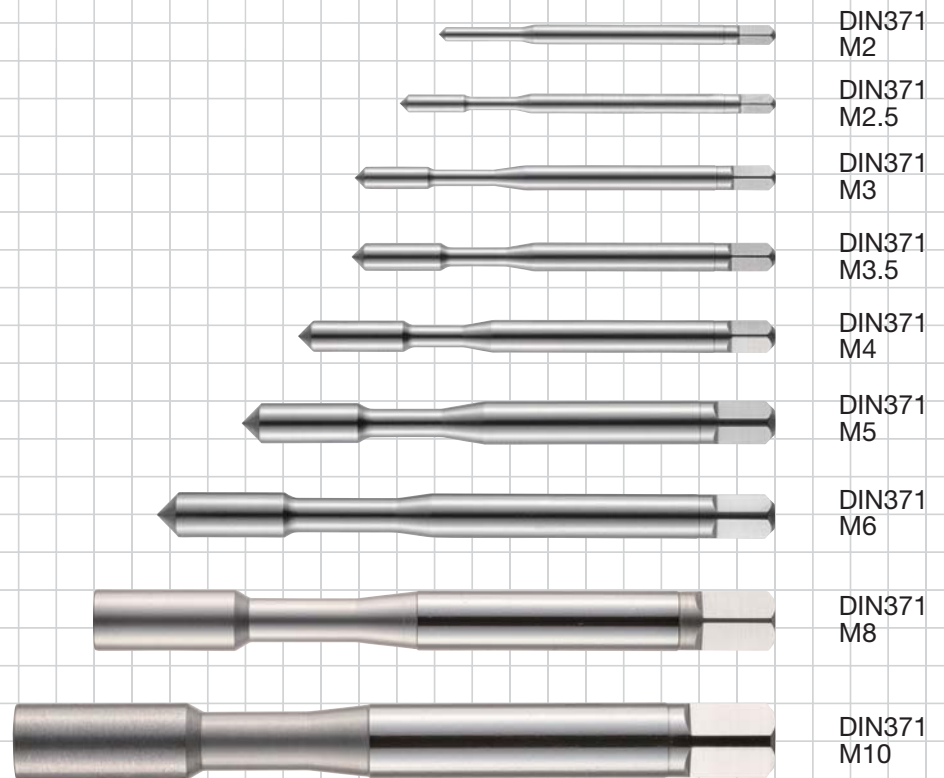


Solution tool

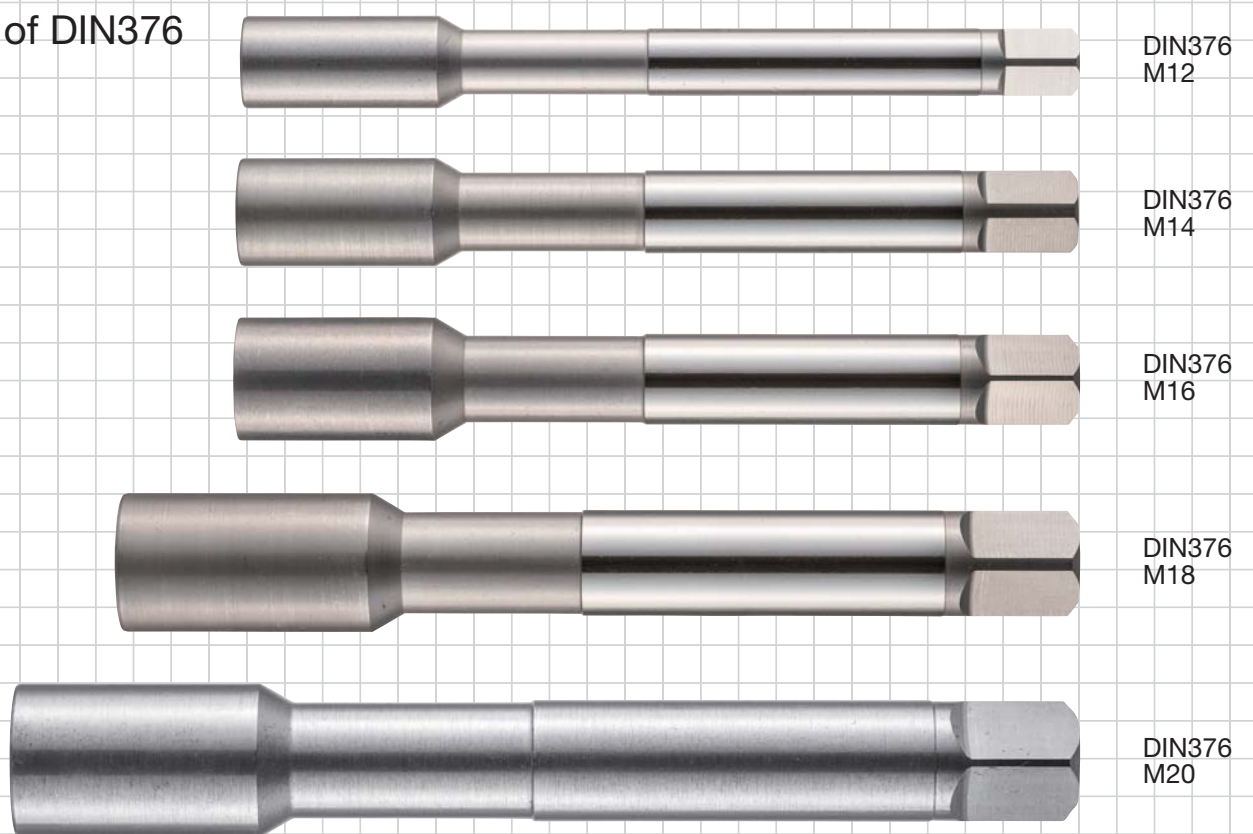
PRAD system

YAMAWA Standard blank Line UP

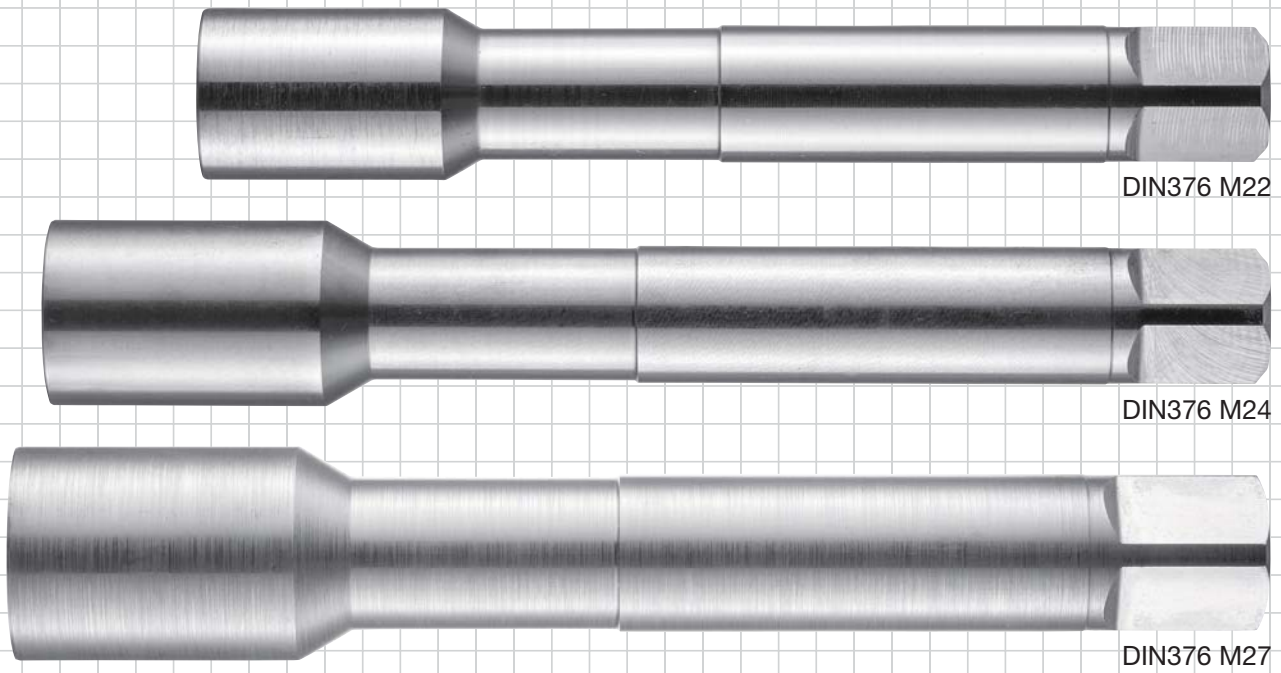
Type of DIN371



Type of DIN376



YAMAWA Standard blank Line UP

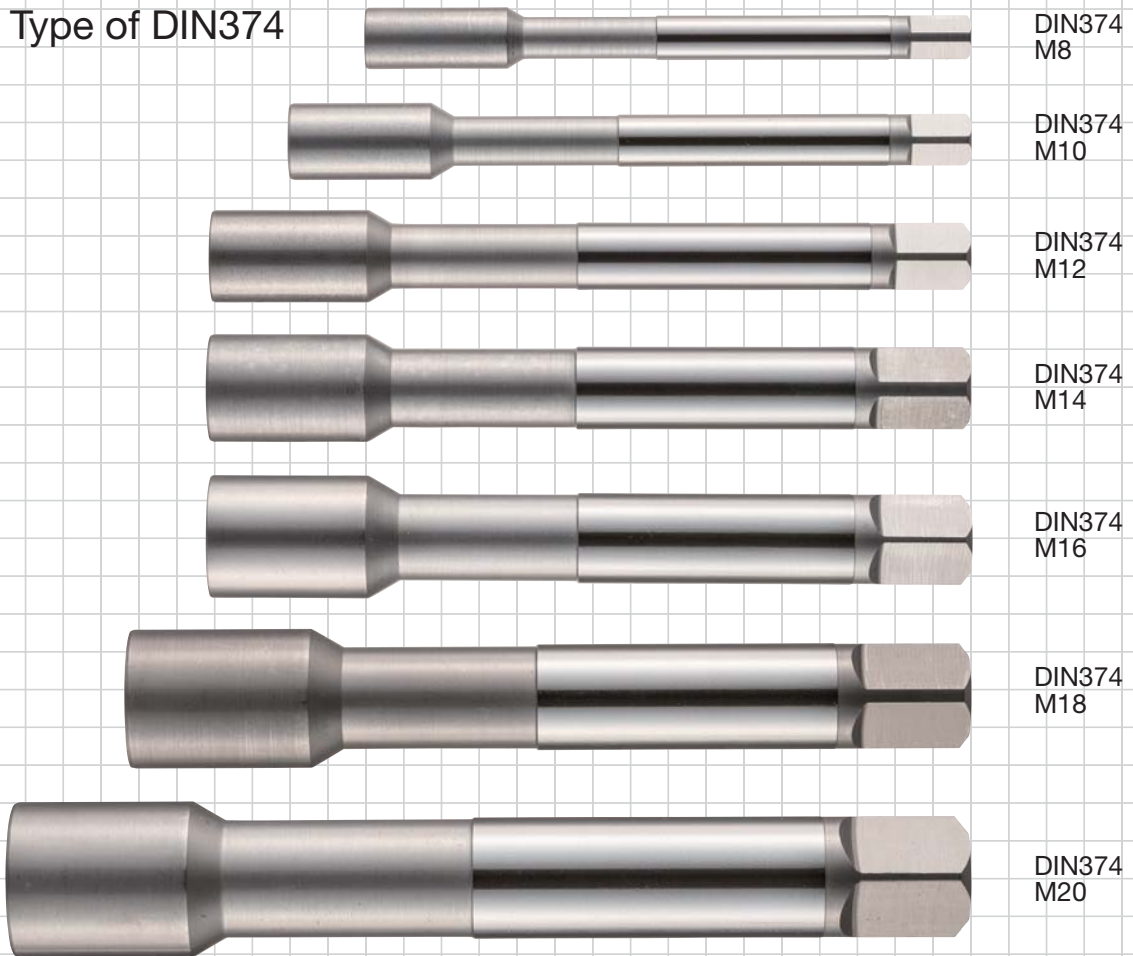


DIN376 M22

DIN376 M24

DIN376 M27

Type of DIN374



DIN374 M8

DIN374 M10

DIN374 M12

DIN374 M14

DIN374 M16

DIN374 M18

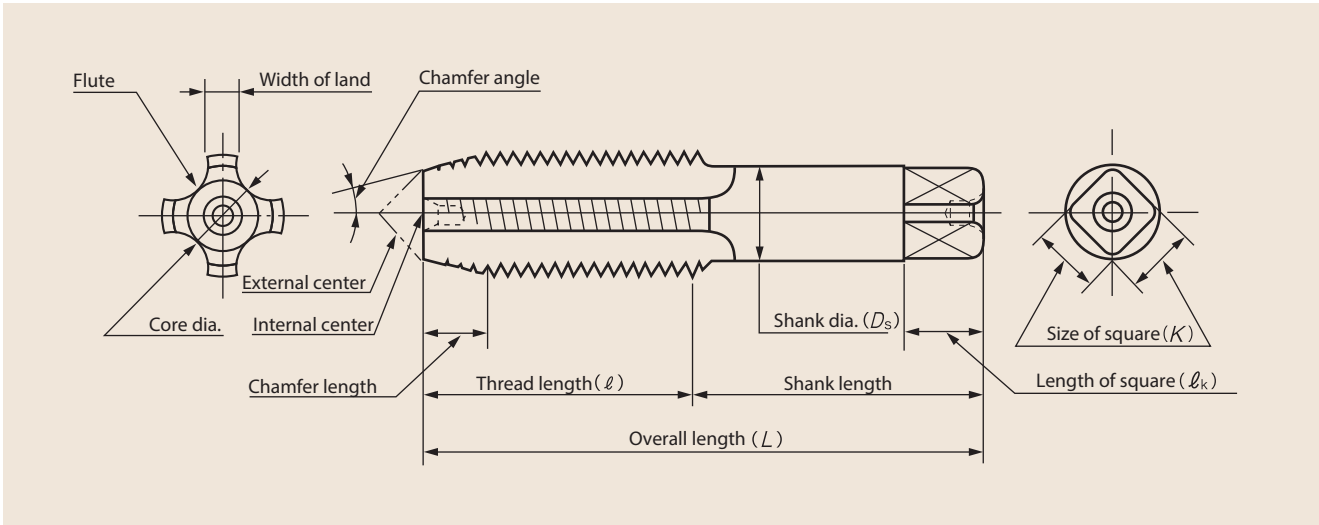
DIN374 M20



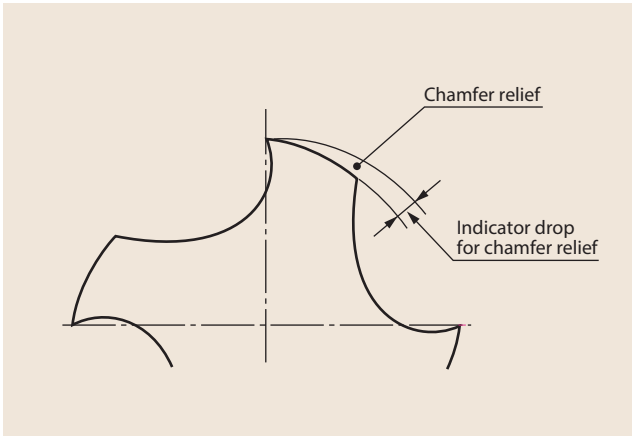
TECHNICAL INFORMATION

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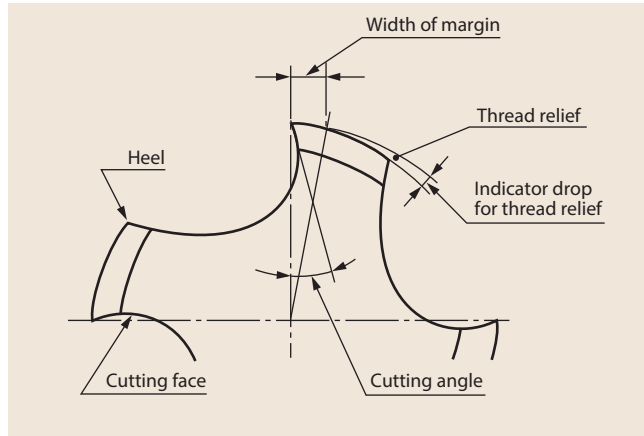
1. Terminology of Taps



■ Chamfer relief

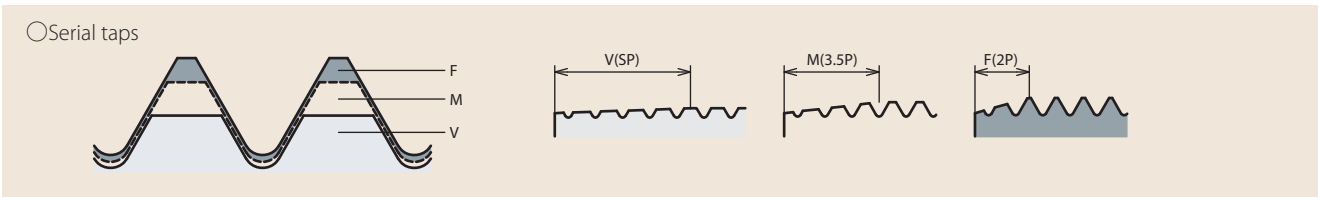


■ Thread relief and cutting angle

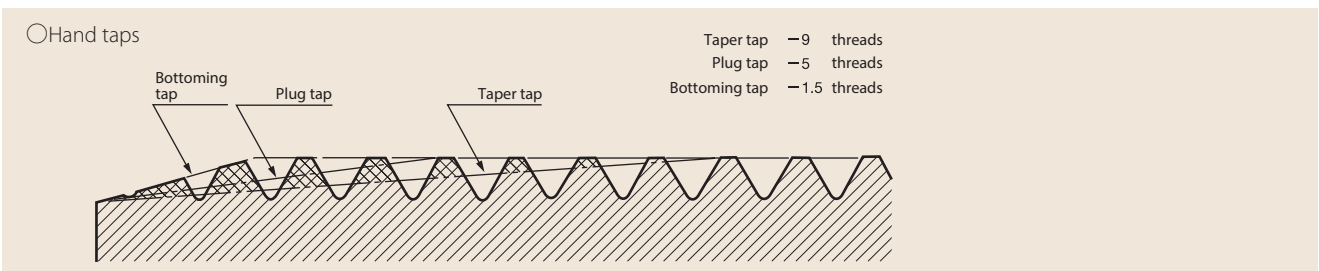


Edge angle, including chamfer relief, thread relief, cutting angle and others, as well as heat treatment, have important functions affecting workpiece shape, tool life, surface finish of internal screw thread, and so on.

■ Chamfer of hand tap



Serial taps come in sets of three or two to complete screw threads by cutting work materials in incremental steps. The first tap (V) and the second tap (M) cut screw threads under size. Then, the third tap (F) completes the screw threads.

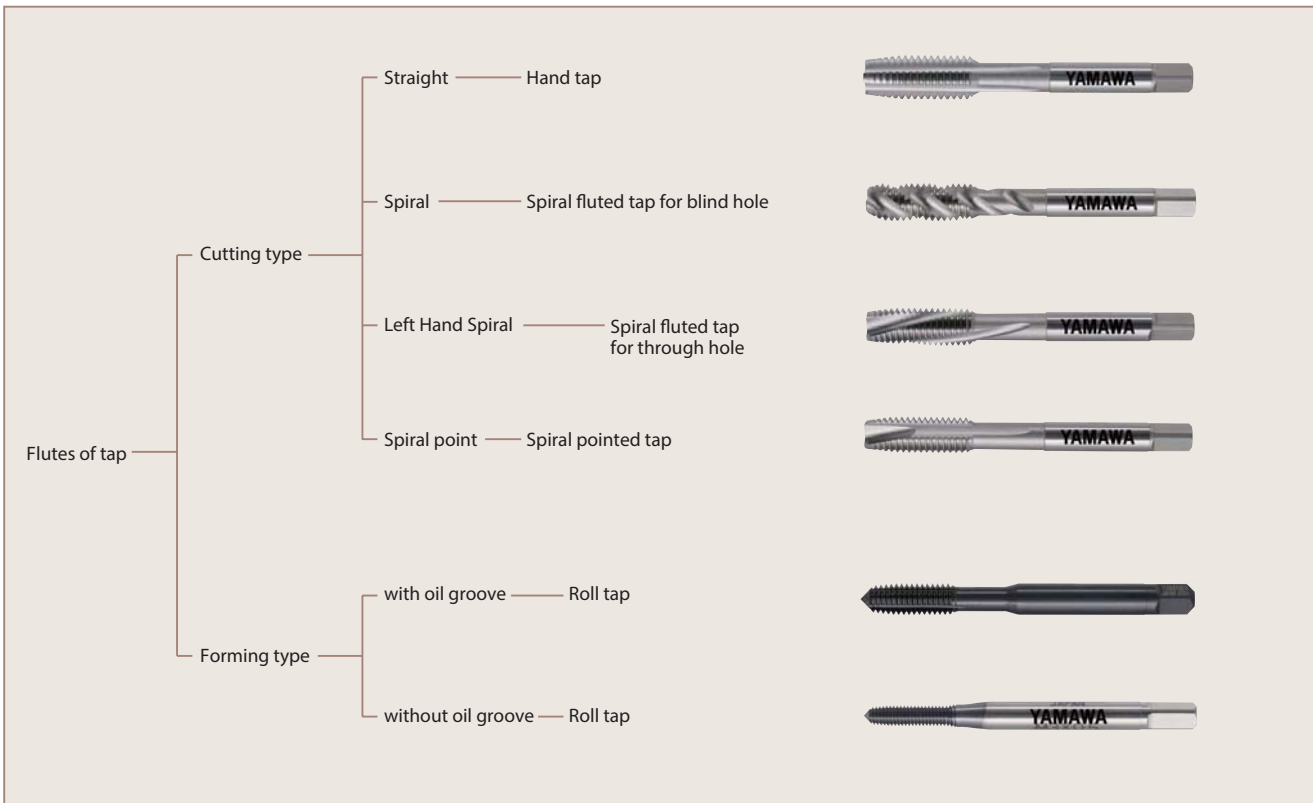


In general, tap chamfer is the most important part of taps to create internal thread. The function of full thread part of taps is to make a guidance.

2. Flutes

Major functions of flutes are :

1) Chips' pocket, 2) lubricant supply route, 3) rake angle formation, 4) to determine cutting amount in relation to the number of chamfer threads. And all are very important. Taps' flutes are classified into following groups by tapping methods, fluting method, tapping direction, and hand of screw thread.



Type of Flute

Type of Taps	Cutting type		Type of Taps	Forming type
Flute			Flute	
Straight Flute			With oil groove	
Spiral Flute			Without oil groove	
Spiral Point Flute				

In general, the number of flutes for cutting type taps are usually increased as O.D. becomes larger. However, it is also influenced by tap's strength and rigidity, the accomodation of chip, the amount of cutting, and lubricant supply system.

3. Edge angle and Cutting allowance of taps

Cutting angle and Chamfer relief angle

θ : Cutting angle γ : Chamfer relief angle

Chordal Hook Angle	Rake Angle	Tangential Hook Angle
Cutting angle of hook face. The angle between the center line passing the cutting edge and the straight line linking the cutting edge with the thread root.	Cutting angle of rake face. The angle between the center line passing the cutting edge and the straight line linking the cutting edge with thread root.	Cutting angle of hook face. The angle between the center line passing the cutting edge and the straight line tangent to the rake face on the cutting edge.

Thread relief

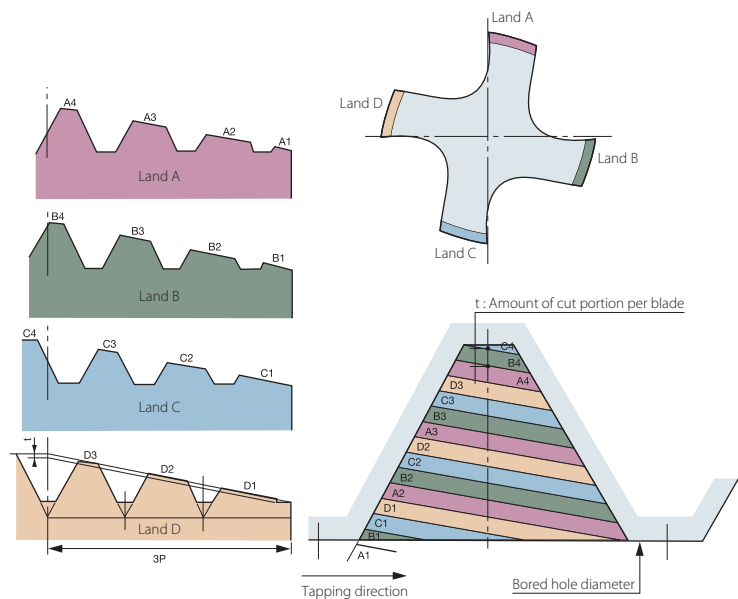
S: Indicator drop for thread relief

Concentric-unrelieved	Con-eccentric thread relief	Eccentric thread relief
No relief exists at land. Start (A) and heel (B) of thread land have same concentricity.	Radial relief in the thread form starts at the back of a concentric margin.	Radial relief in the thread form starts at the cutting edge and continues to the heel.

The amount of cut portion

Please refer to the pictures shown.

In such taps as have 4 flutes and 3 thread chamfer, the cutting operation progresses in order from the edge of A1, B1, C1, D1...A2, B2...A4. Tap end is usually smaller than the size of bored hole, and A1 may not make any cutting operation.



4. Recommended Tapping Speeds

■ Tapping Speeds

Following usage conditions affect tapping speeds : kind of taps, workpieces, number of chamfered threads, materials, hole condition and fluid. It is necessary to select the suitable tapping speed by paying attention to these conditions.

When work material has excellent workability, when there is a little depth of tapping, or when tapping fluid can be sufficient, select rather higher tapping speed. When workability of work material is unknown, to be safe, try nearly the lowest tapping speed at first, and then increase the speed gradually.

* Following speed is basically for the cutting condition under the use of insoluble cutting oil. Under the use of water soluble cutting oil, please choose 30% slower speed.

Unit : m/min

Workpiece Materials		Tapping Speed				
		Spiral Fluted	Spiral Pointed	Roll Taps	Straight Fluted	Cemented Carbide
Low Carbon Steels	~Ck25	8~15	10~20	8~15	6~10	—
Medium Carbon Steels	Ck35~Ck45	6~12	8~14	7~12	5~9	—
High Carbon Steels	Ck60	5~10	8~12	5~10	5~8	—
Alloy Steels	42 CrMo 4	5~10	7~10	5~10	5~8	—
Heat Treated Steels	25~35HRC, 35~45HRC	3~5	4~7	—	3~6	—
Stainless Steels	X5 CrNi 18 9, X5 CrNiMo 17 12 2	3~8	4~9	6~15	3~7	—
Tool Steels	X 210 Cr 12, X 40 CrMoV 5 1	5~8	6~10	—	5~9	—
Cast Steels	—	6~10	8~13	—	6~10	—
Cast Irons	GG-25	—	—	—	12~17	15~25
Ductile Cast Irons	GGG-50	5~10	5~10	—	5~8	12~20
Coppers	E-Cu57	8~12	8~13	25~35	7~11	15~33
Brass · Brass Casting	CuZn37, CuZn35Pb1	11~22	13~25	25~35	10~20	23~33
Phosphor Bronze · Phosphor Bronze Casting	CuSn6	8~15	10~18	25~35	8~15	18~33
Wrought Aluminum	AlMn1Cu	15~25	20~25	25~35	15~20	23~40
Aluminum Alloy Castings	G-AlSi7Mg	11~22	12~24	15~25	10~20	15~25
Magnesium Alloy Castings	EN-MC21120	7~15	10~20	—	7~15	12~20
Zinc Alloy Diecastings	GD-ZnAl4	7~15	10~20	15~25	7~15	12~20
Thermosetting Plastic	Bakelite (Phenol-PF)	11~17	12~18	—	10~15	15~25
Thermoplastic resin	PVC, Nylon	11~17	12~18	—	10~15	15~25
Titanium Alloys	TiAl6V4	6~9	6~9	—	—	—
Nickel Base Alloys	NiCr 15 Fe 7 TiAl NiCr22FeMo, NiCr20Ti	3~6	3~6	—	—	—

■ Formula

Tapping Speed (Vc)

$$Vc = \frac{\pi \cdot Dc \cdot n}{1000} \text{ (m/min)}$$

n : Revolution of tap (min⁻¹)
 π : 3.14
 Dc : Nominal dia. of tap (mm)

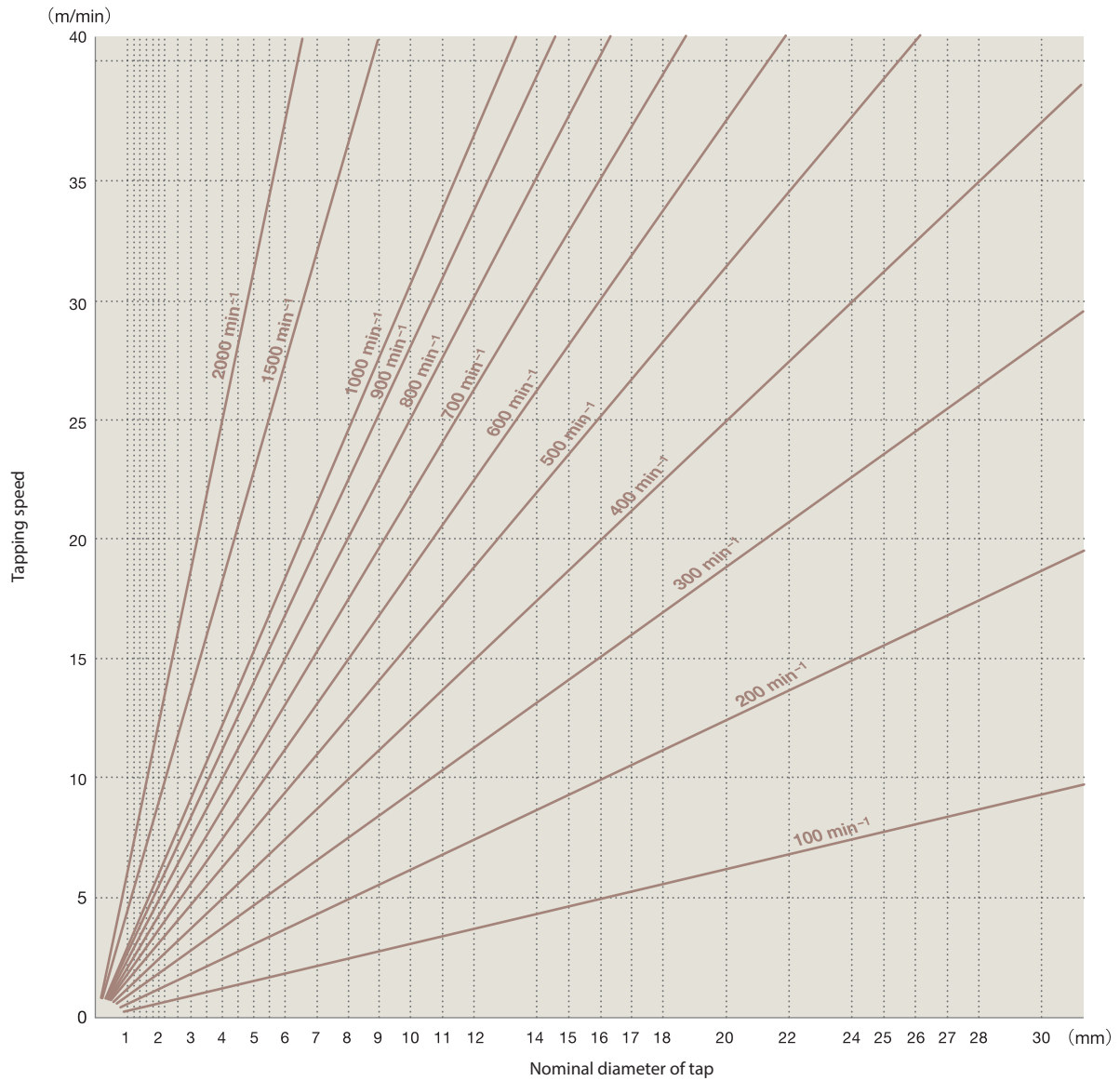
Revolution of tap (n)

$$n = \frac{1000 \cdot Vc}{\pi \cdot Dc} \text{ (min}^{-1}\text{)}$$

Vc : Tapping Speed (m/min)
 Dc : Nominal dia. of tap (mm)
 π : 3.14

5. Tapping speed and Revolution

■ Conversion table



6. Tapping Torque

■ Tapping Torque of Cutting type Taps

The torque starts increasing as the threads of chamfer enter the workpiece material. It becomes highest when all threads of chamfer cut into workpiece material, and is in plateau until the chamfer cuts through the workpiece. After that, the torque will decrease until the end of tapping.

○ Tapping Torque Equation for Cutting Taps

$$T_c = \frac{\tan\theta}{24000} \cdot k_c \times K(D-D_o)^2 \times (D+2D_o)$$

- T_c: Tapping Torque (N-m)
- k_c: Specific cutting resistance (N/mm²)
- K: Correction coefficient depending on tap geometry and chips
- D: Nominal Diameter of Tap (mm)
- D_o: Bored hole diameter (mm)
- θ: Thread half angle (°)

k_c and K: Refer to Table 1 and Table 2

Table 1 Specific cutting resistance of each material

Materials to be cut		Specific cutting resistance k _c N/mm ²
Material symbols	Hardness	N/mm ²
5t44-2	133HB	3700
Ck 15	141HB	3600
Ck 35	162HB	3700
Ck 45	188HB	3900
Ck 60	188HB	4000
42 CrMo 4	193HB	3600
	30HRC	4900
	40HRC	5500
X 6 CrNi 18 10	209HB	4200
C 105 W2	175HB	5300
CnZn40	—	2300
G-AISI8Cu3	—	1300
GG-25	193HB	2900


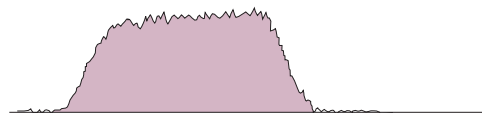
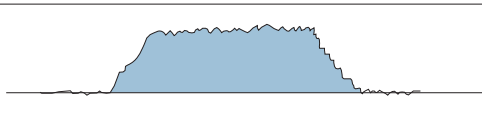
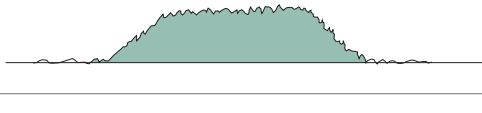
Table 2 Correction coefficient depending on each tap geometry

Materials to be cut	Coefficient K					
	Steel		Cast iron · Aluminum alloys		Brass	
Kinds of tap	coarse	fine	coarse	fine	coarse	fine
Hand tap plug	1.35	1.15	1.25	1.08	1.60	1.12
Hand tap bottoming	1.43	1.50	1.30	1.25	1.68	—
Spiral fluted tap	1.15	1.25	1.05	1.10	0.85	—
Spiral pointed tap	0.95	1.00	0.80	1.00	0.75	1.00

■ Cutting Torque Line

Cutting torque lines in the test of different kinds of taps, hand tap, spiral fluted tap, spiral pointed tap are shown below.

Tapping Condition	
Tap : HSS P2 M8x1.25 Cutting speed : 6.1m/min Workpiece material : Ck60 Tapping type : 10mm Through hole	Bored hole size : 6.8mm Cutting oil : Water insoluble oil Machine : Drilling machine Measurement equipment : Piezoelectric torque tester

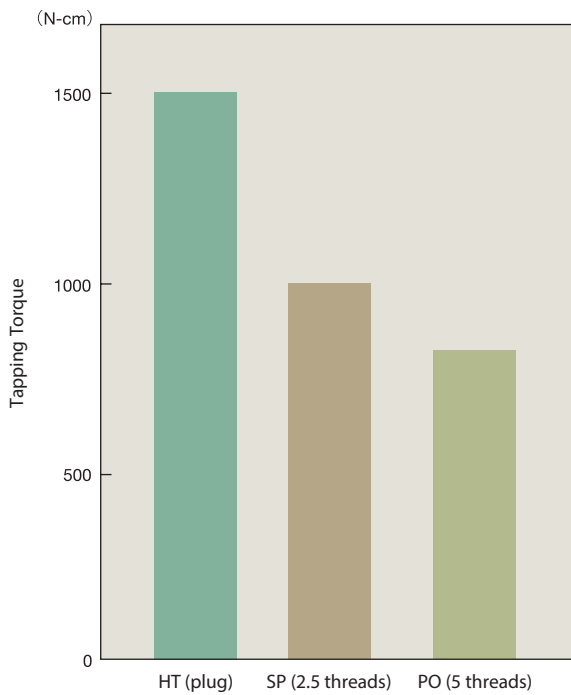
Type of tap	Torque lines	Description
Hand tap (P2)	Plug tap (5 threads) 	Plateau is observed since whole chamfer threads enter the workpiece material. Tapping time is much shorter than that of the taper tap.
	Bottoming tap (1.5 threads) 	Plateau is also observed since whole short chamfer threads enter the workpiece material. Tapping process time is shorter than that of the plug tap.
Spiral fluted tap (P2, 2.5 threads)		Spiral fluted tap pulls out the chips, good choice for blind hole tapping. The cutting torque of spiral fluted taps is smaller than that of the hand taps.
Spiral pointed tap (P2, 5 threads)		Spiral pointed tap pushes out the chips forward. It is good choice for through hole use. Cutting torque is smallest in all taps.

The cutting torque will change depending on the kind of taps, cutting chamfer, number of flutes, workpiece materials and their hardness, lubrication types, and chips.

6. Tapping Torque

■ Comparison of Cutting Torque by Different Type of Taps

Cutting torque of hand tap (HT), and spiral fluted tap (SP), and spiral pointed tap (PO) differs, shown in the chart below.



Tapping Condition

Tap : HSS P2 M10×1.5
Cutting speed : 10m/min
Workpiece material : Ck60
Hole condition : 20mm through hole
Bored hole size : ϕ 8.5, drill
Lubrication : Water insoluble oil
Machine : Radial drilling machine
Measurement equipment : Piezoelectric torque tester

If the cutting torque of hand tap is assumed as 100, the cutting torque of other taps is as follows :

Hand Tap : 100
Spiral fluted Tap : 70~75
Spiral Pointed Tap : 60~65

■ Tapping Torque of Forming type Taps

■ Calculation for Tapping Torque of Roll Taps

○ It is hard to calculate tapping torque for roll taps because they contain more complicated factor than the cutting taps.

According to our experience, tapping torque of roll taps is twice or three times larger than that of the cutting taps in general.

○ Major factors increasing or decreasing tapping torque of roll taps are :

- (1) Mechanical characteristic of workpiece (Tensile strength, hardness, spring back feature, work hardening index) : As the tensile strength gets larger, the threading torque becomes larger.
- (2) Size and length of bored hole: Bored hole size is usually defined to obtain 75% thread height of basic thread profile. Roll taps may be shattered due to the excessive tapping torque when the bored hole size is made smaller to obtain higher thread height. Tapping torque gets larger as the efficient length of internal screw becomes longer because there is an increase in friction coefficient caused by spring back of workpiece material.
- (3) Tapping process (tapping speed, lubricant, and rigidity of main spindle).
- (4) Surface treatment of taps (oxidizing, nitriding, TiN, and TiCN coatings).

○Tapping Torque Equation for Forming Taps

Based on the tensile strength of workpiece material, we prepare following equation to obtain tapping torque of standard formig taps.
Condition : Effective length of internal screw is 1.5D. Thread height is 75%.

Tapping Torque Equation for Forming Taps

$$T = K_f \times D_c \times P^2 / 1000$$

T : Tapping Torque (N-m)

D_c : Nominal Diameter of Tap (mm)

P : Pitch (mm)

K_f : Deforming resistance (N/mm²)

Workpiece Materials	Deforming resistance (N/mm ²)
General Structure Steels, Low Carbon Steels	750~850
Medium Carbon Steels, Alloy Steels	1150~1350
Stainless Steels	1100~1300
Wrought Aluminum	250~350
Aluminum Die Castings	380~530
Coppers, Wrought Copper Alloys	750~1050

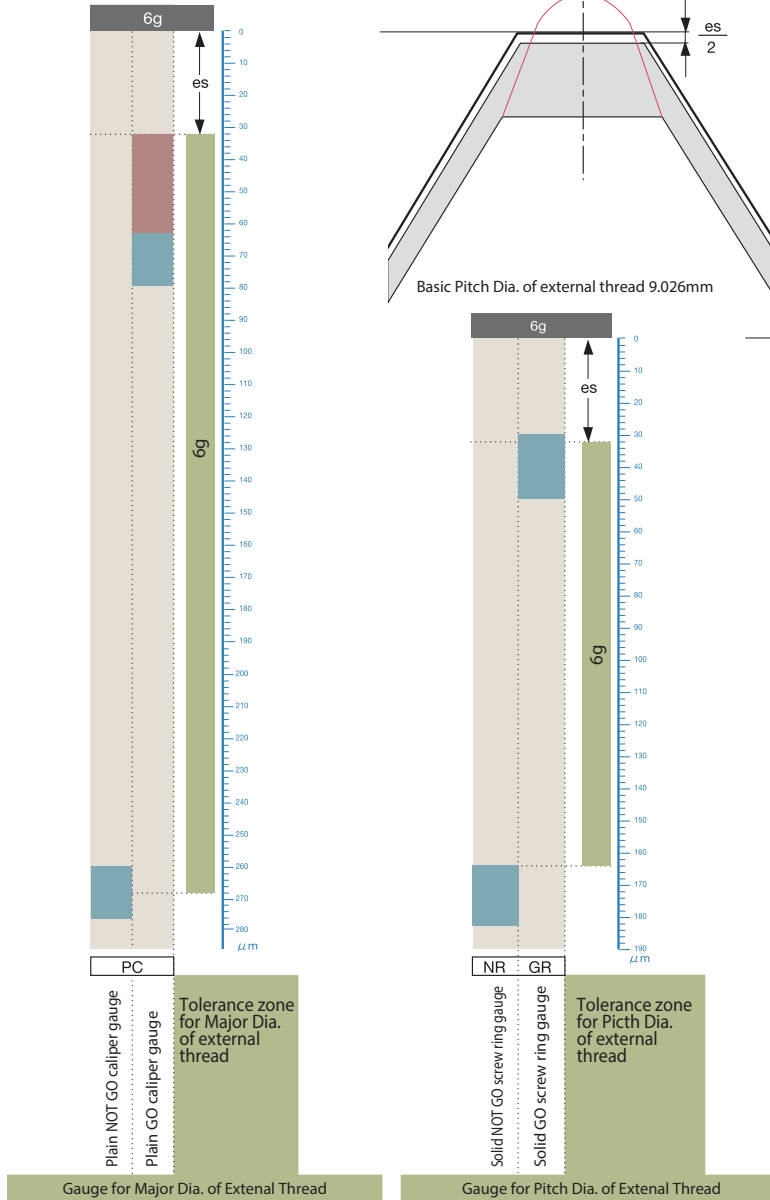
7. Metric Thread and Gauge Profile

Relation of tolerance position between screw thread classes and thread gauge classes in ISO standard.

External threads and Limit gauges for external threads

Example : ISO M10x1.5/6g

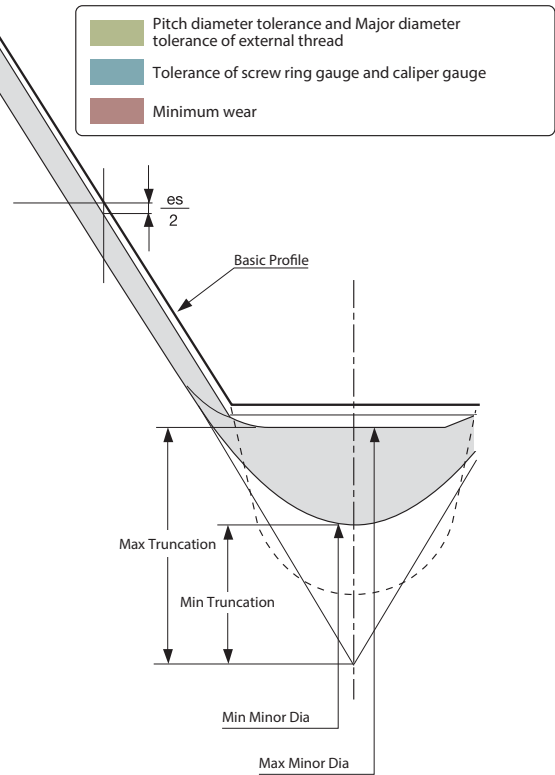
Basic Major Dia. of external thread 10mm



*Relation between tolerance zone of external thread and that of limit gauges for external thread is shown.

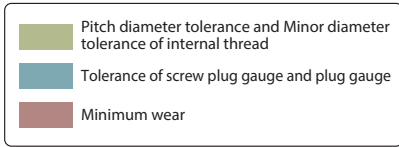
*Pitch Dia. of external thread is virtual pitch Dia.

*Pitch Dia. of screw ring gauge is simple pitch Dia.

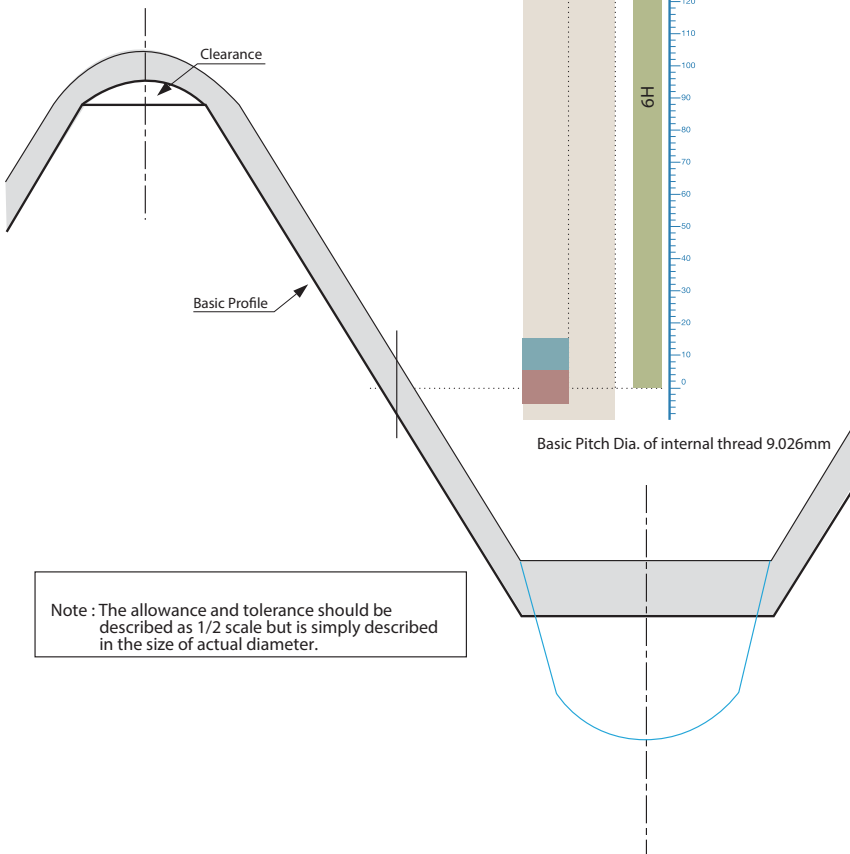


· Only pitch diameter is described.

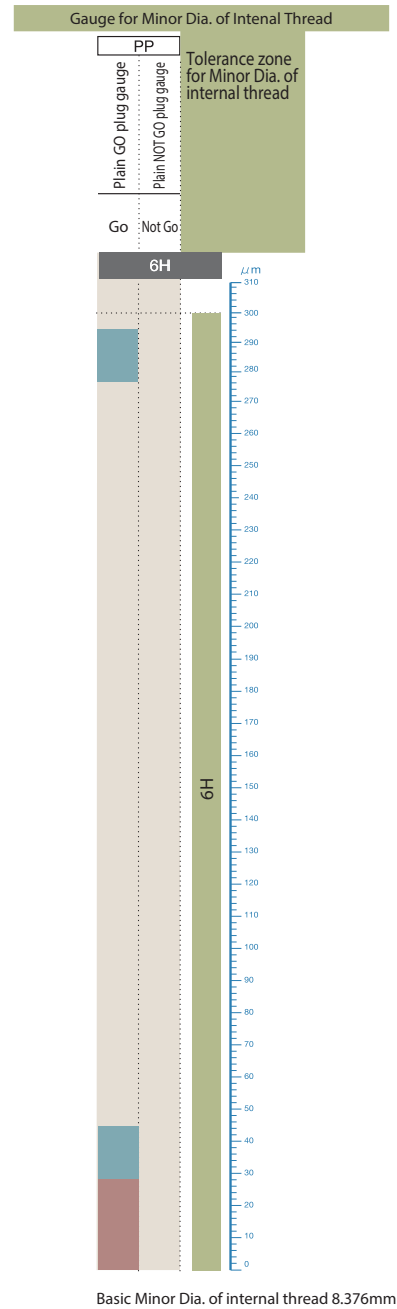
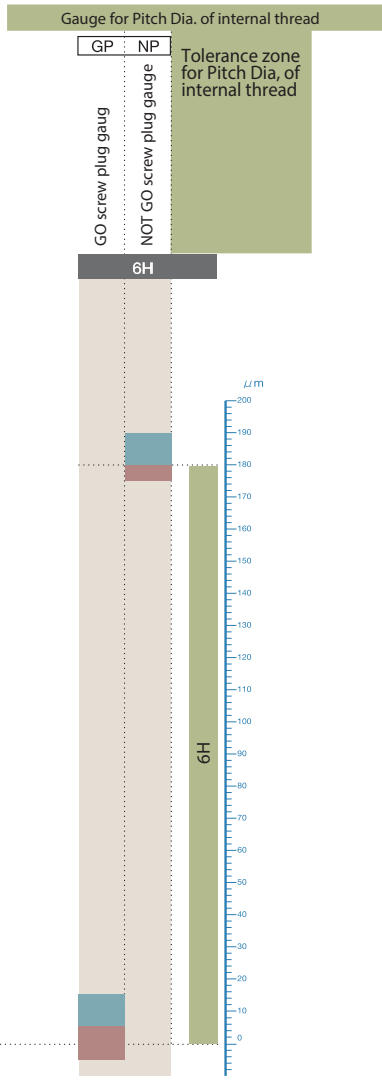
Internal threads and Limit gauges for internal threads
 Example : ISO M10x1.5/6H



- *Relation between tolerance zone of internal thread and that of limit gauges for internal thread is shown :
- *Pitch diameter of internal thread is virtual pitch diameter.
- *Pitch diameter of screw plug gauge is simple pitch diameter.



Note : The allowance and tolerance should be described as 1/2 scale but is simply described in the size of actual diameter.



8. Length of engagement

Length of engagement

Thread tolerance class is chosen in consideration of "engagement classification" and "engagement length". To realize the stable tapping, it is necessary to fully understand the relation between these factors and to choose the suitable tolerance class.

On "engagement classification : middle", the tolerance class 6H is almost always chosen for standard internal threads. However, in case of "engagement length : L", tolerance class 7H can also be chosen.

On M12x1.75, the tolerance of 7H is 25% (50µm) larger than that of 6H. And this widens the selection range of the tolerance class for taps to customer's advantage.

[M12x1.75]

6H Pitch diameter : 10.863 ~ 11.063mm (tolerance 0.200 mm)

7H Pitch diameter : 10.863 ~ 11.113mm (tolerance 0.250 mm)

1) Engagement classification

classification	application
fine	precise screw threads with a little allowance
middle	standard screw threads used for machines, apparatuses and constructions bodies
coarse	screw threads used for construction and building installation, and screw threads for which threading operation is very difficult such as threading of hot rolled steel bars.

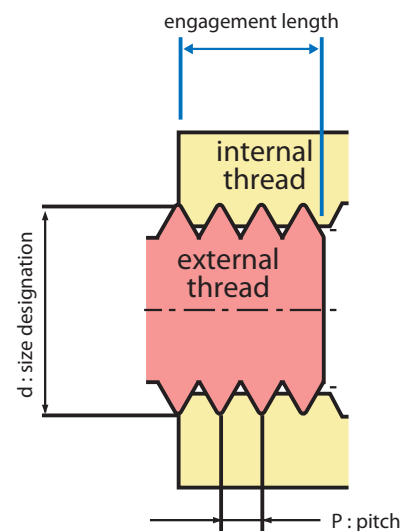
2) Classification of engagement length

symbol	classification	limit size
S	short	up to and including $2.24Pd^{0.2}$
N	normal	over $2.24Pd^{0.2}$ up to and including $6.7Pd^{0.2}$
L	long	over $6.7Pd^{0.2}$

3) Selection rule of internal threads and external threads

Selection rule of the tolerance class of internal threads

tolerance position	H		
engagement length	S	N	L
engagement classification			
fine	4H	5H	6H
middle	5H	6H	7H
coarse	-	7H	8H



Selection rule of the tolerance class of external threads

tolerance position	h			g		
engagement length	S	N	L	S	N	L
engagement classification						
fine	(3h4h)	4h	(5h4h)	-	-	-
middle	(5h6h)	6h	(7h6h)	(5g6g)	6g	(7g6g)
coarse	-	-	-	-	8g	(9g8g)

4) Engagement length

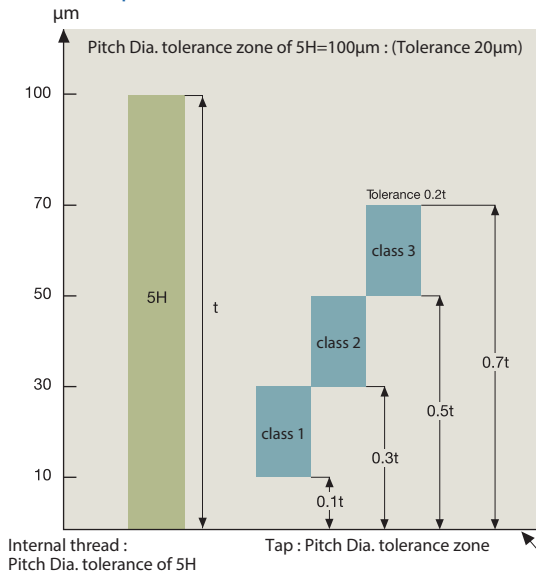
size	pitch	S		N		L	
		up to and including	over	up to and including	over	up to and including	over
M1	0.25	0.6	0.6	1.7	1.7		
M1	0.2	0.5	0.5	1.4	1.4		
M1.1	0.25	0.6	0.6	1.7	1.7		
M1.1	0.2	0.5	0.5	1.4	1.4		
M1.2	0.25	0.6	0.6	1.7	1.7		
M1.2	0.2	0.5	0.5	1.4	1.4		
M1.4	0.3	0.7	0.7	2	2		
M1.4	0.2	0.5	0.5	1.4	1.4		
M1.6	0.35	0.8	0.8	2.6	2.6		
M1.6	0.2	0.5	0.5	1.5	1.5		
M1.8	0.35	0.8	0.8	2.6	2.6		
M1.8	0.2	0.5	0.5	1.5	1.5		
M2	0.4	1	1	3	3		
M2	0.25	0.6	0.6	1.9	1.9		
M2.2	0.45	1.3	1.3	3.8	3.8		
M2.2	0.25	0.6	0.6	1.9	1.9		
M2.5	0.45	1.3	1.3	3.8	3.8		
M2.5	0.35	0.8	0.8	2.6	2.6		
M3	0.5	1.5	1.5	4.5	4.5		
M3	0.35	1	1	3	3		
M3.5	0.6	1.7	1.7	5	5		
M3.5	0.35	1	1	3	3		
M4	0.7	2	2	6	6		
M4	0.5	1.5	1.5	4.5	4.5		
M4.5	0.75	2.2	2.2	6.7	6.7		
M4.5	0.5	1.5	1.5	4.5	4.5		
M5	0.8	2.5	2.5	7.5	7.5		
M5	0.5	1.5	1.5	4.5	4.5		
M5.5	0.5	1.5	1.5	4.5	4.5		
M6	1	3	3	9	9		
M6	0.75	2.4	2.4	7.1	7.1		
M7	1	3	3	9	9		
M7	0.75	2.4	2.4	7.1	7.1		
M8	1.25	4	4	12	12		
M8	1	3	3	9	9		
M8	0.75	2.4	2.4	7.1	7.1		
M9	1.25	4	4	12	12		
M9	1	3	3	9	9		
M9	0.75	2.4	2.4	7.1	7.1		

Unit: mm

size	pitch	S		N		L	
		up to and including	over	up to and including	over	up to and including	over
M10	1.5	5	5	15	15		
M10	1.25	4	4	12	12		
M10	1	3	3	9	9		
M10	0.75	2.4	2.4	7.1	7.1		
M11	1.5	5	5	15	15		
M11	1	3	3	9	9		
M11	0.75	2.4	2.4	7.1	7.1		
M12	1.75	6	6	18	18		
M12	1.5	5.6	5.6	16	16		
M12	1.25	4.5	4.5	13	13		
M12	1	3.8	3.8	11	11		
M14	2	8	8	24	24		
M14	1.5	5.6	5.6	16	16		
M14	1	3.8	3.8	11	11		
M15	1.5	5.6	5.6	16	16		
M15	1	3.8	3.8	11	11		
M16	2	8	8	24	24		
M16	1.5	5.6	5.6	16	16		
M16	1	3.8	3.8	11	11		
M17	1.5	5.6	5.6	16	16		
M17	1	3.8	3.8	11	11		
M18	2.5	10	10	30	30		
M18	2	8	8	24	24		
M18	1.5	5.6	5.6	16	16		
M18	1	3.8	3.8	11	11		
M20	2.5	10	10	30	30		
M20	2	8	8	24	24		
M20	1.5	5.6	5.6	16	16		
M20	1	3.8	3.8	11	11		
M22	2.5	10	10	30	30		
M22	2	8	8	24	24		
M22	1.5	5.6	5.6	16	16		
M22	1	3.8	3.8	11	11		
M24	3	12	12	36	36		
M24	2	8.5	8.5	25	25		
M24	1.5	6.3	6.3	19	19		
M24	1	4	4	12	12		

9. Classes of Internal Threads and Classes of Cutting Taps

1. ISO Tap Classes.

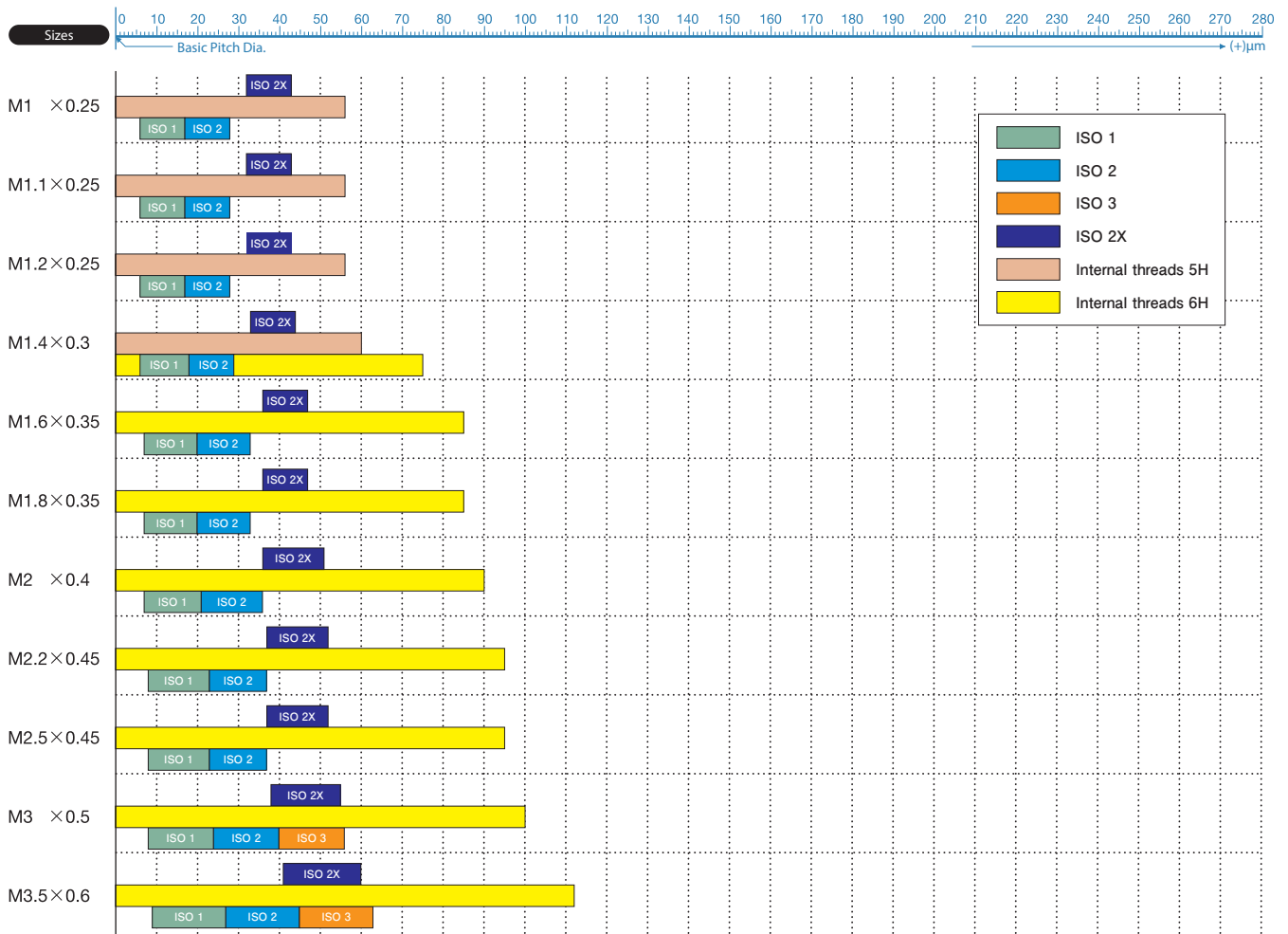


Class	Class 1	Class 2	Class 3
Symbol	ISO 1	ISO 2	ISO 3
Classes of Internal threads	4H, 5H	6H	6G, 7H, 8H

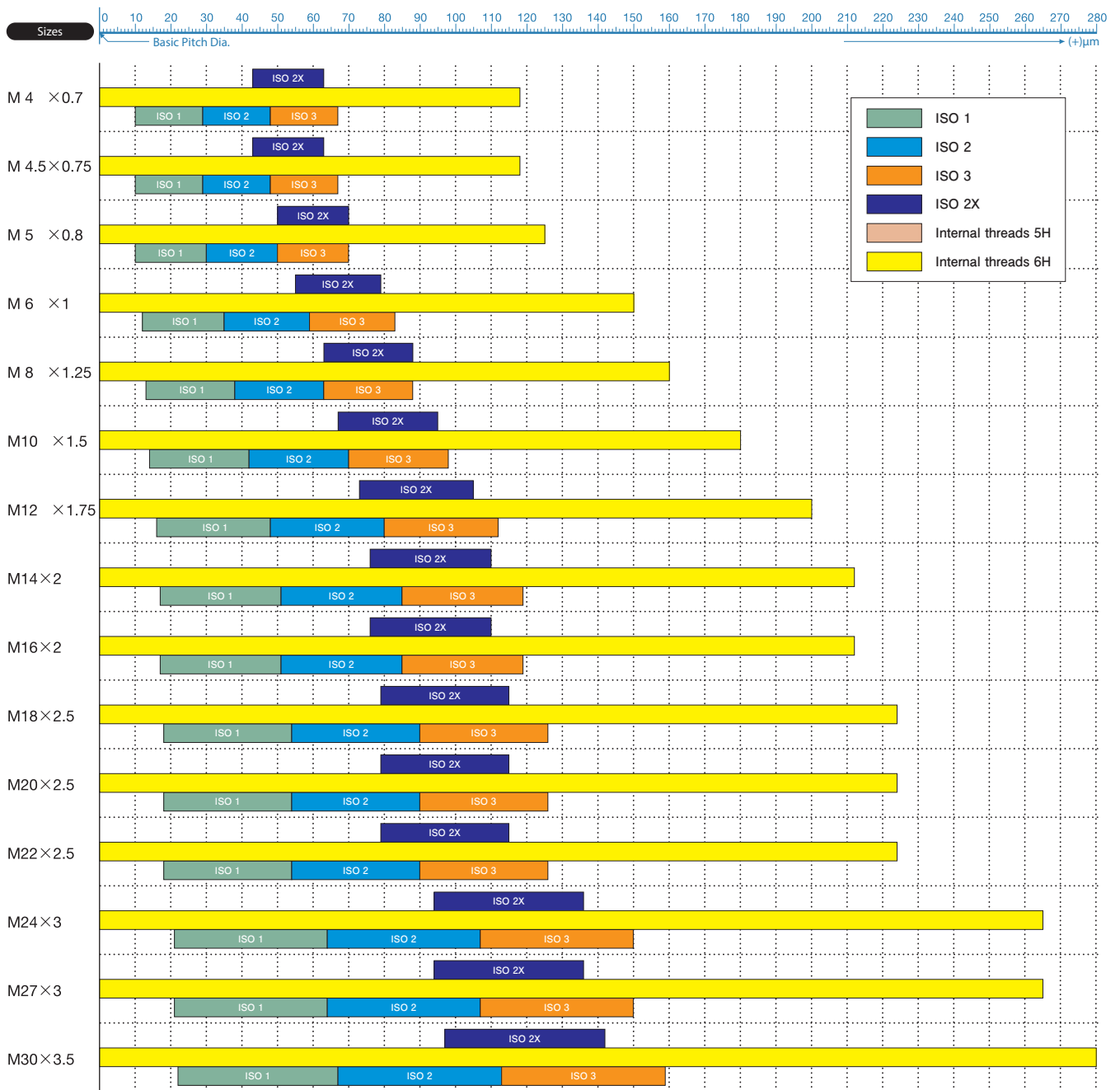
2. Comparison of pitch diameter tolerance zone for the classes of internal thread and tap.

■ For Metric threads

- (1) Tap limit classes of YAMAWA P ISO 1, ISO 2, ISO 3, ISO 2X.
- (2) Pitch diameter tolerance zone of ISO 5H <class 1 for M1.4 and smaller>
- (3) Pitch diameter tolerance zone of ISO 6H (Internal thread) larger than M1.4

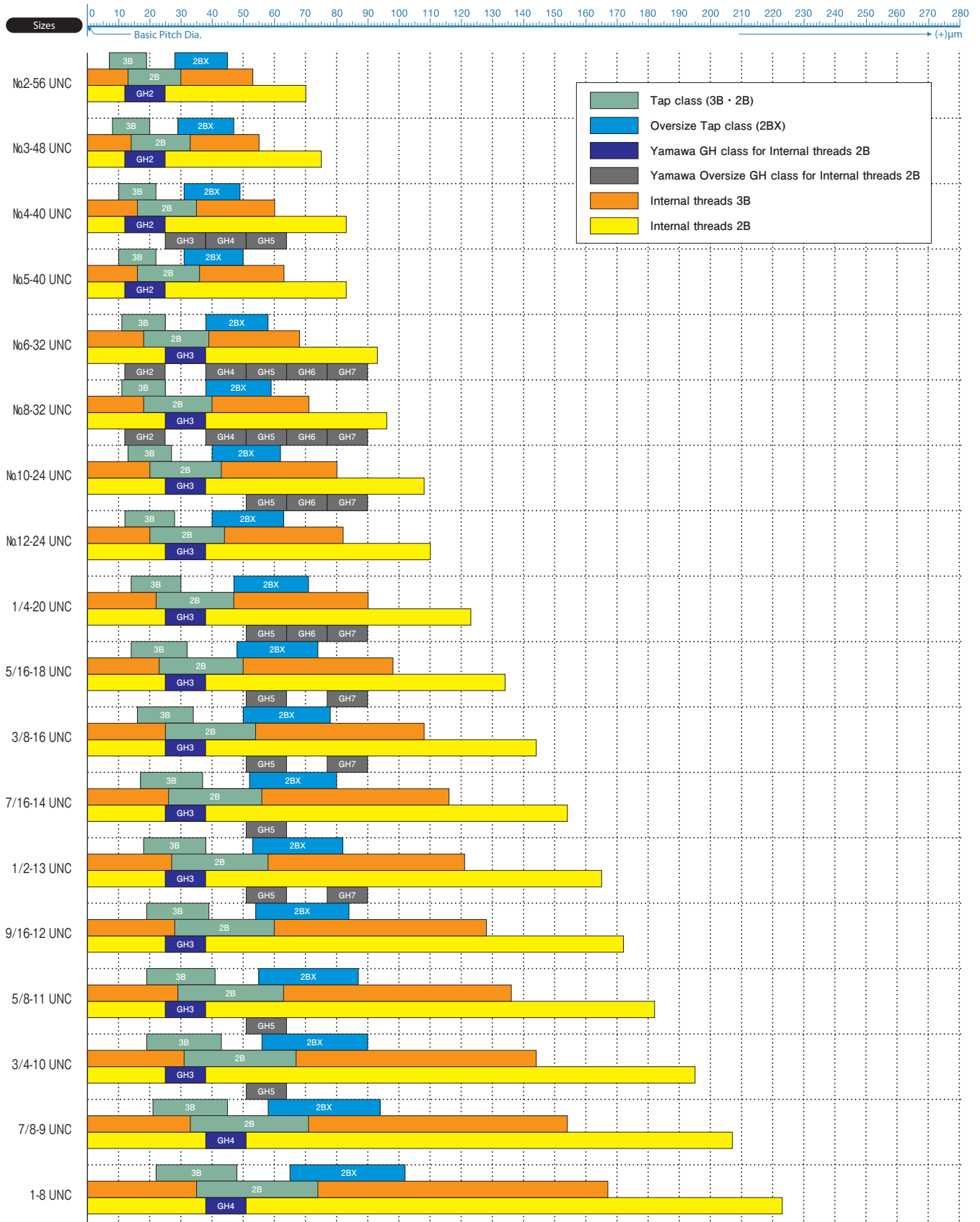


9. Classes of Internal Threads and Classes of Cutting Taps

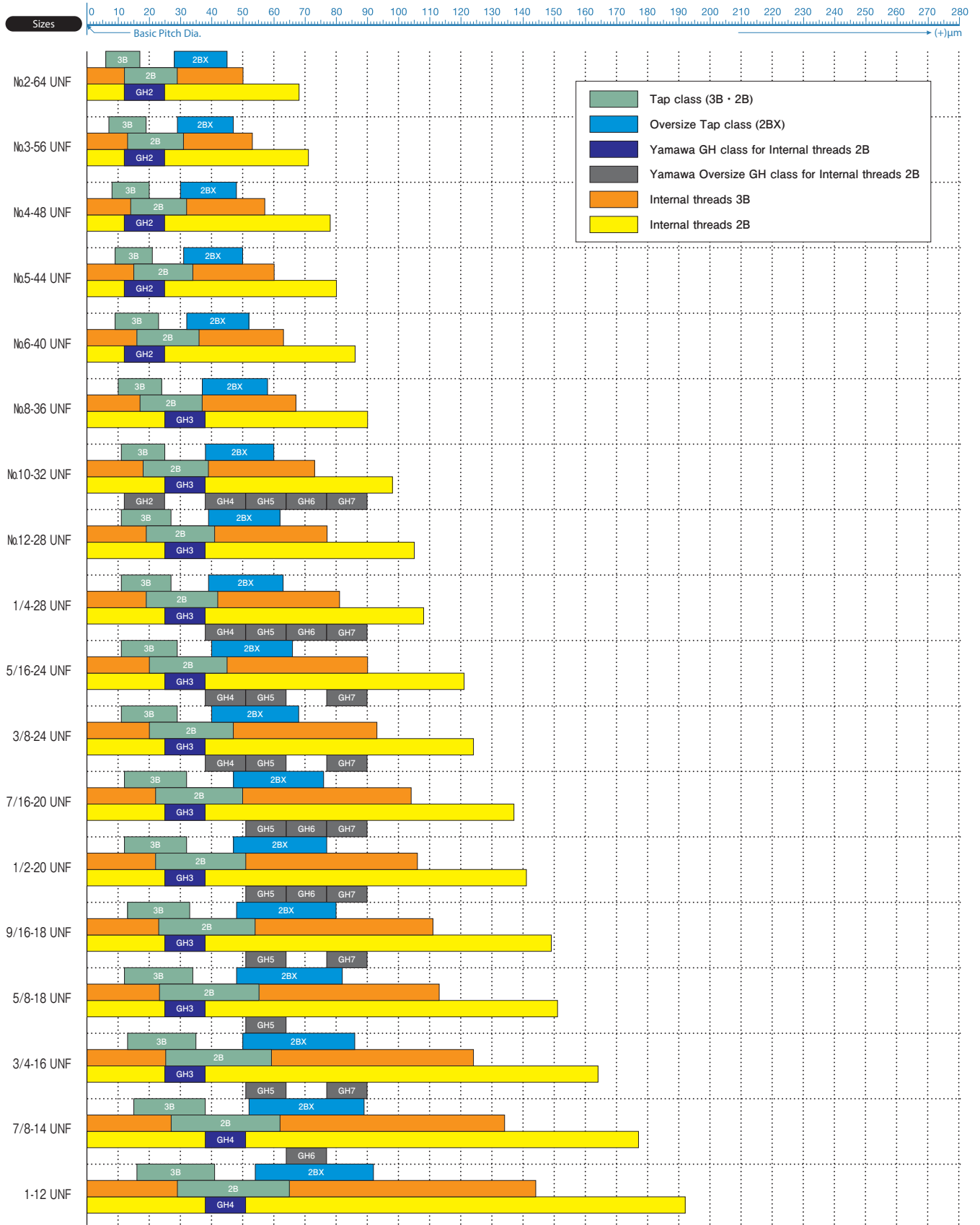


9. Classes of Internal Threads and Classes of Cutting Taps

• For Unified Coarse Threads



• For Unified Fine Threads



3. Oversize Class

- (1) Due to the material or shape of workpiece, the material can shrink. In these cases, it would be better to use oversized taps to compensate for shrinkage after tapping.
- (2) When plating is to be applied to internal threads after threading, we should use oversized taps to compensate for the thickness amount of plating.
- (3) Where little tendency of oversize cutting is expected, but large wear in tools is expected during tapping operation, it is better to consider using oversized taps as much as possible.

Due to above stated reasons (1) , (2) and (3), oversize classes "ISO 2X" and "2BX" have larger thread diameter than standard classes "ISO2" and "2B". But as shown in drawings of P784-P787, those oversize classes are applicable to classes "6H" and "2B" of internal threads.

10. About UNJ Threads

UNJ Threads are Unified Threads used for Aircrafts.

<Features of UNJ Threads>

In order to protect the breakage from thread bottom of external threads, UNJ thread defines the minor diameter larger than Unified thread and the range of root bottom R.

And accuracy of threads is only defined in highest classes of unified threads, 3A of external threads and 3B of internal threads.

UNJ Threads were initially defined as a MIL Standard (American Military Standard). It is now superseded by American SAE Standard (Automobile Engineers Association).

Standard Numbers are as follows:

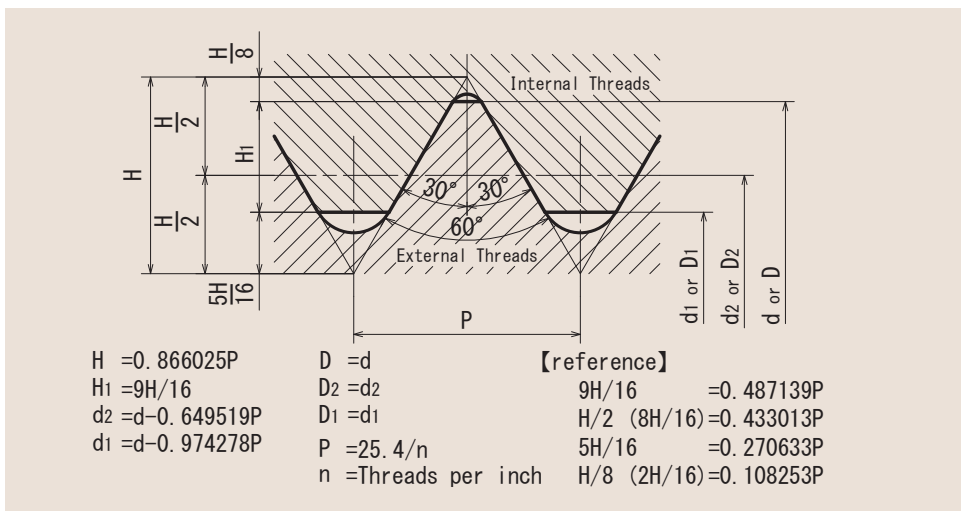
- SAE AS8879D Screw Threads - UNJ Profile, Inch
- Controlled Radius Root with Increased Minor Diameter

<Basic Profile of UNJ Thread>

Basic profile of UNJ thread is shown in the drawing below. Truncation on thread root of external threads is $5H/16$, that is, $H/16$ larger than $H/4$ of normal Unified Thread's truncation.

And radius of thread root is $0.18042P \sim 0.15011P$.

■ Basic Profile of UNJ Thread



<Bored hole size>

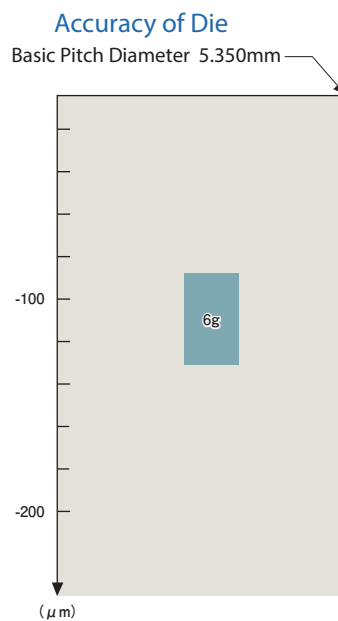
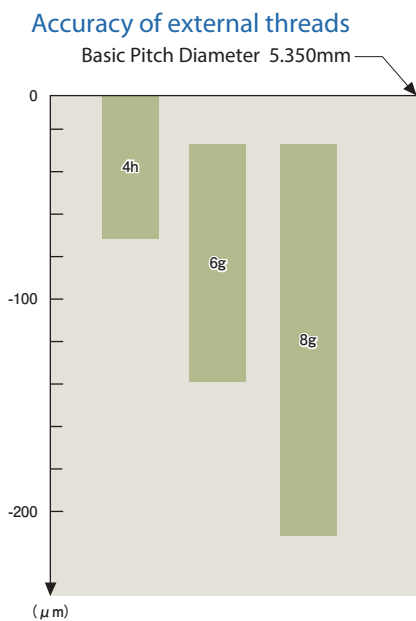
Bored hole size is recommended to be a little larger than that for normal unified threads considering that the minor diameter of UNJ series is larger than that of normal Unified Threads.

unit: mm

Size	Minor Diameter		Bored Hole Size
	Maximum	Minimum	
No.6 - 32 UNJC	2.938	2.734	2.89
No.6 - 40 UNJF	3.053	2.888	3.01
No.8 - 32 UNJC	3.599	3.394	3.55
No.8 - 36 UNJF	3.662	3.480	3.62
No.10 - 24 UNJC	4.064	3.795	4.00
No.10 - 32 UNJF	4.254	4.054	4.20
No.12 - 24 UNJC	4.704	4.456	4.64
No.12 - 28 UNJF	4.815	4.603	4.76
1/4 - 20 UNJC	5.387	5.114	5.32
1/4 - 28 UNJF	5.661	5.467	5.61
5/16 - 18 UNJC	6.832	6.564	6.76
5/16 - 24 UNJF	7.109	6.907	7.06
3/8 - 16 UNJC	8.255	7.979	8.19
3/8 - 24 UNJF	8.679	8.494	8.63
7/16 - 14 UNJC	9.639	9.348	9.57
7/16 - 20 UNJF	10.083	9.876	10.03
1/2 - 13 UNJC	11.094	10.798	11.02
1/2 - 20 UNJF	11.661	11.464	11.61

11. Accuracy of external threads and accuracy of Dies

■ Example : M6X1



Class of Die shows pitch diameter tolerance of Testpiece External Threads cut by the die.

Class of die	Application
6g	for Class 6g

12. Guide to Thread Forming Taps (Roll Taps)

Thread Forming Taps are the tools used for producing internal threads by a thread forming process. Currently, YAMAWA's Thread Forming Taps have a good reputation by being used in many areas. They are widely used along with the diversity of workpieces and with the change into miniaturization of workpieces. Followings are the characteristics and features of Thread Forming Taps (Roll Tap) which are not available with cutting taps.

<Features of Roll Taps>

- **Tapping without producing chips.** They are suitable for blind hole tapping. In producing internal threads with no chips, they save you a time for chip disposal.
- **Roll taps are stronger than cutting taps due to their design.** The effect of fluteless design gives a large cross-section area to the tap, and there is no worry of chip jamming, which makes Roll taps very tough against breakage.
- **Roll taps produce excellent pitch diameter well within pitch diameter tolerances.** Material deformation process produces the internal threads with good surface finish as well as precise pitch diameter.
- **High efficiency and tool life** The configuration of the lobes at the crests of the tap threads makes high speed tapping possible and extends tool life compared with cutting type taps. The addition of a supplemental tap surface treatment, such as Oxidizing, Nitriding, TiN, and TiCN can extend tool life 2 to 20 times over an uncoated (bright) tap performance.

<Points to note during a Roll tapping operation>

- Tapping torque is 2 to 3 times larger than that of cutting type taps.
- Roll tapping is only applicable to materials producing stringy chips.
- The deviation of hole size before tapping should be about 5% of pitch. The control of hole size before tapping should be more severe than that of cutting type taps.
- The selection of lubricants is important to prevent sticking or welding.
- Burrs at the face of an internal thread are larger than those produced by cutting type taps. In some cases it is necessary to take additional counter-sink processing at the top of hole.
- In the minor diameter of internal thread, U-shape form (Tine form) at the hole entrance can be seen. U-shape form is never seen when using cutting type taps.

<Selection of YAMAWA Roll Taps>

- **Types of Roll Taps** YAMAWA produces various types of Roll Taps which include General purpose taps, Special purpose taps for non-ferrous and steel, as well as special purpose taps with surface treatment for the specified applications. To provide for longer tool life, specially developed premium materials are also used together with physical vapor coating deposition (PVD) such as TiN and TiCN. In particular, OL-RZ is superior product developed for dry machining with regards to tapping environment and performance.
- **Tap Materials** YAMAWA's standard tap material is SKH58 designed for improving torque, superior anti-friction properties as well as toughness. To extend tool life, we use SKH56, or SKH10(Powder HSS) which is the best tap material for anti-friction.
- **Tolerance Class** Using the datum 12.7μm in a step form, in accordance with ANSI standard GH class, we made up YAMAWA's G class system. The differences in materials being Roll tapped, as well as hole size, contribute to differences in thread forming. YAMAWA offers 2 to 3 oversized tap tolerance classes in order to achieve the most suitable internal thread pitch diameter size.
- **Chamfer length** Chamfer lengths : 2 pitches for blind hole use and 4 pitches for through hole use. Basically 4 pitches have longer tool life than 2 pitches because force applied on one blade at 4 pitch chamfer is smaller than that at 2 pitch chamfer. However, it is difficult to say about tool life in a few words because each different tapping condition influences the tool life.

<Shape of internal threads and the ratio of thread engagement affected by bored hole diameter>

Compared with the basic height of thread engagement, the actual height of the thread engagement is called "thread engagement ratio" in percentage. Depending on the bored hole diameter, internal threads and thread engagement ratio will change.

In tapping, the tapping condition must be chosen by referring to the thread engagement ratio.

The portion of material to be formed can be reduced by selecting the largest possible bored hole diameter. In this way the load on tap is reduced, decreasing tap's wear and damage.

S50C, minor diameter of threads cut		Aluminum, minor diameter of threads formed	
M24x3 minor dia tolerance of internal threads φ20.752~φ21.252		M25x2 minor dia tolerance of internal threads φ22.835~φ23.210	
【S50C internal threads cut ①】 M24x3 bored hole size : φ20.652 minor dia tolerance of internal threads NG thread engagement ratio : 103.1%		【Aluminum, internal threads formed ①】 M25x2 bored hole size : φ23.903 minor diameter of finished internal threads : 22.723mm minor dia tolerance of internal threads NG thread engagement ratio : 105.2%	
【S50C internal threads cut ③】 M24x3 bored hole size : φ21.000 minor dia tolerance of internal threads: Middle thread engagement ratio : 92.4%		【Aluminum, internal threads formed ③】 M25x2 bored hole size : φ24.042mm minor diameter of finished internal threads : 23.067mm minor dia tolerance of internal threads : Middle thread engagement ratio : 89.3%	
【S50C internal threads cut ⑤】 M24x3 bored hole size : φ21.352 minor dia tolerance of internal threads NG thread engagement ratio : 81.5%		【Aluminum, internal threads formed ⑤】 M25x2 bored hole size : φ24.240mm minor diameter of finished internal threads : 23.462mm minor dia tolerance of internal threads NG thread engagement ratio : 71.0%	

<Condition of use>

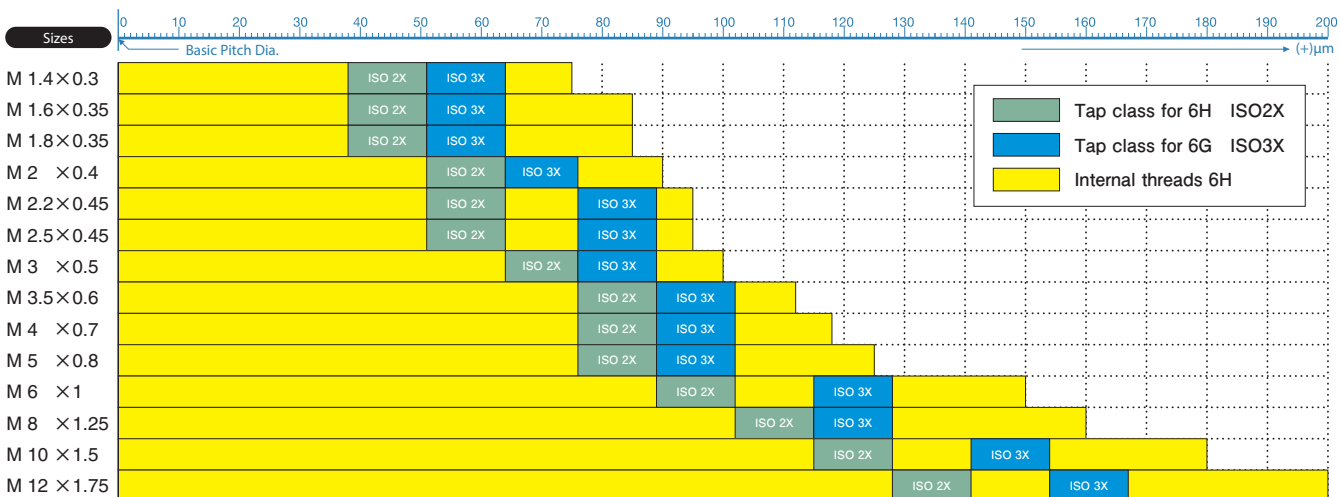
○Relation between tapping speed and tapping lubricant depending on work materials.

Work Material		Tapping Speed (m/min)	Tapping lubricant
Aluminum and Aluminum Alloy	Die Cast Materials	15~25	Insoluble oil
	Cold Drawn, Cold Forged, Cast	25~35	
Zinc and Zinc Alloy	Die Cast Materials	15~25	
	Cold Drawn, Cold Forged, Cast	25~35	
Copper	Cold Forged, Cast	25~35	
Brass	Cold Drawn, Cold Forged	25~35	
Steel	Mild Steel, Medium Carbon Steel, Stainless Steel	6~15	
	Free Cutting Steel, Soft Magnetic Iron	15~25	

Note : It is necessary to carefully select a suitable tapping speed taking into consideration : machining conditions, style of tap, number of tap chamfered threads, work piece design, material being tapped, hole condition and type of tapping fluid.

<Accuracy of roll taps>

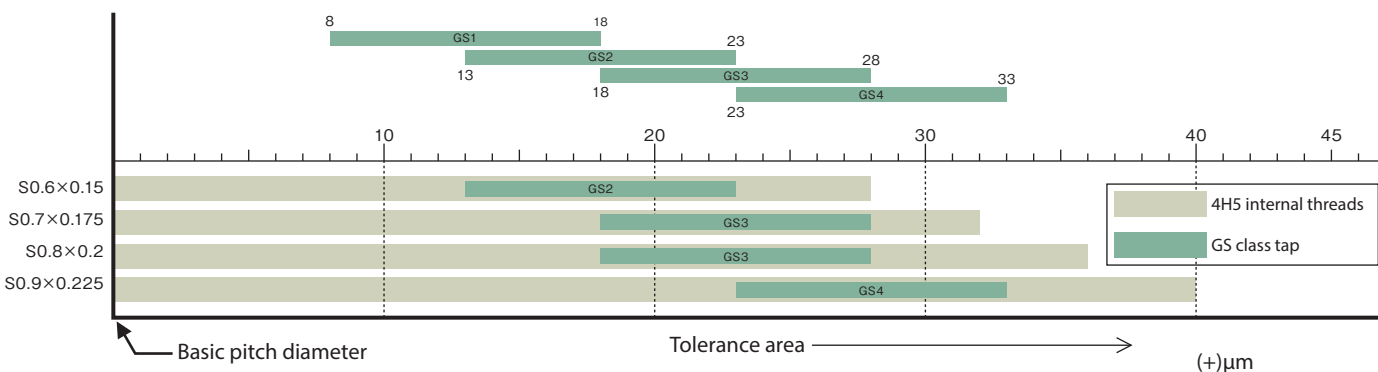
■Comparison of pitch diameter to larence zone between ISO6H internal threads and recommended Roll Taps



■Roll taps for miniature threads, Accuracy GS class

○GS class is the accuracy class special for roll taps for miniature threads.

Comparison table of PD tolerance of GS class of roll taps for miniature threads and 4H5 internal threads.

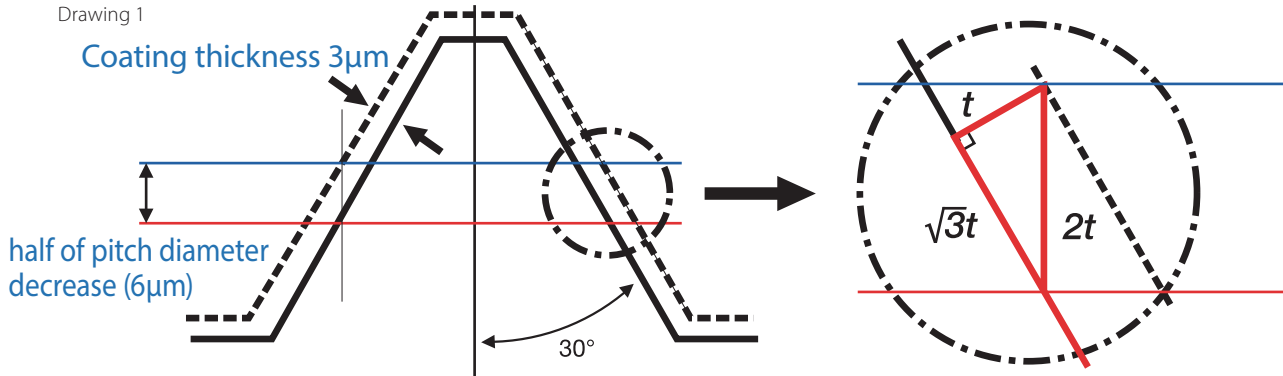


13. How to set the tap's oversize to meet with the coating margin of internal threads

1) Relation between coating thickness and pitch diameter when applied with coating

Dwg.1 shows the relation between coated internal thread and pitch diameter

* Thickness of coating is measured at right angle to flank face. Pitch diameter is measured at right angle to axis (radially).

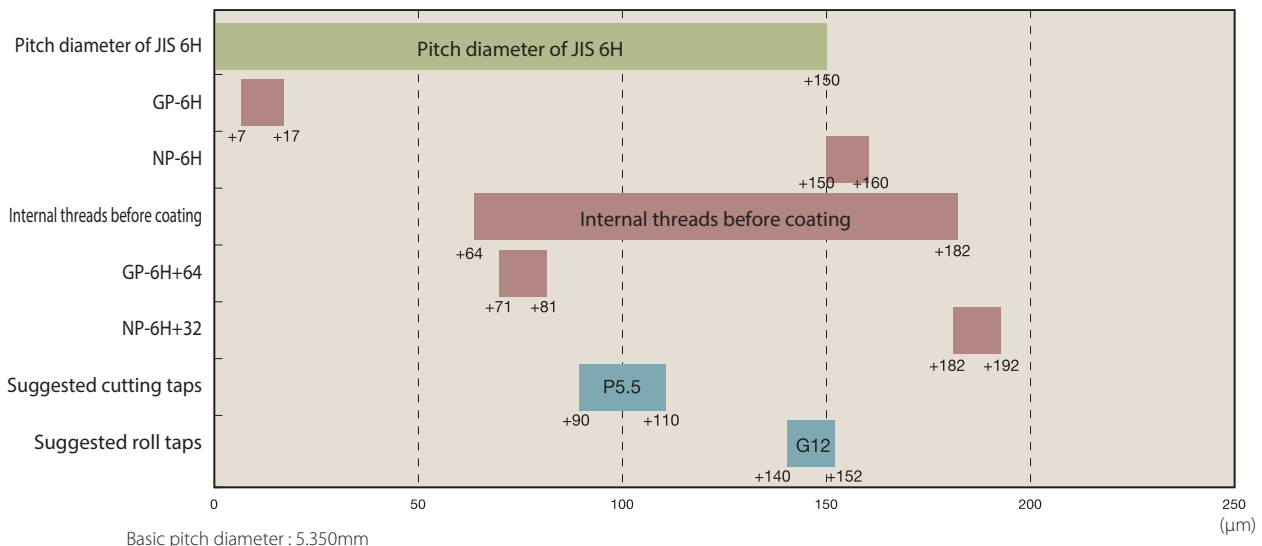


Where t (coating thickness) equals $3\mu\text{m}$, by using following formula, oversize is roughly calculated.
Pitch diameter decrease $2t \times 2$ (both side of threads) = $3\mu\text{m} \times 2 \times 2 = 12\mu\text{m}$ (rough over size)

2) How to specify taps for coating

1. We suppose the accuracy of finished internal threads is 6H class, and inspection is done with GP-6H and NP-6H.
2. We suppose the disperse of coating thickness is controlled within the tolerance of 8~16µm.
The disperse of coating thickness, when it is exchanged into pitch diameter, will become the disperse of 32~64µm.
3. Accuracy of internal threads before coating is the thread accuracy which GP-6H goes through (OK), even when max coating (64µm) is applied.
And this accuracy is the thread accuracy which NP-6H does not go through (OK), when min coating (32µm) is applied.
4. We propose followings for inspecting the accuracy of internal threads before coating :
GO gauge before coating : GP-6H+64
5. Next, based on GO gauge before coating and NOT GO gauge before coating, we study to specify the suitable accuracy of the tap before coating.

M6×1 How to specify the accuracy of tap before coating (Coating thickness 8~16µm)



Basic pitch diameter : 5.350mm

M6×1 Basic pitch diameter	: 5.350mm	
Internal thread tolerance 6H	: 0~+150µm (Tolerance : 150µm)	
Accuracy GP-6H	: +7~+17µm	Accuracy NP-6H : +150~+160µm
Internal thread tolerance before coating	: +64~+182µm (Tolerance : 118µm)	
Accuracy GP-6H+64	: +71~+81µm	Accuracy NP-6H+32 : +182~+192µm
Accuracy of suggested cutting taps (P5.5)	: +90~+110µm	
Accuracy of suggested roll taps (G12)	: +140~+152µm	

14. Tap, Thread Limits

■ for Metric Threads

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 1 × 0.25	P1	1.000	0.838	25	10	0.729
	G4			51	38	
	ISO2			28	17	
M 1 × 0.2	P1	1.000	0.870	25	10	0.783
M 1.1 × 0.25	P1	1.100	0.938	25	10	0.829
	ISO2			28	17	
M 1.1 × 0.2	P1	1.100	0.970	25	10	0.883
M 1.2 × 0.25	P1	1.200	1.038	25	10	0.929
	ISO2			28	17	
M 1.2 × 0.2	P1	1.200	1.070	25	10	0.983
M 1.4 × 0.3	P1	1.400	1.205	25	10	1.075
	G4			51	38	
	ISO2			30	18	
M 1.4 × 0.2	P1	1.400	1.270	25	10	1.183
M 1.6 × 0.35	P2	1.600	1.373	40	25	1.221
	G4			51	38	
	ISO2			34	20	
	D3			39	24	
M 1.6 × 0.2	P1	1.600	1.470	25	10	1.383
M 1.7 × 0.35	P1	1.700	1.473	25	10	1.321
	G4			51	38	
	ISO2			34	20	
M 1.7 × 0.2	P1	1.700	1.570	25	10	1.483
M 1.8 × 0.35	P2	1.800	1.573	40	25	1.421
	G4			51	38	
	ISO2			34	20	
	D3			39	24	
M 1.8 × 0.2	P1	1.800	1.670	25	10	1.583
M 2 × 0.4	P1	2.000	1.740	25	10	1.567
	II b			20	5	
	G4			51	38	
	ISO2			36	21	
M 2 × 0.25	P1	2.000	1.838	25	10	1.729
	D3			39	24	
M 2.2 × 0.45	P2	2.200	1.908	40	25	1.713
	G5			64	51	
	ISO2			38	23	
	D3			39	24	
M 2.2 × 0.25	P1	2.200	2.038	25	10	1.929

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 2.3 × 0.4	P1	2.300	2.040	25	10	1.867
	II b			20	5	
	G4			51	38	
	ISO2			36	21	
M 2.3 × 0.25	P1	2.300	2.138	25	10	2.029
M 2.5 × 0.45	P2	2.500	2.208	40	25	2.013
	II b			20	5	
	G5			64	51	
	ISO2			38	23	
M 2.5 × 0.35	D3	2.500	2.273	39	24	2.121
	P1			25	10	
M 2.6 × 0.45	P1	2.600	2.308	25	10	2.113
	II b			20	5	
	G5			64	51	
	ISO2			38	23	
M 2.6 × 0.35	P1	2.600	2.373	25	10	2.221
M 3 × 0.5	P2	3.000	2.675	40	25	2.459
	II b			20	5	
	G5			64	51	
	ISO2			40	24	
M 3 × 0.6	D3	3.000	2.610	39	24	2.350
	P1			25	10	
M 3 × 0.35	P2	3.000	2.773	40	25	2.621
	G5			64	51	
	ISO2			36	21	
M 3.5 × 0.6	P2	3.500	3.110	40	25	2.850
	II b			20	5	
	G5			64	51	
	ISO2			45	27	
M 3.5 × 0.35	D4	3.500	3.273	52	32	3.121
	P2			40	25	
	G5			64	51	
M 3.5 × 0.25	ISO2	3.500	1.838	36	21	1.729
	D3			39	24	
M 4 × 0.7	P2	4.000	3.545	40	20	3.242
	II b			25	5	
	G6			76	64	
	ISO2			48	29	
M 4 × 0.75	D4	4.000	3.513	52	32	3.188
	P2			40	20	
M 4 × 0.5	P2	4.000	3.675	40	25	3.459
	G6			76	64	
	ISO2			40	24	

unit: mm

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 4.5 × 0.75	P2	4.500	4.013	40	20	3.688
M 4.5 × 0.5	P2	4.500	4.175	40	25	3.959
	G6			76	64	
	ISO2			40	24	
M 5 × 0.8	P3	5.000	4.480	60	40	4.134
	II b			25	5	
	G6			76	64	
	ISO2			50	30	
M 5 × 0.9	P2	5.000	4.415	40	20	4.026
	P2			40	20	
M 5 × 0.75	P2	5.000	4.513	40	20	4.188
	P2			40	25	
	G6			76	64	
M 5 × 0.5	P2	5.000	4.675	40	25	4.459
	G6			76	64	
	ISO2			40	24	
M 5.5 × 0.75	P2	5.500	5.013	40	20	4.688
M 5.5 × 0.5	P2	5.500	5.175	40	25	4.959
	ISO2			40	24	
M 6 × 1	P2	6.000	5.350	40	20	4.917
	II b			25	5	
	G7			89	76	
	ISO2			59	35	
M 6 × 0.75	P2	6.000	5.513	40	20	5.188
	II			30	10	
	G6			76	64	
	ISO2			53	32	
M 6 × 0.5	P2	6.000	5.675	40	25	5.459
	G6			76	64	
	ISO2			40	27	
M 7 × 1	P2	7.000	6.350	40	20	5.917
	G7			89	76	
	ISO2			59	35	
	D5			65	40	
M 7 × 0.75	P2	7.000	6.513	40	20	6.188
	G7			89	76	
	ISO2			53	32	
M 7 × 0.5	P2	7.000	6.675	40	25	6.459

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 8 × 1.25	P3	8.000	7.188	60	40	6.647
	II b			30	5	
	G7			89	76	
	ISO2			63	38	
M 8 × 1	D5	8.000	7.350	65	34	6.917
	P2			40	20	
	II			35	10	
	G7			89	76	
M 8 × 0.75	ISO2	8.000	7.513	59	35	7.188
	D5			65	40	
	P2			40	20	
	II			37	12	
M 8 × 0.5	G7	8.000	7.513	89	76	7.459
	ISO2			53	32	
	P2			40	25	
M 8 × 0.5	P2	8.000	7.675	40	25	7.459
	ISO2			40	27	
M 9 × 1.25	P3	9.000	8.188	60	40	7.647
	ISO2			63	38	
M 9 × 1	P2	9.000	8.350	40	20	7.917
	ISO2			59	35	
M 9 × 0.75	P2	9.000	8.513	40	20	8.188
	ISO2			53	32	
M 9 × 0.5	P2	9.000	8.675	40	25	8.459
M 10 × 1.5	P3	10.000	9.026	60	40	8.376
	II b			30	5	
	G7			89	76	
	ISO2			70	42	
M 10 × 1.25	D6	10.000	9.188	78	47	8.647
	P3			60	40	
	II			35	10	
	G7			89	76	
M 10 × 1	ISO2	10.000	9.350	63	38	8.917
	D5			65	34	
	P3			60	40	
	II			37	12	
M 10 × 0.75	G7	10.000	9.350	89	76	9.188
	ISO2			59	35	
	P3			60	40	
M 10 × 0.5	P2	10.000	9.675	40	25	9.459
	ISO2			40	27	

14. Tap, Thread Limits

■ for Metric Threads

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 11 × 1.5	P4	11.000	10.026	80	60	9.376
	ISO2			70	42	
M 11 × 1.25	P3	11.000	10.188	60	40	9.647
M 11 × 1	P3	11.000	10.350	60	40	9.917
	ISO2			59	35	
M 11 × 0.75	P3	11.000	10.513	60	40	10.188
M 11 × 0.5	P2	11.000	10.675	40	25	10.459
M 12 × 1.75	P3	12.000	10.863	60	40	10.106
	II b			35	5	
	G8			102	89	
	ISO2			80	48	
	D6			78	47	
M 12 × 1.5	P3	12.000	11.026	60	40	10.376
	II			45	15	
	G8			102	89	
	ISO2			75	45	
M 12 × 1.25	P4	12.000	11.188	80	60	10.647
	II			45	15	
	G9			114	102	
	ISO2			70	42	
M 12 × 1	P3	12.000	11.350	60	40	10.917
	II			45	15	
	ISO2			63	38	
M 12 × 0.75	P3	12.000	11.513	60	40	11.188
	ISO2			56	34	
M 12 × 0.5	P2	12.000	11.675	40	25	11.459
M 13 × 1.75	P3	13.000	11.863	60	40	11.106
M 13 × 1.5	P3	13.000	12.026	60	40	11.376
M 13 × 1.25	P4	13.000	12.188	80	60	11.647
M 13 × 1	P3	13.000	12.350	60	40	11.917
M 13 × 0.75	P3	13.000	12.513	60	40	12.188
M 13 × 0.5	P2	13.000	12.675	40	25	12.459

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 14 × 2	P3	14.000	12.701	60	40	11.835
	II b			35	5	
	G10			127	114	
	ISO2			85	51	
M 14 × 1.5	D7	14.000	13.026	91	50	12.376
	P3			60	40	
	II			45	15	
M 14 × 1.25	G9	14.000	13.188	114	102	12.647
	ISO2			75	45	
	D7			91	60	
M 14 × 1	P4	14.000	13.350	80	60	12.917
	ISO2			70	42	
	P3			60	40	
M 14 × 0.75	P3	14.000	13.513	60	40	13.188
M 14 × 0.5	P2	14.000	13.675	40	25	13.459
M 15 × 2	P3	15.000	13.701	60	40	12.835
M 15 × 1.5	P3	15.000	14.026	60	40	13.376
M 15 × 1.25	P4	15.000	14.188	80	60	13.647
M 15 × 1	P3	15.000	14.350	60	40	13.917
M 15 × 0.75	P3	15.000	14.513	60	40	14.188
M 15 × 0.5	P2	15.000	14.675	40	25	14.459
M 16 × 2	P3	16.000	14.701	60	40	13.835
	II b			35	5	
	G10			127	114	
	ISO2			85	51	
M 16 × 1.5	D7	16.000	15.026	91	50	14.376
	P3			60	40	
	II			45	15	
M 16 × 1.25	G9	16.000	15.188	114	102	14.647
	ISO2			75	45	
	D6			78	47	
M 16 × 1	P4	16.000	15.350	80	60	14.917
	ISO2			70	42	
	P3			60	40	
M 16 × 0.5	P2	16.000	15.675	40	25	15.459
M 17 × 1.5	P4	17.000	16.026	80	60	15.376
M 17 × 1	P3	17.000	16.350	60	40	15.917

unit: mm

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 18 × 2.5	P4	18.000	16.376	80	60	15.294
	II b			40	5	
	ISO2			90	54	
	D7			91	50	
M 18 × 2	P4	18.000	16.701	80	60	15.835
	ISO2			85	51	
M 18 × 1.5	P3	18.000	17.026	60	40	16.376
	II			45	15	
	G9			114	102	
	ISO2			75	45	
M 18 × 1	P3	18.000	17.350	60	40	16.917
	ISO2			63	38	
M 18 × 0.5	P2	18.000	17.675	40	25	17.459
M 19 × 1.5	P3	19.000	18.026	60	40	17.376
M 19 × 1	P3	19.000	18.350	60	40	17.917
M 20 × 2.5	P4	20.000	18.376	80	60	17.294
	II b			40	5	
	G11			140	127	
	ISO2			90	54	
M 20 × 2	P4	20.000	18.701	80	60	17.835
	ISO2			85	51	
M 20 × 1.5	P3	20.000	19.026	60	40	18.376
	II			50	15	
	G10			127	114	
	ISO2			75	45	
M 20 × 1	P3	20.000	19.350	60	40	18.917
	ISO2			63	38	
M 22 × 2.5	P4	22.000	20.376	80	60	19.294
	II b			40	5	
	ISO2			90	54	
	D7			91	50	
M 22 × 2	P4	22.000	20.701	80	60	19.835
	ISO2			85	51	
M 22 × 1.5	P3	22.000	21.026	60	40	20.376
	ISO2			75	45	
	D6			78	47	
M 22 × 1	P3	22.000	21.350	60	40	20.917
	ISO2			63	38	
M 23 × 1.5	P3	23.000	22.026	60	40	21.376

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 24 × 3	P4	24.000	22.051	80	60	20.752
	II b			45	5	
	ISO2			106	64	
	D8			104	63	
M 24 × 2	P4	24.000	22.701	80	60	21.835
	ISO2			90	54	
	D8			104	63	
M 24 × 1.5	P3	24.000	23.026	60	40	22.376
	II			50	15	
	ISO2			80	48	
M 24 × 1	P3	24.000	23.350	60	40	22.917
	ISO2			66	40	
M 25 × 3	P4	25.000	23.051	80	40	21.752
M 25 × 2	P4	25.000	23.701	80	60	22.835
	ISO2			90	54	
M 25 × 1.5	P3	25.000	24.026	60	40	23.376
	ISO2			80	48	
M 25 × 1	P3	25.000	24.350	60	40	23.917
M 26 × 3	P4	26.000	24.051	80	40	22.752
M 26 × 2	P4	26.000	24.701	80	60	23.835
M 26 × 1.5	P3	26.000	25.026	60	40	24.376
	II			50	15	
	ISO2			80	48	
M 26 × 1	P2	26.000	25.350	40	20	24.917
M 27 × 3	P4	27.000	25.051	80	40	23.752
	II b			45	5	
	ISO2			106	64	
	D8			104	52	
M 27 × 2	P5	27.000	25.701	100	80	24.835
	ISO2			90	54	
	D7			91	50	
M 27 × 1.5	P3	27.000	26.026	60	40	25.376
	ISO2			80	48	
M 27 × 1	P3	27.000	26.350	60	40	25.917
M 28 × 3	P4	28.000	26.051	80	40	24.752
M 28 × 2	P4	28.000	26.701	80	60	25.835
	ISO2			90	54	
M 28 × 1.5	P3	28.000	27.026	60	40	26.376
	ISO2			80	48	
M 28 × 1	P3	28.000	27.350	60	40	26.917

14. Tap, Thread Limits

■ for Metric Threads

unit: mm

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 30 × 3.5	P4	30.000	27.727	80	40	26.211
	II b			45	5	
	ISO2			112	67	
	D9			117	65	
M 30 × 3	P5	30.000	28.051	100	60	26.752
M 30 × 2	P4	30.000	28.701	80	60	27.835
	ISO2			90	54	
M 30 × 1.5	P3	30.000	29.026	60	40	28.376
	II			50	15	
	ISO2			80	48	
M 30 × 1	P3	30.000	29.350	60	40	28.917
M 32 × 3	P3	32.000	30.051	60	20	28.752
M 32 × 2	P4	32.000	30.701	80	40	29.835
M 32 × 1.5	P4	32.000	31.026	80	60	30.376
	ISO2			80	48	
M 32 × 1	P3	32.000	31.350	60	40	30.917
M 33 × 3.5	P4	33.000	30.727	80	40	29.211
	ISO2			112	67	
	D9			117	65	
M 33 × 3	P5	33.000	31.051	100	60	29.752
M 33 × 2	P4	33.000	31.701	80	40	30.835
	ISO2			80	48	
M 33 × 1.5	P3	33.000	32.026	60	40	31.376
	ISO2			80	48	
	ISO2			80	48	
M 33 × 1	P3	33.000	32.350	60	40	31.917
M 34 × 3	P3	34.000	32.051	60	20	30.752
M 34 × 2	P4	34.000	32.701	80	40	31.835
M 34 × 1.5	P4	34.000	33.026	80	60	32.376
	ISO2			80	48	
M 34 × 1	P3	34.000	33.350	60	40	32.917
M 35 × 3	P3	35.000	33.051	60	20	31.752
M 35 × 2	P5	35.000	33.701	100	60	32.835
M 35 × 1.5	P4	35.000	34.026	80	60	33.376
	ISO2			80	48	
M 35 × 1	P2	35.000	34.350	40	20	33.917

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 36 × 4	P5	36.000	33.402	100	60	31.670
	ISO2			118	71	
	D9			117	65	
M 36 × 3	P5	36.000	34.051	100	60	32.752
	ISO2			106	64	
M 36 × 2	P4	36.000	34.701	80	40	33.835
	ISO2			90	54	
M 36 × 1.5	P3	36.000	35.026	60	40	34.376
	ISO2			80	48	
M 36 × 1	P3	36.000	35.350	60	40	34.917
M 37 × 1.5	P4	37.000	36.026	80	60	35.376
M 38 × 3	P3	38.000	36.051	60	20	34.752
M 38 × 2	P4	38.000	36.701	80	40	35.835
M 38 × 1.5	P4	38.000	37.026	80	60	36.376
	ISO2			80	48	
M 38 × 1	P3	38.000	37.350	60	40	36.917
M 39 × 4	P5	39.000	36.402	100	60	34.670
	ISO2			118	71	
	D10			130	78	
M 39 × 3	P5	39.000	37.051	100	60	35.752
	D8			104	52	
M 39 × 2	P4	39.000	37.701	80	40	36.835
M 39 × 1.5	P3	39.000	38.026	60	40	37.376
	ISO2			80	48	
M 39 × 1	P3	39.000	38.350	60	40	37.917
M 40 × 4	P5	40.000	37.402	100	60	35.670
M 40 × 3	P5	40.000	38.051	100	60	36.752
	P4			80	40	
M 40 × 2	P4	40.000	38.701	80	40	37.835
	ISO2			90	54	
M 40 × 1.5	P4	40.000	39.026	80	60	38.376
	ISO2			80	48	
M 42 × 4.5	P5	42.000	39.077	100	60	37.129
	ISO2			125	75	
M 42 × 4	P6	42.000	39.402	120	80	37.670
M 42 × 3	P5	42.000	40.051	100	60	38.752
	ISO2			106	64	
M 42 × 2	P4	42.000	40.701	80	40	39.835
	ISO2			90	54	
M 42 × 1.5	P4	42.000	41.026	80	60	40.376
	ISO2			80	48	

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 44 × 4	P6	44.000	41.402	120	80	39.670
M 44 × 3	P5	44.000	42.051	100	60	40.752
M 44 × 2	P4	44.000	42.701	80	40	41.835
M 44 × 1.5	P4	44.000	43.026	80	60	42.376
M 45 × 4.5	P5	45.000	42.077	100	60	40.129
	ISO2			125	75	
M 45 × 4	P6	45.000	42.402	120	80	40.670
M 45 × 3	P5	45.000	43.051	100	60	41.752
	ISO2			106	64	
M 45 × 2	P4	45.000	43.701	80	40	42.835
	ISO2			90	54	
M 45 × 1.5	P4	45.000	44.026	80	60	43.376
	ISO2			80	48	
M 45 × 1	P3	45.000	44.350	60	40	43.917
M 48 × 5	P5	48.000	44.752	100	60	42.587
	ISO2			133	80	
M 48 × 4	P6	48.000	45.402	120	80	43.670
M 48 × 3	P6	48.000	46.051	120	80	44.752
	ISO2			112	67	
M 48 × 2	P4	48.000	46.701	80	40	45.835
	ISO2			95	57	
M 48 × 1.5	P4	48.000	47.026	80	60	46.376
	ISO2			85	51	

■ for Unified Threads

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
No. 0 - 80 UNF	P1	1.524	1.318	25	10	1.181
	G5			64	51	
	2B			26	11	
	GH1			12.7	0	
No. 1 - 64 UNC	P1	1.854	1.598	25	10	1.425
	2B			28	12	
	GH1			12.7	0	
No. 1 - 72 UNF	P1	1.854	1.626	25	10	1.473
	G5			64	51	
	2B			28	12	
	GH1			12.7	0	
No. 2 - 56 UNC	P1	2.184	1.890	25	10	1.694
	G4			51	38	
	2B			30	13	
	GH1			12.7	0	
No. 2 - 64 UNF	P1	2.184	1.928	25	10	1.755
	2B			29	12	
	GH1			12.7	0	
No. 3 - 48 UNC	P1	2.515	2.172	25	10	1.941
	G4			51	38	
	2B			32	14	
	GH1			12.7	0	
No. 3 - 56 UNF	P1	2.515	2.220	25	10	2.024
	2B			31	13	
	GH1			12.7	0	
No. 4 - 40 UNC	P2	2.845	2.433	40	25	2.156
	G5			64	51	
	2B			34	16	
	GH1			12.7	0	
No. 4 - 48 UNF	P1	2.845	2.502	25	10	2.271
	G5			64	51	
	2B			32	14	
	GH1			12.7	0	
No. 4 - 36 UNS	GH1	2.845	2.387	12.7	0	2.081
No. 5 - 40 UNC	P2	3.175	2.764	40	25	2.487
	2B			35	16	
	GH1			12.7	0	
No. 5 - 44 UNF	P1	3.175	2.799	25	10	2.550
	2B			34	15	
	GH1			12.7	0	

14. Tap, Thread Limits

■ for Unified Threads

unit: mm

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
No. 6 - 32 UNC	P2	3.505	2.990	40	20	2.647
	G5			64	51	
	2B			38	18	
	GH1			12.7	0	
No. 6 - 40 UNF	P2	3.505	3.094	40	25	2.817
	G5			64	51	
	2B			36	16	
	GH1			12.7	0	
No. 8 - 32 UNC	P2	4.166	3.650	40	20	3.307
	G6			76	64	
	2B			39	18	
	GH1			12.7	0	
No. 8 - 36 UNF	P2	4.166	3.708	40	20	3.401
	G5			64	51	
	2B			38	17	
	GH1			12.7	0	
No. 10 - 24 UNC	P2	4.826	4.138	40	20	3.680
	G6			76	64	
	2B			42	20	
	GH1			12.7	0	
No. 10 - 32 UNF	P2	4.826	4.310	40	20	3.967
	G5			64	51	
	2B			40	18	
	GH1			12.7	0	
No. 12 - 24 UNC	P2	5.486	4.798	40	20	4.341
	2B			43	20	
	GH1			12.7	0	
No. 12 - 28 UNF	P2	5.486	4.897	40	20	4.503
	2B			42	19	
	GH1			12.7	0	
No. 12 - 32 UNEF	P2	5.486	4.971	40	20	4.627
1/4 - 20 UNC	P2	6.350	5.524	40	20	4.976
	G7			89	76	
	2B			46	22	
	GH1			12.7	0	
1/4 - 28 UNF	P2	6.350	5.761	40	20	5.367
	G6			76	64	
	2B			43	19	
	GH1			12.7	0	
1/4 - 32 UNEF	P2	6.350	5.834	40	20	5.491
	2B			42	18	

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
5/16 - 18 UNC	P3	7.938	7.021	60	40	6.411
	2B			49	23	
	GH1			12.7	0	
5/16 - 24 UNF	P2	7.938	7.249	40	20	6.792
	2B			46	20	
5/16 - 32 UNEF	P2	7.938	7.422	40	20	7.079
	2B			44	18	
3/8 - 16 UNC	P3	9.525	8.494	60	40	7.805
	2B			53	25	
	GH1			12.7	0	
3/8 - 24 UNF	P3	9.525	8.837	60	40	8.379
	2B			48	20	
	GH2			25.4	12.7	
3/8 - 32 UNEF	P2	9.525	9.009	40	20	8.666
	2B			46	18	
7/16 - 14 UNC	P3	11.112	9.934	60	40	9.149
	2B			56	27	
	GH1			12.7	0	
7/16 - 20 UNF	P3	11.112	10.287	60	40	9.738
	2B			51	22	
	GH1			12.7	0	
7/16 - 28 UNEF	P2	11.112	10.523	40	20	10.130
1/2 - 13 UNC	P3	12.700	11.430	60	40	10.584
	2B			58	28	
	GH1			12.7	0	
1/2 - 20 UNF	P3	12.700	11.874	60	40	11.326
	2B			52	23	
	GH1			12.7	0	
1/2 - 28 UNEF	P2	12.700	12.111	40	20	11.717
9/16 - 12 UNC	P3	14.288	12.913	60	40	11.996
	2B			60	29	
	GH3			38.1	25.4	
9/16 - 18 UNF	P3	14.288	13.371	60	40	12.761
	2B			54	23	
	GH2			25.4	12.7	
9/16 - 24 UNEF	P2	14.288	13.599	40	20	13.142

unit: mm

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
5/8 - 11 UNC	P4			80	60	
	2B	15.875	14.376	63	30	13.376
	GH1			12.7	0	
5/8 - 18 UNF	P3			60	40	
	2B	15.875	14.958	56	23	14.348
	GH1			12.7	0	
5/8 - 24 UNEF	P3	15.875	15.187	60	40	14.729
11/16 - 11 UNS	GH3	17.462	15.964	38.1	25.4	14.963
11/16 - 16 UNS	GH3	17.462	16.431	38.1	25.4	15.743
3/4 - 10 UNC	P4			80	60	
	2B	19.050	17.399	66	31	16.299
	GH2			25.4	12.7	
3/4 - 16 UNF	P3			60	40	
	2B	19.050	18.019	60	25	17.330
	GH1			12.7	0	
3/4 - 20 UNEF	P3	19.050	18.224	60	40	17.676
7/8 - 9 UNC	P4			80	60	
	2B	22.225	20.391	70	33	19.169
	GH2			25.4	12.7	
7/8 - 14 UNF	P3			60	40	
	2B	22.225	21.046	64	27	20.262
	GH1			12.7	0	
7/8 - 20 UNEF	P3	22.225	21.400	60	40	20.851
1 - 8 UNC	P4			80	40	
	2B	25.400	23.338	73	35	21.963
	GH2			25.4	12.7	
1 - 12 UNF	P4			80	60	
	2B	25.400	24.026	67	29	23.109
	GH4			50.8	38.1	
1 - 14 UNS	P4			80	60	
	2B	25.400	24.221	65	38	23.437
	GH2			25.4	12.7	
1 - 20 UNEF	P3	25.400	24.574	60	40	24.026
1 1/8 - 7 UNC	P5			100	60	
	GH4	28.575	26.218	50.8	38.1	24.648
1 1/8 - 12 UNF	P3			60	40	
	2B	28.575	27.201	69	29	26.284
	GH4			50.8	38.1	
1 1/8 - 18 UNEF	P3	28.575	27.658	60	40	27.048

Size	Class	Major Diameter		Pitch Diameter		Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
1 1/4 - 7 UNC	P5			100	60	
	2B	31.750	29.393	79	38	27.823
	GH4			50.8	38.1	
1 1/4 - 8 UN	P5	31.750	29.688	100	60	28.313
1 1/4 - 12 UNF	P4			80	60	
	2B	31.750	30.376	70	29	29.459
	GH4			50.8	38.1	
1 3/8 - 6 UNC	P5			100	60	
	GH4	34.925	32.174	50.8	38.1	30.343
1 3/8 - 8 UN	P5	34.925	32.863	100	60	31.488
1 3/8 - 12 UNF	P4			80	40	
	2B	34.925	33.551	71	29	32.634
	GH4			50.8	38.1	
1 1/2 - 6 UNC	P5			100	60	
	GH4	38.100	35.349	50.8	38.1	33.518
1 1/2 - 12 UNF	P4			80	40	
	2B	38.100	36.726	73	29	35.809
	GH4			50.8	38.1	
1 3/4 - 5 UNC	P6	44.450	41.151	120	80	38.951
1 3/4 - 12 UN	P4	44.450	43.076	80	40	42.159
2 - 4.5 UNC	P6	50.800	47.135	120	80	44.689
2 - 12 UN	P4	50.800	49.426	80	40	48.509

14. Tap, Thread Limits

■ for Whitworth Threads

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
1/8 W 40	P1	3.175	2.768	25	10	2.362
5/32 W 32	P2	3.969	3.460	40	20	2.952
3/16 W 24	P2	4.762	4.085	40	20	3.407
7/32 W 24	P2	5.556	4.879	40	20	4.201
1/4 W 20	P2	6.350	5.537	40	20	4.724
5/16 W 18	P2	7.938	7.034	40	20	6.130
3/8 W 16	P2	9.525	8.509	40	20	7.493
7/16 W 14	P3	11.112	9.950	60	40	8.788
1/2 W 12	P3	12.700	11.345	60	40	9.990
9/16 W 12	P3	14.288	12.933	60	40	11.578
5/8 W 11	P3	15.875	14.396	60	40	12.917
3/4 W 10	P3	19.050	17.424	60	40	15.798
7/8 W 9	P3	22.225	20.418	60	40	18.611
1 W 8	P3	25.400	23.367	60	20	21.334
1 1/8 W 7	P4	28.575	26.252	80	40	23.929
1 1/4 W 7	P4	31.750	29.427	80	40	27.104
1 3/8 W 6	P4	34.925	32.214	80	40	29.503
1 1/2 W 6	P4	38.100	35.389	80	40	32.678
1 5/8 W 5	P4	41.275	38.022	80	40	34.769
1 3/4 W 5	P4	44.450	41.197	80	40	37.944
1 7/8 W 4.5	P4	47.625	44.011	80	40	40.397
2 W 4.5	P4	50.800	47.186	80	40	43.572

■ for Sewing Machine Screw Threads

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
1/16 SM 80	P1	1.588	1.382	25	10	1.176
5/64 SM 64	P1	1.984	1.726	25	10	1.468
3/32 SM 56	P1	2.381	2.086	25	10	1.791
3/32 SM 100	P1	2.381	2.216	25	10	2.051
1/8 SM 40	P2	3.175	2.763	40	25	2.351
1/8 SM 44	P2	3.175	2.800	40	25	2.425
9/64 SM 40	P2	3.572	3.160	40	25	2.748
11/64 SM 40	P2	4.366	3.954	40	25	3.542
3/16 SM 24	P2	4.762	4.075	40	20	3.388
3/16 SM 28	P2	4.762	4.173	40	20	3.584
3/16 SM 32	P2	4.762	4.246	40	20	3.730
3/16 SM 40	P2	4.762	4.350	40	25	3.938
7/32 SM 32	P2	5.556	5.040	40	20	4.524
15/64 SM 28	P2	5.953	5.364	40	20	4.775
1/4 SM 24	P2	6.350	5.663	40	20	4.976
1/4 SM 40	P1	6.350	5.938	25	10	5.526

■ for Parallel Pipe Threads (PF·G)

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
PF 1/16 - 28	II	7.723	7.142	40	20	6.561
PF 1/8 - 28	II	9.728	9.147	40	20	8.566
PF 1/4 - 19	II	13.157	12.301	50	25	11.445
PF 3/8 - 19	II	16.662	15.806	50	25	14.950
PF 1/2 - 14	II	20.955	19.793	55	25	18.631
PF 5/8 - 14	II	22.911	21.749	55	25	20.587
PF 3/4 - 14	II	26.441	25.279	55	25	24.117
PF 7/8 - 14	II	30.201	29.039	55	25	27.877
PF 1 - 11	II	33.249	31.770	60	30	30.291
PF 1 1/4 - 11	II	41.910	40.431	65	30	38.952
PF 1 1/2 - 11	II	47.803	46.324	65	30	44.845
PF 2 - 11	II	59.614	58.135	75	35	56.656
PF 2 1/2 - 11	II	75.184	73.705	80	40	72.226
PF 3 - 11	II	87.884	86.405	85	40	84.926
PF 3 1/2 - 11	II	100.330	98.851	85	40	97.372
PF 4 - 11	II	113.030	111.551	85	40	110.072

■ for Parallel Pipe Threads (PS·Rp)

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) -	Lower Tolerance (μm) -	Basic Size
PS 1/16 - 28	II	7.723	7.142	30	50	6.561
PS 1/8 - 28	II	9.728	9.147	30	50	8.566
PS 1/4 - 19	II	13.157	12.301	50	75	11.445
PS 3/8 - 19	II	16.662	15.806	50	75	14.950
PS 1/2 - 14	II	20.955	19.793	85	115	18.631
PS 5/8 - 14	II	22.911	21.749	85	115	20.587
PS 3/4 - 14	II	26.441	25.279	85	115	24.117
PS 7/8 - 14	II	30.201	29.039	85	115	27.877
PS 1 - 11	II	33.249	31.770	120	150	30.291
PS 1 1/4 - 11	II	41.910	40.431	115	150	38.952
PS 1 1/2 - 11	II	47.803	46.324	115	150	44.845
PS 2-11	II	59.614	58.135	105	145	56.656
PS 2 1/2 - 11	II	75.184	73.705	140	180	72.226
PS 3 - 11	II	87.884	86.405	135	180	84.926
PS 4 - 11	II	113.030	111.551	135	180	110.072

■ for Taper Pipe Threads (PT·Rc)

unit: mm

Size	Major Diameter	Pitch Diameter	Minor Diameter
	Basic Size	Basic Size	Basic Size
PT 1/16 - 28	7.723	7.142	6.561
PT 1/8 - 28	9.728	9.147	8.566
PT 1/4 - 19	13.157	12.301	11.445
PT 3/8 - 19	16.662	15.806	14.950
PT 1/2 - 14	20.955	19.793	18.631
PT 5/8 - 14	22.911	21.749	20.587
PT 3/4 - 14	26.441	25.279	24.117
PT 7/8 - 14	30.201	29.039	27.877
PT 1 - 11	33.249	31.770	30.291
PT 1 1/8 - 11	37.897	36.418	34.939
PT 1 1/4 - 11	41.910	40.431	38.952
PT 1 1/2 - 11	47.803	46.324	44.845
PT 1 3/4 - 11	53.746	52.267	50.788
PT 2 - 11	59.614	58.135	56.656
PT 2 1/4 - 11	65.710	64.231	62.752
PT 2 1/2 - 11	75.184	73.705	72.226
PT 3 - 11	87.884	86.405	84.926
PT 3 1/2 - 11	100.330	98.851	97.372
PT 4 - 11	113.030	111.551	110.072

■ for Miniature Screw Threads

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
S 0.5 × 0.125	-	0.500	0.419	15	7	0.380
S 0.6 × 0.15	-	0.600	0.503	15	7	0.456
	GS2			23	13	
S 0.7 × 0.175	-	0.700	0.586	20	10	0.532
	GS3			28	18	
S 0.8 × 0.2	-	0.800	0.670	20	10	0.608
	GS3			28	18	
S 0.9 × 0.225	-	0.900	0.754	20	10	0.684
	GS4			33	23	

14. Tap, Thread Limits

■ for Helical Coil Wire Thread Inserts, Metric Threads unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
STI M 2.6 × 0.45	I b	3.185	2.892	18	6	2.698
STI M 3 × 0.5	I b	3.650	3.324	18	6	3.108
	G3			38	25	
STI M 4 × 0.7	I b	4.909	4.454	18	6	4.151
	G4			51	38	
STI M 5 × 0.8	I b	6.039	5.519	18	6	5.173
	G4			51	38	
STI M 6 × 1	I b	7.299	6.649	18	6	6.216
	G4			51	38	
STI M 8 × 1.25	I b	9.624	8.812	18	6	8.271
	G4			51	38	
STI M 10 × 1.5	I b	11.948	10.974	22	7	10.324
	G5			64	51	
STI M 10 × 1.25	I b	11.624	10.812	18	6	10.271
STI M 10 × 1	I b	11.299	10.649	18	6	10.216
STI M 12 × 1.75	I b	14.273	13.136	22	7	12.379
	G6			76	64	
STI M 12 × 1.5	I b	13.948	12.974	21	7	12.324
STI M 12 × 1.25	I b	13.624	12.812	21	7	12.271
STI M 14 × 2	I b	16.598	15.299	22	7	14.433
STI M 14 × 1.5	I b	15.948	14.974	21	7	14.324
STI M 16 × 2	I b	18.598	17.299	22	7	16.433
STI M 16 × 1.5	I b	17.948	16.974	21	7	16.324
STI M 18 × 2.5	I b	21.248	19.624	30	10	18.542
STI M 18 × 1.5	I b	19.948	18.974	24	8	18.324
STI M 20 × 2.5	I b	23.248	21.624	30	10	20.542
STI M 20 × 1.5	I b	21.948	20.974	24	8	20.324
STI M 22 × 2.5	I b	25.248	23.624	30	10	22.542
STI M 22 × 1.5	I b	23.948	22.974	24	8	22.324
STI M 24 × 3	I b	27.897	25.948	30	10	24.649
STI M 24 × 1.5	I b	25.948	24.974	24	8	24.324

■ for Helical Coil Wire Thread Inserts, Unified Threads unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
STI No. 2 -56 UNC	I b	2.773	2.479	18	6	2.283
	GH2			25.4	12.7	
STI No. 4 -40 UNC	I b	3.670	3.258	18	6	2.981
	GH2			25.4	12.7	
STI No. 4 -48 UNF	I b	3.532	3.189	18	6	2.958
STI No. 5 -40 UNC	I b	4.000	3.589	18	6	3.312
STI No. 6 -32 UNC	I b	4.536	4.021	18	6	3.678
	GH3			38.1	25.4	
STI No. 6 -40 UNF	I b	4.330	3.919	18	6	3.642
STI No. 8 -32 UNC	I b	5.197	4.681	18	6	4.338
	GH3			38.1	25.4	
STI No. 8 -36 UNF	I b	5.083	4.625	18	6	4.318
STI No. 10 -24 UNC	I b	6.201	5.513	18	6	5.055
	GH2			25.4	12.7	
STI No. 10 -32 UNF	I b	5.857	5.341	18	6	4.998
	GH2			25.4	12.7	
STI No. 12 -24 UNC	I b	6.861	6.173	18	6	5.716
STI 1/4 - 20 UNC	I b	8.000	7.174	22	7	6.626
	GH3			38.1	25.4	
STI 1/4 - 28 UNF	I b	7.528	6.939	18	6	6.545
	GH2			25.4	12.7	
STI 5/16 - 18 UNC	I b	9.771	8.854	22	7	8.244
	GH3			38.1	25.4	
STI 5/16 - 24 UNF	I b	9.313	8.624	18	6	8.167
STI 3/8 - 16 UNC	I b	11.587	10.556	22	7	9.867
	GH3			38.1	25.4	
STI 3/8 - 24 UNF	I b	10.900	10.212	18	6	9.754
STI 7/16 - 14 UNC	I b	13.469	12.291	30	10	11.506
	GH3			38.1	25.4	
STI 7/16 - 20 UNF	I b	12.762	11.937	18	6	11.388
	GH3			38.1	25.4	
STI 1/2 - 13 UNC	I b	15.238	13.968	30	10	13.122
	GH3			38.1	25.4	
STI 1/2 - 20 UNF	I b	14.350	13.524	18	6	12.976
STI 5/8 - 11 UNC	I b	18.875	17.376	30	10	16.376
STI 5/8 - 18 UNF	I b	17.708	16.791	21	7	16.181
STI 3/4 - 16 UNF	I b	21.112	20.081	21	7	19.392

■ for BSW Threads

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
3/32 BSW 48	-	2.381	2.042	32	15	1.704
1/8 BSW 40	-	3.175	2.768	35	15	2.362
5/32 BSW 32	-	3.969	3.460	40	18	2.952
3/16 BSW 24	-	4.762	4.085	44	21	3.407
7/32 BSW 24	-	5.556	4.879	44	21	4.201
1/4 BSW 20	-	6.350	5.537	46	23	4.724
5/16 BSW 18	-	7.938	7.034	49	23	6.130
3/8 BSW 16	-	9.525	8.509	51	25	7.493
7/16 BSW 14	-	11.112	9.950	56	28	8.788
1/2 BSW 12	-	12.700	11.345	61	30	9.990
9/16 BSW 12	-	14.288	12.933	61	30	11.578
5/8 BSW 11	-	15.875	14.396	63	30	12.917
3/4 BSW 10	-	19.050	17.424	69	33	15.798
7/8 BSW 9	-	22.225	20.418	69	33	18.611
1 BSW 8	-	25.400	23.367	74	36	21.334

■ for European Parallel Pipe Threads (G)

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
G 1/8 - 28	-	9.728	9.147	43	21	8.566
G 1/4 - 19	-	13.157	12.301	50	25	11.445
G 3/8 - 19	-	16.662	15.806	50	25	14.950
G 1/2 - 14	-	20.955	19.793	57	28	18.631
G 5/8 - 14	-	22.911	21.749	57	28	20.587
G 3/4 - 14	-	26.441	25.279	57	28	24.117
G 7/8 - 14	-	30.201	29.039	57	28	27.877
G 1 - 11	-	33.249	31.770	72	36	30.291
G 1 1/4 - 11	-	41.910	40.431	72	36	38.952
G 1 1/2 - 11	-	47.803	46.324	72	36	44.845

■ for European Steel Conduit Threads (Pg)

unit: mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
Pg 7 - 20	-	12.50	11.89	60	30	11.28
Pg 9 - 18	-	15.20	14.53	60	30	13.86
Pg 11 - 18	-	18.60	17.93	60	30	17.26
Pg 13.5 - 18	-	20.40	19.73	60	30	19.06
Pg 16 - 18	-	22.50	21.83	60	30	21.16
Pg 21 - 16	-	28.30	27.54	100	50	26.78
Pg 29 - 16	-	37.00	36.24	100	50	35.48

15. Bored hole size before tapping (for thread cutting)

■ for Metric Threads

Unit : mm

Size	Minor diameter of internal threads (D ₁)		Bored hole size (ref.)
	Max.	Min.	
M1 ×0.25	(0.785)	(0.729)	0.77
M1 ×0.2	(0.821)	(0.783)	0.81
M1.1×0.25	(0.885)	(0.829)	0.87
M1.1×0.2	(0.921)	(0.883)	0.91
M1.2×0.25	(0.985)	(0.929)	0.97
M1.2×0.2	(1.021)	(0.983)	1.01
M1.4×0.3	(1.142)	(1.075)	1.13
M1.4×0.2	(1.221)	(1.183)	1.21
M1.6×0.35	1.321	1.221	1.30
M1.6×0.2	(1.421)	(1.383)	1.41
M1.7×0.35	1.421	1.321	1.40
M1.7×0.2	1.521	1.483	1.51
M1.8×0.35	1.521	1.421	1.50
M1.8×0.2	(1.621)	(1.583)	1.61
M2 ×0.4	1.679	1.567	1.65
M2 ×0.25	(1.785)	(1.729)	1.77
M2.2×0.45	1.838	1.713	1.81
M2.2×0.25	(1.985)	(1.929)	1.97
M2.3×0.4	1.979	1.867	1.95
M2.3×0.25	2.085	2.029	2.07
M2.5×0.45	2.138	2.013	2.11
M2.5×0.35	2.221	2.121	2.20
M2.6×0.45	2.238	2.113	2.21
M2.6×0.35	2.321	2.221	2.30
M3 ×0.5	2.599	2.459	2.56
M3 ×0.35	2.721	2.621	2.70
M3.5×0.6	3.010	2.850	2.97
M3.5×0.35	3.221	3.121	3.20
M4 ×0.7	3.422	3.242	3.38
M4 ×0.5	3.599	3.459	3.56
M4.5×0.75	3.878	3.688	3.83
M4.5×0.5	4.099	3.959	4.06
M5 ×0.8	4.334	4.134	4.28
M5 ×0.5	4.599	4.459	4.56
M5.5×0.5	5.099	4.959	5.06
M6 ×1	5.153	4.917	5.09
M6 ×0.75	5.378	5.188	5.33
M6 ×0.5	5.599	5.459	5.56
M7 ×1	6.153	5.917	6.09

Size	Minor diameter of internal threads (D ₁)		Bored hole size (ref.)
	Max.	Min.	
M7 ×0.75	6.378	6.188	6.33
M7 ×0.5	6.599	6.459	6.56
M8 ×1.25	6.912	6.647	6.85
M8 ×1	7.153	6.917	7.09
M 8×0.75	7.378	7.188	7.33
M 8×0.5	7.599	7.459	7.56
M 9×1.25	7.912	7.647	7.85
M 9×1	8.153	7.917	8.09
M 9×0.75	8.378	8.188	8.33
M10×1.5	8.676	8.376	8.60
M10×1.25	8.912	8.647	8.85
M10×1	9.153	8.917	9.09
M10×0.75	9.378	9.188	9.33
M10×0.5	9.599	9.459	9.56
M11×1.5	9.676	9.376	9.60
M11×1	10.153	9.917	10.10
M11×0.75	10.378	10.188	10.33
M11×0.5	10.599	10.459	10.56
M12×1.75	10.441	10.106	10.4
M12×1.5	10.676	10.376	10.6
M12×1.25	10.912	10.647	10.85
M12×1	11.153	10.917	11.09
M12×0.5	11.599	11.459	11.56
M14×2	12.210	11.835	12.1
M14×1.5	12.676	12.376	12.6
M14×1	13.153	12.917	13.09
M15×1.5	13.676	13.376	13.60
M15×1	14.153	13.917	14.09
M16×2	14.210	13.835	14.1
M16×1.5	14.676	14.376	14.6
M16×1	15.153	14.917	15.09
M17×1.5	15.676	15.376	15.60
M17×1	16.153	15.917	16.09
M18×2.5	15.744	15.294	15.6
M18×2	16.210	15.835	16.1
M18×1.5	16.676	16.376	16.6
M18×1	17.153	16.917	17.09
M20×2.5	17.744	17.294	17.6

The recommended bored hole sizes indicated above are for 6H Metric Threads.

• D₁: Minor diameter of 6H internal thread. The Minor diameters D₁ shown in () are of 5H for coarse threads and of 4H • 5H for fine threads.

15. Bored hole size before tapping (for thread cutting)

Unit : mm

Size	Minor diameter of internal threads (D _i)		Bored hole size (ref.)
	Max.	Min.	
M20×2	18.210	17.835	18.1
M20×1.5	18.676	18.376	18.6
M20×1	19.153	18.917	19.09
M22×2.5	19.744	19.294	19.6
M22×2	20.210	19.835	20.1
M22×1.5	20.676	20.376	20.6
M22×1	21.153	20.917	21.09
M24×3	21.252	20.752	21.1
M24×2	22.210	21.835	22.1
M24×1.5	22.676	22.376	22.6
M24×1	23.153	22.917	23.09
M25×2	23.210	22.835	23.1
M25×1.5	23.676	23.376	23.6
M25×1	24.153	23.917	24.09
M26×1.5	24.676	24.376	24.6
M27×3	24.252	23.752	24.1
M27×2	25.210	24.835	25.1
M27×1.5	25.676	25.376	25.6
M27×1	26.153	25.917	26.09
M28×2	26.210	25.835	26.1
M28×1.5	26.676	26.376	26.6
M28×1	27.153	26.917	27.09
M30×3.5	26.771	26.211	26.6
M30×3	27.252	26.752	27.1
M30×2	28.210	27.835	28.1
M30×1.5	28.676	28.376	28.6
M30×1	29.153	28.917	29.09
M32×2	30.210	29.835	30.1
M32×1.5	30.676	30.376	30.6
M33×3.5	29.771	29.211	29.6
M33×3	30.252	29.752	30.1
M33×2	31.210	30.835	31.1
M33×1.5	31.676	31.376	31.6
M35×1.5	33.676	33.376	33.6
M36×4	32.270	31.670	32.1
M36×3	33.252	32.752	33.1
M36×2	34.210	33.835	34.1
M36×1.5	34.676	34.376	34.6

• D_i: Minor diameter of 6H internal thread.

Size	Minor diameter of internal threads (D _i)		Bored hole size (ref.)
	Max.	Min.	
M38×1.5	36.676	36.376	36.6
M39×4	35.270	34.670	35.1
M39×3	36.252	35.752	36.1
M39×2	37.210	36.835	37.1
M39×1.5	37.676	37.376	37.6
M40×3	37.252	36.752	37.1
M40×2	38.210	37.835	38.1
M40×1.5	38.676	38.376	38.6
M42×4.5	37.799	37.129	37.6
M42×4	38.270	37.670	38.1
M42×3	39.252	38.752	39.1
M42×2	40.210	39.835	40.1
M42×1.5	40.676	40.376	40.6
M45×4.5	40.799	40.129	40.6
M45×4	41.270	40.670	41.1
M45×3	42.252	41.752	42.1
M45×2	43.210	42.835	43.1
M45×1.5	43.676	43.376	43.6
M48×5	43.297	42.587	43.1
M48×4	44.270	43.670	44.1
M48×3	45.252	44.752	45.1
M48×2	46.210	45.835	46.1
M48×1.5	46.676	46.376	46.6
M50×3	47.252	46.752	47.1
M50×2	48.210	47.835	48.1
M50×1.5	48.676	48.376	48.6
M52×5	47.297	46.587	47.1
M52×4	48.270	47.670	48.1
M52×3	49.252	48.752	49.1
M52×2	50.210	49.835	50.1
M52×1.5	50.676	50.376	50.6
M55×4	51.270	50.670	51.1
M55×3	52.252	51.752	52.1
M55×2	53.210	52.835	53.1
M55×1.5	53.676	53.376	53.6
M56×5.5	50.796	50.046	50.6
M56×4	52.270	51.670	52.1
M56×3	53.252	52.752	53.1
M56×2	54.210	53.835	54.1
M56×1.5	54.676	54.376	54.6

15. Bored hole size before tapping (for thread cutting)

■ for Metric Threads

unit: mm

Size	Minor diameter of internal threads (D ₁)		Bored hole size (ref.)
	Max.	Min.	
M58×4	54.270	53.670	54.1
M58×3	55.252	54.752	55.1
M58×2	56.210	55.835	56.1
M58×1.5	56.676	56.376	56.6
M60×5.5	54.796	54.046	54.6
M60×4	56.270	55.670	56.1
M60×3	57.252	56.752	57.1
M60×2	58.210	57.835	58.1
M60×1.5	58.676	58.376	58.6
M62×4	58.270	57.670	58.1
M62×3	59.252	58.752	59.1
M62×2	60.210	59.835	60.1
M62×1.5	60.676	60.376	60.6
M64×6	58.305	57.505	58.1
M64×4	60.270	59.670	60.1
M64×3	61.252	60.752	61.1
M64×2	62.210	61.835	62.1
M64×1.5	62.676	62.376	62.6
M65×4	61.270	60.670	61.1
M65×3	62.252	61.752	62.1
M65×2	63.210	62.835	63.1
M65×1.5	63.676	63.376	63.6
M68×6	62.305	61.505	62.1
M68×4	64.270	63.670	64.1
M68×3	65.252	64.752	65.1
M68×2	66.210	65.835	66.1
M68×1.5	66.676	66.376	66.6
M70×6	64.305	63.505	64.1
M70×4	66.270	65.670	66.1
M70×3	67.252	66.752	67.1
M70×2	68.210	67.835	68.1
M70×1.5	68.676	68.376	68.6
M72×6	66.305	65.505	66.1
M72×4	68.270	67.670	68.1
M72×3	69.252	68.752	69.1

Size	Minor diameter of internal threads (D ₁)		Bored hole size (ref.)
	Max.	Min.	
M72×2	70.210	69.835	70.1
M72×1.5	70.676	70.376	70.6
M75×4	71.270	70.670	71.1
M75×3	72.252	71.752	72.1
M75×2	73.210	72.835	73.1
M75×1.5	73.676	73.376	73.6
M76×6	70.305	69.505	70.1
M76×4	72.270	71.670	72.1
M76×3	73.252	72.752	73.1
M76×2	74.210	73.835	74.1
M76×1.5	74.676	74.376	74.6
M78×2	76.210	75.835	76.1
M80×6	74.305	73.505	74.1
M80×4	76.270	75.670	76.1
M80×3	77.252	76.752	77.1
M80×2	78.210	77.835	78.1
M80×1.5	78.676	78.376	78.6
M82×2	80.210	79.835	80.1
M85×6	79.305	78.505	79.1
M85×4	81.270	80.670	81.1
M85×3	82.252	81.752	82.1
M85×2	83.210	82.835	83.1
M90×6	84.305	83.505	84.1
M90×4	86.270	85.670	86.1
M90×3	87.252	86.752	87.1
M90×2	88.210	87.835	88.1
M95×6	89.305	88.505	89.1
M95×4	91.270	90.670	91.1
M95×3	92.252	91.752	92.1
M95×2	93.210	92.835	93.1
M100×6	94.305	93.505	94.1
M100×4	96.270	95.670	96.1
M100×3	97.252	96.752	97.1
M100×2	98.210	97.835	98.1

• D1: Minor diameter of 6H internal thread.

15. Bored hole size before tapping (for thread cutting)

■ for Unified Threads

Unit : mm

Size	Minor diameter of internal threads (D _i)		Bored hole size (ref.)
	Max.	Min.	
No. 0 - 80UNF	1.305	1.182	1.27
No. 1 - 64UNC	1.582	1.425	1.54
No. 1 - 72UNF	1.612	1.474	1.58
No. 2 - 56UNC	1.871	1.695	1.83
No. 2 - 64UNF	1.912	1.756	1.87
No. 3 - 48UNC	2.146	1.941	2.09
No. 3 - 56UNF	2.197	2.025	2.15
No. 4 - 40UNC	2.385	2.157	2.33
No. 4 - 48UNF	2.458	2.271	2.41
No. 5 - 40UNC	2.697	2.487	2.64
No. 5 - 44UNF	2.740	2.551	2.69
No. 6 - 32UNC	2.895	2.642	2.83
No. 6 - 40UNF	3.022	2.820	2.97
No. 8 - 32UNC	3.530	3.302	3.47
No. 8 - 36UNF	3.606	3.404	3.55
No.10 - 24UNC	3.962	3.683	3.89
No.10 - 32UNF	4.165	3.963	4.12
No.12 - 24UNC	4.597	4.344	4.53
No.12 - 28UNF	4.724	4.496	4.67
No.12 - 32UNEF	4.826	4.623	4.78
1/4 - 20UNC	5.257	4.979	5.19
1/4 - 28UNF	5.588	5.360	5.53
1/4 - 32UNEF	5.689	5.487	5.64
5/16 - 18UNC	6.731	6.401	6.65
5/16 - 24UNF	7.035	6.782	6.97
5/16 - 32UNEF	7.264	7.087	7.22
3/8 - 16UNC	8.153	7.798	8.07
3/8 - 24UNF	8.636	8.382	8.57
3/8 - 32UNEF	8.864	8.662	8.81
7/16 - 14UNC	9.550	9.144	9.5
7/16 - 20UNF	10.033	9.729	9.96
7/16 - 28UNEF	10.337	10.135	10.29
1/2 - 13UNC	11.023	10.592	10.9
1/2 - 20UNF	11.607	11.329	11.54
1/2 - 28UNEF	11.938	11.710	11.88
9/16 - 12UNC	12.446	11.989	12.3
9/16 - 18UNF	13.081	12.751	13.00
9/16 - 24UNEF	13.385	13.132	13.32

Size	Minor diameter of internal threads (D _i)		Bored hole size (ref.)
	Max.	Min.	
5/8 - 11UNC	13.868	13.386	13.8
5/8 - 18UNF	14.681	14.351	14.60
5/8 - 24UNEF	14.986	14.732	14.92
3/4 - 10UNC	16.840	16.307	16.7
3/4 - 16UNF	17.678	17.323	17.59
3/4 - 20UNEF	17.957	17.679	17.89
7/8 - 9UNC	19.761	19.177	19.6
7/8 - 14UNF	20.675	20.270	20.6
7/8 - 20UNEF	21.132	20.854	21.06
1 - 8UNC	22.606	21.971	22.5
1 - 12UNF	23.571	23.114	23.5
1 - 14UNS	23.825	23.445	23.7
1 - 20UNEF	24.307	24.029	24.24
1 1/8 - 7UNC	25.349	24.638	25.2
1 1/8 - 8UN	25.781	25.146	25.6
1 1/8-12UNF	26.746	26.289	26.6
1 1/8-18UNEF	27.381	27.051	27.30
1 1/4 - 7UNC	28.524	27.813	28.4
1 1/4 - 8UN	28.956	28.321	28.8
1 1/4-12UNF	29.921	29.464	29.8
1 1/4-18UNEF	30.556	30.226	30.47
1 3/8 - 6UNC	31.115	30.353	30.9
1 3/8 - 8UN	32.131	31.496	32.0
1 3/8-12UNF	33.096	32.639	33.0
1 3/8-18UNEF	33.731	33.401	33.65
1 1/2 - 6UNC	34.290	33.528	34.1
1 1/2 - 8UN	35.306	34.671	35.2
1 1/2-12UNF	36.271	35.814	36.2
1 1/2-18UNEF	36.906	36.576	36.82
1 5/8 - 8UN	38.481	37.846	38.3
1 5/8-12UN	39.446	38.989	39.3
1 5/8-18UNEF	40.081	39.751	40.00
1 3/4 - 5UNC	39.827	38.964	39.6
1 3/4 - 8UN	41.656	41.021	41.5
1 3/4-12UN	42.621	42.164	42.5
2 - 4.5UNC	45.593	44.679	45.4
2 - 8UN	48.006	47.371	47.9
2 - 12UN	48.971	48.514	48.9

• The recommended tap drill sizes indicated above are for ANSI B1.1 Class 2B UNC, UNF, UNEF, UN & UNS threads.

15. Bored hole size before tapping (for thread cutting)

■ for Helical Coil Wire Thread Inserts, Metric Threads

Unit : mm

Nominal size	Bored hole size		Bored hole size (ref.)
	Max.	Min.	
STI M 2 ×0.4	2.16	2.10	2.15
STI M 2.5×0.45	2.68	2.60	2.66
STI M 2.6×0.45	2.78	2.70	2.76
STI M 3 ×0.5	3.20	3.12	3.18
STI M 4 ×0.7	4.30	4.17	4.27
STI M 5 ×0.8	5.33	5.16	5.29
STI M 6 ×1	6.42	6.25	6.38
STI M 8 ×1.25	8.52	8.31	8.47
STI M10 ×1.5	10.62	10.37	10.56
STI M10 ×1.25	10.52	10.31	10.47
STI M10×1	10.42	10.25	10.38
STI M12×1.75	12.73	12.43	12.66
STI M12×1.5	12.62	12.37	12.56
STI M12×1.25	12.52	12.31	12.47
STI M14×2	14.83	14.49	14.75
STI M14×1.5	14.62	14.37	14.56
STI M14×1.25	14.52	14.31	14.47
STI M16×2	16.83	16.49	16.75
STI M16×1.5	16.62	16.37	16.56
STI M18×2.5	19.04	18.58	18.93
STI M18×1.5	18.62	18.37	18.56
STI M20×2.5	21.04	20.58	20.93
STI M20×1.5	20.62	20.37	20.56
STI M22×2.5	23.04	22.58	22.93
STI M22×1.5	22.62	22.37	22.56
STI M24×3	25.25	24.70	25.11
STI M24×1.5	24.62	24.37	24.56

■ for Helical Coil Wire Thread Inserts, Unified Threads

unit: mm

Size	Minor diameter of internal threads (D _i)		Bored hole size (ref.)
	Max.	Min.	
STI No. 2 - 56 UNC	2.440	2.284	2.40
STI No. 4 - 40 UNC	3.180	2.985	3.13
STI No. 4 - 48 UNF	3.121	2.962	3.08
STI No. 5 - 40 UNC	3.487	3.315	3.44
STI No. 6 - 32 UNC	3.878	3.678	3.83
STI No. 6 - 40 UNF	3.817	3.645	3.77
STI No. 8 - 32 UNC	4.523	4.339	4.48
STI No. 8 - 36 UNF	4.498	4.321	4.45
STI No. 10 - 24 UNC	5.283	5.055	5.23
STI No. 10 - 32 UNF	5.184	4.999	5.14
STI No. 12 - 24 UNC	5.943	5.715	5.89
STI 1/4 - 20 UNC	6.868	6.625	6.81
STI 1/4 - 28 UNF	6.720	6.546	6.68
STI 5/16 - 18 UNC	8.488	8.243	8.43
STI 5/16 - 24 UNF	8.351	8.167	8.31
STI 3/8 - 16 UNC	10.126	9.868	10.06
STI 3/8 - 24 UNF	9.931	9.754	9.89
STI 7/16 - 14 UNC	11.783	11.507	11.71
STI 7/16 - 20 UNF	11.584	11.387	11.53
STI 1/2 - 13 UNC	13.393	13.122	13.33
STI 1/2 - 20 UNF	13.172	12.975	13.12
STI 5/8 - 11 UNC	16.672	16.376	16.60
STI 5/8 - 18 UNF	16.385	16.180	16.33
STI 3/4 - 16 UNF	19.608	19.393	19.55

• The figures listed above are according to the data provided by helical coil wire insert manufacturers.

15. Bored hole size before tapping (for thread cutting)

■ for Whitworth Threads

Unit : mm

Size	Minor diameter of internal threads (D1)		Bored hole size (ref.)
	Max.	Min.	
※ 1/8 W 40	(2.591)	(2.362)	2.53
※ 3/16 W 24	(3.744)	(3.406)	3.66
1/4 W 20	5.204	4.914	5.13
5/16 W 18	6.670	6.340	6.59
3/8 W 16	8.113	7.733	8.02
7/16 W 14	9.508	9.048	9.4
1/2 W 12	10.830	10.310	10.7
9/16 W 12	12.418	11.898	12.3
5/8 W 11	13.817	13.257	13.7
3/4 W 10	16.778	16.178	16.6
7/8 W 9	19.691	19.031	19.5
1 W 8	22.514	21.814	22.3

- D1: Minor diameter of JIS Class 2 internal thread.
- Whitworth Threads have been eliminated from JIS.
- ※Marked sizes are in accordance with BSW.

■ for Sewing Machine Threads

Unit : mm

Size	Minor diameter of internal threads (D1)		Bored hole size (ref.)
	Max.	Min.	
1/16 SM 80	1.281	1.211	1.26
5/64 SM 64	1.593	1.513	1.57
3/32 SM 56	1.936	1.841	1.91
3/32 SM 100	2.156	2.081	2.14
1/8 SM 40	2.551	2.421	2.52
1/8 SM 44	2.605	2.485	2.58
9/64 SM 40	2.948	2.818	2.92
11/64 SM 40	3.742	3.612	3.71
3/16 SM 24	3.658	3.498	3.62
3/16 SM 28	3.844	3.684	3.80
3/16 SM 32	3.980	3.820	3.94
3/16 SM 40	4.138	4.008	4.11
7/32 SM 32	4.774	4.614	4.73
15/64 SM 28	5.055	4.875	5.01
1/4 SM 24	5.266	5.086	5.22
1/4 SM 40	5.726	5.596	5.69

■ for Pipe Threads

○Rp(=PS)

Unit : mm

Size	Minor Diameter of JIS internal thread (D1)		Bored hole size (ref.)
	Max.	Min.	
Rp 1/16 - 28	6.632	6.490	6.50
Rp 1/8 - 28	8.637	8.495	8.50
Rp 1/4 - 19	11.549	11.341	11.30
Rp 3/8 - 19	15.054	14.846	14.90
Rp 1/2 - 14	18.773	18.489	18.5
Rp 3/4 - 14	24.259	23.975	24.0
Rp 1 - 11	30.472	30.110	30.2
Rp 1 1/4-11	39.133	38.771	38.8
Rp 1 1/2-11	45.026	44.664	44.7
Rp 2 - 11	56.837	56.475	56.5

○OG(=PF)

Unit : mm

Size	Minor Diameter of JIS internal thread (D1)		Bored hole size (ref.)
	Max.	Min.	
G 1/16 - 28	6.843	6.561	6.77
G 1/8 - 28	8.848	8.566	8.78
G 1/4 - 19	11.890	11.445	11.78
G 3/8 - 19	15.395	14.950	15.28
G 1/2 - 14	19.172	18.631	19.0
G 5/8 - 14	21.128	20.587	21.0
G 3/4 - 14	24.658	24.117	24.5
G 7/8 - 14	28.418	27.877	28.3
G 1 - 11	30.931	30.291	30.8
G 1 1/8-11	35.579	34.939	35.4
G 1 1/4-11	39.592	38.952	39.4
G 1 1/2-11	45.485	44.845	45.3
G 1 3/4-11	51.428	50.788	51.3
G 2 - 11	57.296	56.656	57.1

15. Bored hole size before tapping (for thread cutting)

■ for American Standard Pipe Thread

unit: mm

Size	Minor diameter of internal threads		Bored hole size (ref.)
	Max.	Min.	
NPSC 1/8 - 27	8.813	8.636	8.77
NPSC 1/4 - 18	11.592	11.329	11.53
NPSC 3/8 - 18	14.919	14.656	14.85
NPSC 1/2 - 14	18.501	18.161	18.4
NPSC 3/4 - 14	23.835	23.495	23.7
NPSC 1 - 11.5	29.903	29.490	29.8

unit: mm

Size	Minor diameter of internal threads		Bored hole size (ref.)
	Max.	Min.	
NPSM 1/8 - 27	9.246	9.094	9.21
NPSM 1/4 - 18	12.217	11.888	12.13
NPSM 3/8 - 18	15.554	15.317	15.49
NPSM 1/2 - 14	19.278	18.974	19.2
NPSM 3/4 - 14	24.638	24.334	24.5
NPSM 1 - 11.5	30.759	30.506	30.7

■ for Dryseal American Standard Pipe Thread

unit: mm

Size	Minor diameter of internal threads		Bored hole size (ref.)
	Max.	Min.	
NPSF 1/8 - 27	8.740	8.652	8.72
NPSF 1/4 - 18	11.363	11.232	11.33
NPSF 3/8 - 18	14.803	14.672	14.77
NPSF 1/2 - 14	18.288	18.118	18.2
NPSF 3/4 - 14	23.634	23.465	23.5
NPSF 1 - 11.5	29.669	29.464	29.6

Recommended Bored Hole Size Table for Taper Pipe Threads (PT) (refer to JIS B 0203)

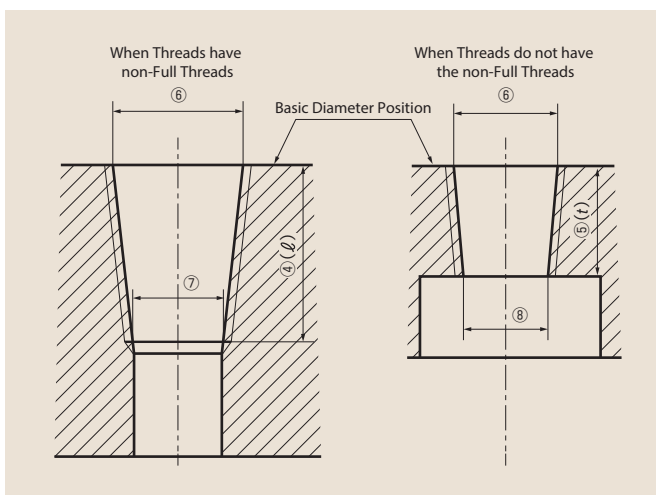
<Remarks during tapping>

- PT internal threads have R design on their crests. The taps should cut threads with their thread root.
- On thread having non-full threads, if you are going to cut effective thread length ℓ , use the tap of long type.

unit: mm

Size	Thread Standards				Minor Diameter			Recommended Bored Hole Sizes (reference)		reference	
	Basic Diameter	Basic Diameter Position	Effective Thread Length (Minimum)		Pipe End (Workpiece Face) (Basic Diameter)	When Threads have non-Full Threads	When Threads do not have the non-Full Threads	Maximum Size of Straight Bored Hole		Basic Diameter Position, ℓg	
			Pipe End	When Threads have non-Full Threads ¹⁾ ℓ		When Threads do not have the non-Full Threads ¹⁾ t	Position away from Pipe End by ℓ	Position away from Pipe End by t	When Threads have non-Full Threads	When Threads do not have the non-Full Threads	Long Thread Type
	Tolerance in radial direction	Tolerance in axial direction c			Basic Size		Basic Size	Basic Size			
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
PT 1/16 - 28	± 0.071	± 1.13	6.2	4.4	6.561	6.174	6.286	6.1	6.2	13.0	10.5
PT 1/8 - 28	± 0.071	± 1.13	6.2	4.4	8.566	8.179	8.291	8.1	8.2	13.0	10.5
PT 1/4 - 19	± 0.104	± 1.67	9.4	6.7	11.445	10.858	11.026	10.7	10.9	21.0	12.5
PT 3/8 - 19	± 0.104	± 1.67	9.7	7.0	14.950	14.344	14.513	14.2	14.4	21.0	14.0
PT 1/2 - 14	± 0.142	± 2.27	12.7	9.1	18.631	17.837	18.062	17.6	17.9	25.0	17.0
PT 3/4 - 14	± 0.142	± 2.27	14.1	10.2	24.117	23.236	23.480	23.0	23.3	25.0	19.0
PT 1 - 11	± 0.181	± 2.89	16.2	11.6	30.291	29.279	29.566	29.0	29.3	32.0	22.0
PT 1 1/4 - 11	± 0.181	± 2.89	18.5	13.4	38.952	37.796	38.115	37.6	37.9	32.0	24.5
PT 1 1/2 - 11	± 0.181	± 2.89	18.5	13.4	44.845	43.689	44.008	43.5	43.8	32.0	25.5
PT 2 - 11	± 0.181	± 2.89	22.8	16.9	56.656	55.231	55.600	55.0	55.4	35.0	28.0

Note 1) Length toward End of Smaller Diameter from Basic Diameter Position



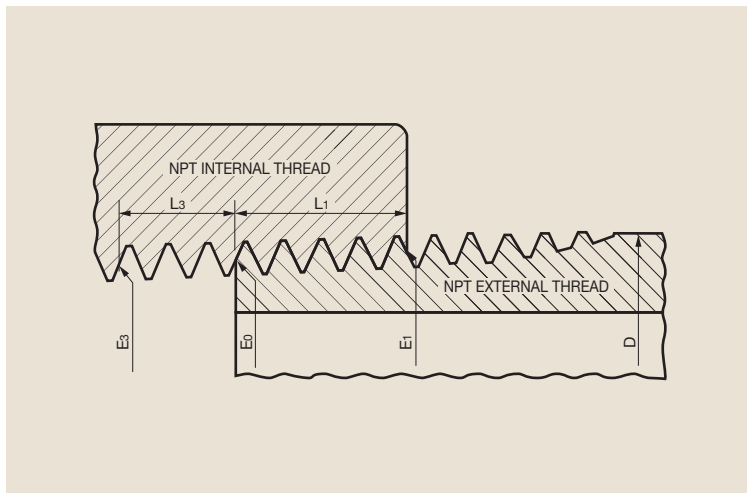
- Remarks 1. Opening of Internal Thread (Face of workpiece) is Basic Diameter Position.
- Remarks 2. Effective Thread Length has 2 types, with non-Full Thread Type and without non-Full Thread Type.
- Remarks 3. Concerning bored hole shape, considering load on taps, taper bored hole is recommended.
- Remarks 4. When applying taper bored hole, by referring to values shown in columns ②-⑥~⑧, prepare the taper hole by using pipe reamer (1/16 taper). By referring to values shown in columns ⑨ and ⑩, select the drill diameter before reaming by taking reamer's margin into account.
- Remarks 5. When preparing straight bored hole, by referring to values shown in columns ⑨ and ⑩, select drill diameter.

15. Bored hole size before tapping (for thread cutting)

Recommended Bored Hole Size Table for American Taper Pipe Threads (NPT) (Refer to ANSI/ASME B1.20.1-1983)

unit: mm

Size	L1	L3	L1+L3	Minor Diameter						Bored Hole Size (reference)	reference
				Pipe End (Basic Diameter Position)			Position away from Pipe End by (L1+L3)				Maximum Size of Straight Bored Hole
				Maximum Value	Minimum Value	Tolerance	Maximum Value	Minimum Value	Tolerance	⑪	
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
NPT 1/16 - 27	4.064	2.822	6.886	6.510	6.388	0.122	6.080	5.958	0.122	6.05	12.00
NPT 1/8 - 27	4.102	2.822	6.924	8.857	8.736	0.122	8.425	8.303	0.122	8.39	12.05
NPT 1/4 - 18	5.786	4.234	10.020	11.514	11.357	0.157	10.888	10.730	0.157	10.85	17.45
NPT 3/8 - 18	6.096	4.234	10.330	14.953	14.796	0.157	14.308	14.150	0.157	14.27	17.65
NPT 1/2 - 14	8.128	5.443	13.571	18.485	18.323	0.163	17.637	17.475	0.163	17.60	22.85
NPT 3/4 - 14	8.611	5.443	14.054	23.831	23.668	0.163	22.952	22.790	0.163	22.91	22.95
NPT 1 - 11.5	10.160	6.627	16.787	29.868	29.696	0.173	28.819	28.647	0.173	28.78	27.40
NPT 1 1/4 - 11.5	10.668	6.627	17.295	38.625	38.452	0.173	37.544	37.372	0.173	37.50	28.10
NPT 1 1/2 - 11.5	10.668	6.627	17.295	44.695	44.522	0.173	43.614	43.441	0.173	43.57	28.40
NPT 2 - 11.5	11.074	6.627	17.701	56.732	56.560	0.173	55.626	55.454	0.173	55.58	28.00



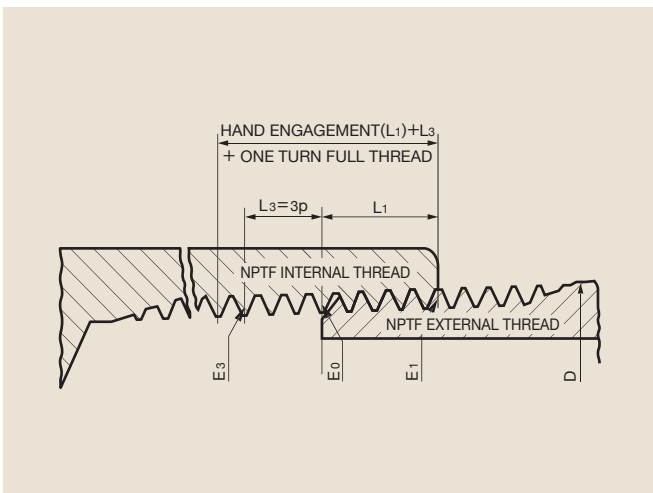
- Remarks 1. Pipe End is Basic Diameter Position (E1).
- Remarks 2. Effective Thread Length is the length away from Pipe End by (L1+L3).
- Remarks 3. Concerning bored hole shape, considering load on taps, taper bored hole is recommended.
- Remarks 4. When applying taper bored hole, by referring to values in shown columns ⑤, ⑥ and ⑧, ⑨, prepare the taper hole by using pipe reamer (1/16 taper). By referring to values shown in column ⑪, select the drill diameter before reaming by taking reamer's margin into account.
- Remarks 5. When preparing straight bored hole, by referring to values shown in column ⑪, select drill diameter.

15. Bored hole size before tapping (for thread cutting)

Recommended Bored Hole Size Table for American Dryseal Taper Pipe Threads (NPTF) (Refer to ANSI B1.20.3-1976, re-confirmed in 1982)

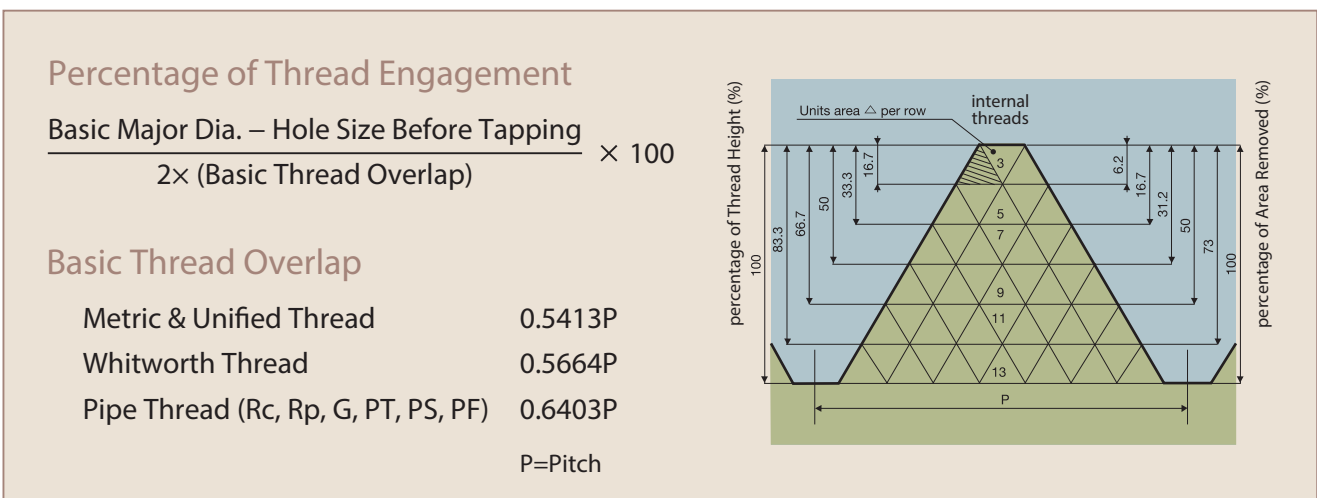
unit: mm

Size	L1	L3 (3P)	L1+L3+1P	Minor Diameter						Bored Hole Size (reference)	reference
				Pipe End (Basic Diameter Position)			Position of (L1+L3+1P)				Maximum Size of Straight Bored Hole
				Maximum Value	Minimum Value	Tolerance	Maximum Value	Minimum Value	Tolerance	Maximum Size of Straight Bored Hole	
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
NPTF 1/16 - 27	4.064	2.822	7.827	6.505	6.414	0.091	6.015	5.923	0.091	5.99	12.00
NPTF 1/8 - 27	4.102	2.822	7.865	8.852	8.761	0.091	8.362	8.270	0.091	8.34	12.05
NPTF 1/4 - 18	5.786	4.234	11.431	11.484	11.397	0.086	10.770	10.684	0.086	10.75	17.45
NPTF 3/8 - 18	6.096	4.234	11.741	14.923	14.836	0.086	14.189	14.103	0.086	14.17	17.65
NPTF 1/2 - 14	8.128	5.443	15.386	18.419	18.333	0.086	17.459	17.373	0.086	17.44	22.85
NPTF 3/4 - 14	8.611	5.443	15.868	23.764	23.678	0.086	22.773	22.687	0.086	22.75	22.95
NPTF 1 - 11.5	10.160	6.627	18.996	29.812	29.726	0.086	28.625	28.538	0.086	28.60	27.40
NPTF 1 1/4 - 11.5	10.668	6.627	19.504	38.569	38.483	0.086	37.350	37.263	0.086	37.33	28.10
NPTF 1 1/2 - 11.5	10.668	6.627	19.504	44.639	44.552	0.086	43.420	43.334	0.086	43.40	28.40
NPTF 2 - 11.5	11.074	6.627	19.910	56.677	56.590	0.086	55.432	55.345	0.086	55.41	28.00



- Remarks 1. Pipe End is Basic Diameter Position (E1).
- Remarks 2. Effective Thread Length is the length away from Pipe End by (L1+L3+1P).
- Remarks 3. Concerning bored hole shape, considering load on taps, taper bored hole is recommended.
- Remarks 4. When applying taper bored hole, by referring to values shown in columns ⑤, ⑥ and ⑧, ⑨, prepare the taper hole by using pipe reamer (1/16 taper). By referring to values in shown column ⑪, select the drill diameter before reaming by taking reamer's margin into account.
- Remarks 5. When preparing straight bored hole, by referring to values shown in column ⑪, select drill diameter.

Percentage of Thread Engagement & Relation between Percentage of Thread Height and Area Removed at A Thread Height



As shown above, when the thread height increases, the amount of material to be removed increases rapidly, so it is an advantage to tap users to keep the hole size (thread minor diameter) as large as possible.

16. Bored hole size before tapping (for thread forming)

■ for Metric Threads

unit: mm

Size	Class	Recommended Hole Size(mm)		thread engagement ratio (Estimation %)	ref.Minor diameter of internal threads (5H/6H)	
		Max.	Min.		Max.	Min.
M1×0.25	ISO2X	0.92	0.89	80~100	0.785	0.729
	ISO3X	0.91	0.89	75~90		
M1.2×0.25	ISO2X	1.11	1.09	80~100	0.985	0.929
	ISO3X	1.11	1.09	75~90		
M1.4×0.3	ISO2X	1.30	1.26	80~100	1.142	1.075
	ISO3X	1.30	1.27	70~90		
M1.6×0.35	ISO2X	1.47	1.43	75~100	1.321	1.221
	ISO3X	1.48	1.44	70~95		
M2×0.4	ISO2X	1.85	1.80	75~100	1.679	1.567
	ISO3X	1.87	1.81	70~95		
M2.5×0.45	ISO2X	2.34	2.27	75~100	2.138	2.013
	ISO3X	2.34	2.29	75~95		
M3×0.5	ISO2X	2.83	2.76	75~100	2.599	2.459
	ISO3X	2.82	2.76	75~95		
M3.5×0.6	ISO2X	3.30	3.22	75~100	3.010	2.850
	ISO3X	3.28	3.22	75~95		
M4×0.7	ISO2X	3.73	3.66	80~100	3.422	3.242
	ISO3X	3.74	3.67	75~95		
M5×0.8	ISO2X	4.68	4.60	80~100	4.334	4.134
	ISO3X	4.71	4.62	75~95		
M6×1	ISO2X	5.60	5.50	80~100	5.153	4.917
	ISO3X	5.61	5.53	80~95		

Size	Class	Recommended Hole Size(mm)		thread engagement ratio (Estimation %)	ref.Minor diameter of internal threads (5H/6H)	
		Max.	Min.		Max.	Min.
M8×1.25	ISO2X	7.52	7.39	80~100	6.912	6.647
	ISO3X	7.51	7.41	80~95		
M8×1	ISO2X	7.60	7.49	80~100	7.153	6.917
	ISO3X	7.60	7.52	80~95		
M10×1.5	ISO2X	9.38	9.26	85~100	8.676	8.376
	ISO3X	9.41	9.29	80~95		
M10×1.25	ISO2X	9.52	9.38	80~100	8.912	8.647
	ISO3X	9.50	9.40	80~95		
M12×1.75	ISO2X	11.27	11.13	85~100	10.441	10.106
	ISO3X	11.26	11.17	85~95		
M12×1.5	ISO2X	11.42	11.25	85~100	10.676	10.376
	ISO3X	11.40	11.28	80~95		
M12×1.25	ISO2X	11.51	11.37	80~100	10.912	10.647
	ISO3X	11.50	11.40	80~95		
M14×2	ISO2X	13.17	13.00	85~100	12.210	11.835
	ISO3X	13.15	13.05	85~95		
M14×1.5	ISO2X	13.36	13.23	85~100	12.676	12.376
	ISO3X	13.40	13.28	80~95		
M16×2	ISO2X	15.17	15.00	85~100	14.210	13.835
	ISO3X	15.15	15.04	85~95		
M16×1.5	ISO2X	15.35	15.23	85~100	14.676	14.376
	ISO3X	15.40	15.27	80~95		

1 6. Bored hole size before tapping (for thread forming)

■ for Unified Threads

Size	Class	Recommended Hole Size(mm)		thread engagement ratio (Estimation %)	ref.Minor diameter of internal threads (2B)	
		Max.	Min.		Max.	Min.
No.2-56UNC	2BX	2.04	1.96	65~100	1.871	1.695
No.2-64UNF	2BX	2.06	1.98	65~100	1.912	1.756
No.3-48UNC	2BX	2.35	2.25	65~100	2.146	1.941
No.3-56UNF	2BX	2.37	2.29	65~100	2.197	2.025
No.4-40UNC	2BX	2.64	2.54	70~100	2.385	2.157
No.4-48UNF	2BX	2.68	2.59	70~100	2.458	2.271
No.5-40UNC	2BX	2.97	2.87	70~100	2.697	2.487
No.5-44UNF	2BX	2.99	2.90	70~100	2.740	2.551
No.6-32UNC	2BX	3.22	3.11	75~100	2.895	2.642

unit: mm

Size	Class	Recommended Hole Size(mm)		thread engagement ratio (Estimation %)	ref.Minor diameter of internal threads (2B)	
		Max.	Min.		Max.	Min.
No.6-40UNF	2BX	3.29	3.19	70~100	3.022	2.820
No.8-32UNC	2BX	3.89	3.78	75~100	3.530	3.302
No.8-36UNF	2BX	3.91	3.81	75~100	3.606	3.404
No.10-24UNC	2BX	4.44	4.30	75~100	3.962	3.683
No.10-32UNF	2BX	4.53	4.44	80~100	4.165	3.963
No.12-24UNC	2BX	5.07	4.96	80~100	4.597	4.344
No.12-28UNF	2BX	5.13	5.03	80~100	4.724	4.496
1/4-20UNC	2BX	5.86	5.73	80~100	5.257	4.979
1/4-28UNF	2BX	6.00	5.91	80~100	5.588	5.360

17. Bar diameter for external threads (for cutting type dies)

unit: mm

Metric threads

Size	major diameter of external threads				bar diameter (ref.)	
	ISO		old JIS		ISO	old JIS
	d _{max}	d _{min}	d _{max}	d _{min}		
M1 × 0.25	1.000	0.933	0.985	0.940	0.95	0.95
M1 × 0.2	1.000	0.944	0.980	0.930	0.96	0.94
M1.1 × 0.25	1.100	1.033	1.100	1.033	1.05	1.05
M1.1 × 0.2	1.100	1.044	1.100	1.044	1.06	1.06
M1.2 × 0.25	1.200	1.133	1.185	1.140	1.15	1.15
M1.2 × 0.2	1.200	1.144	1.180	1.130	1.16	1.14
M1.4 × 0.3	1.400	1.325	1.380	1.320	1.34	1.34
M1.4 × 0.2	1.400	1.344	1.380	1.330	1.36	1.34
M1.6 × 0.35	1.581	1.496	1.581	1.496	1.52	1.52
M1.6 × 0.2	1.583	1.527	1.583	1.527	1.54	1.54
M1.7 × 0.35	1.681	1.596	1.680	1.610	1.62	1.63
M1.7 × 0.2	1.683	1.627	1.680	1.630	1.64	1.64
M1.8 × 0.35	1.781	1.696	1.781	1.696	1.72	1.72
M1.8 × 0.2	1.783	1.727	1.783	1.727	1.74	1.74
M2 × 0.4	1.981	1.886	1.980	1.890	1.91	1.91
M2 × 0.25	1.982	1.915	1.980	1.930	1.93	1.94
M2.2 × 0.45	2.180	2.080	2.180	2.080	2.11	2.11
M2.2 × 0.25	2.182	2.115	2.182	2.115	2.13	2.13
M2.3 × 0.4	2.281	2.186	2.280	2.190	2.21	2.21
M2.3 × 0.25	2.282	2.215	2.280	2.230	2.23	2.24
M2.5 × 0.45	2.480	2.380	2.480	2.380	2.41	2.41
M2.5 × 0.35	2.481	2.396	2.481	2.396	2.42	2.42
M2.6 × 0.45	2.580	2.480	2.580	2.480	2.51	2.51
M2.6 × 0.35	2.581	2.496	2.580	2.480	2.52	2.51
M3 × 0.5	2.980	2.874	2.980	2.874	2.90	2.90
M3 × 0.35	2.981	2.896	2.980	2.880	2.92	2.91
M3.5 × 0.6	3.479	3.354	3.470	3.360	3.39	3.39
M3.5 × 0.35	3.481	3.396	3.480	3.380	3.42	3.41
M4 × 0.7	3.978	3.838	3.978	3.838	3.87	3.87
M4 × 0.5	3.980	3.874	3.970	3.860	3.90	3.89
M4.5 × 0.75	4.478	4.338	4.470	4.340	4.37	4.37
M4.5 × 0.5	4.480	4.374	4.470	4.360	4.40	4.39
M5 × 0.8	4.976	4.826	4.976	4.826	4.86	4.86
M5 × 0.5	4.980	4.874	4.970	4.860	4.90	4.89
M5.5 × 0.5	5.480	5.374	5.470	5.360	5.40	5.39
M6 × 1	5.974	5.794	5.970	5.820	5.84	5.86
M6 × 0.75	5.978	5.838	5.970	5.850	5.87	5.88
M7 × 1	6.974	6.794	6.970	6.820	6.84	6.86
M7 × 0.75	6.978	6.838	6.970	6.850	6.87	6.88
M8 × 1.25	7.972	7.760	7.960	7.790	7.81	7.83
M8 × 1	7.974	7.794	7.970	7.830	7.84	7.87
M8 × 0.75	7.978	7.838	7.970	7.830	7.87	7.87
M9 × 1.25	8.972	8.760	8.960	8.790	8.81	8.83
M9 × 1	8.974	8.794	8.970	8.830	8.84	8.87

Size	major diameter of external threads				bar diameter (ref.)	
	ISO		old JIS		ISO	old JIS
	d _{max}	d _{min}	d _{max}	d _{min}		
M9 × 0.75	8.978	8.838	8.970	8.830	8.87	8.87
M10 × 1.5	9.968	9.732	9.960	9.770	9.79	9.82
M10 × 1.25	9.972	9.760	9.960	9.810	9.81	9.85
M10 × 1	9.974	9.794	9.970	9.820	9.84	9.86
M10 × 0.75	9.978	9.838	9.978	9.838	9.87	9.87
M11 × 1.5	10.968	10.732	10.968	10.732	10.79	10.79
M11 × 1	10.974	10.794	10.970	10.820	10.84	10.86
M11 × 0.75	10.978	10.838	10.978	10.838	10.87	10.87
M12 × 1.75	11.966	11.701	11.950	11.760	11.8	11.8
M12 × 1.5	11.968	11.732	11.960	11.790	11.8	11.8
M12 × 1.25	11.972	11.760	11.972	11.760	11.8	11.8
M12 × 1	11.974	11.794	11.960	11.810	11.84	11.85
M14 × 2	13.962	13.682	13.950	13.740	13.8	13.8
M14 × 1.5	13.968	13.732	13.960	13.790	13.8	13.8
M14 × 1	13.974	13.794	13.960	13.810	13.84	13.85
M15 × 1.5	14.968	14.732	14.960	14.790	14.8	14.8
M15 × 1	14.974	14.794	14.960	14.810	14.84	14.85
M16 × 2	15.962	15.682	15.950	15.740	15.8	15.8
M16 × 1.5	15.968	15.732	15.960	15.790	15.8	15.8
M16 × 1	15.974	15.794	15.960	15.810	15.84	15.85
M17 × 1.5	16.968	16.732	16.968	16.732	16.8	16.8
M17 × 1	16.974	16.794	16.974	16.794	16.84	16.84
M18 × 2.5	17.958	17.623	17.950	17.710	17.7	17.8
M18 × 2	17.962	17.682	17.950	17.650	17.8	17.7
M18 × 1.5	17.968	17.732	17.950	17.780	17.8	17.8
M18 × 1	17.974	17.794	17.960	17.810	17.84	17.85
M20 × 2.5	19.958	19.623	19.950	19.710	19.7	19.8
M20 × 2	19.962	19.682	19.950	19.650	19.8	19.7
M20 × 1.5	19.968	19.732	19.950	19.780	19.8	19.8
M20 × 1	19.974	19.794	19.960	19.810	19.84	19.85
M22 × 2.5	21.958	21.623	21.950	21.710	21.7	21.8
M22 × 2	21.962	21.682	21.950	21.650	21.8	21.7
M22 × 1.5	21.968	21.732	21.950	21.780	21.8	21.8
M22 × 1	21.974	21.794	21.960	21.810	21.84	21.85
M24 × 3	23.952	23.577	23.940	23.680	23.7	23.7
M24 × 2	23.962	23.682	23.940	23.640	23.8	23.7
M24 × 1.5	23.968	23.732	23.950	23.780	23.8	23.8
M24 × 1	23.974	23.794	23.960	23.810	23.84	23.85
M25 × 2	24.962	24.682	24.940	24.640	24.8	24.7
M25 × 1.5	24.968	24.732	24.950	24.780	24.8	24.8
M25 × 1	24.974	24.794	24.960	24.810	24.84	24.85
M26 × 1.5	25.968	25.732	25.950	25.780	25.8	25.8
M27 × 3	26.952	26.577	26.940	26.680	26.7	26.7
M27 × 2	26.962	26.682	26.962	26.682	26.8	26.8
M27 × 1.5	26.968	26.732	26.950	26.780	26.8	26.8
M27 × 1	26.974	26.794	26.974	26.794	26.84	26.84
M28 × 2	27.962	27.682	27.940	27.640	27.8	27.7
M28 × 1.5	27.968	27.732	27.950	27.780	27.8	27.8
M28 × 1	27.974	27.794	27.960	27.810	27.84	27.85
M30 × 3.5	29.947	29.522	29.940	29.660	29.6	29.7
M30 × 3	29.952	29.577	29.952	29.577	29.7	29.7

ISO tolerance area Class 6g (M1.6 and larger) 6h (M1.4 and smaller) old JIS 2nd class old JIS 2nd class
 · ISO : from table 2 JIS B0209-2 and from table 1 JIS B0209-3
 · Old JIS : from the tolerable limit size and the tolerance of metric coarse threads (for 2nd class external threads, JIS B 0209-1982 appendix 1, appendix 1 attachment 4, from the tolerable limit size and the tolerance of metric fine threads (for 2nd class external threads), JIS B 0211-1982 appendix, appendix attachment 4

17. Bar diameter for external threads (for cutting type dies)

unit: mm

Size	major diameter of external threads				bar diameter (ref.)	
	ISO		old JIS		ISO	old JIS
	d _{max}	d _{min}	d _{max}	d _{min}		
M30 × 2	29.962	29.682	29.940	29.640	29.8	29.7
M30 × 1.5	29.968	29.732	29.950	29.780	29.8	29.8
M30 × 1	29.974	29.794	29.960	29.810	29.84	29.85
M32 × 2	31.962	31.682	31.940	31.640	31.8	31.7
M32 × 1.5	31.968	31.732	31.950	31.780	31.8	31.8
M33 × 3.5	32.947	32.522	32.940	32.660	32.6	32.7
M33 × 3	32.952	32.577	32.952	32.577	32.7	32.7
M33 × 2	32.962	32.682	32.962	32.682	32.8	32.8
M33 × 1.5	32.968	32.732	32.950	32.780	32.8	32.8
M35 × 1.5	34.968	34.732	34.950	34.780	34.8	34.8
M36 × 4	35.940	35.465	35.930	35.630	35.6	35.7
M36 × 3	35.952	35.577	35.952	35.577	35.7	35.7
M36 × 2	35.962	35.682	35.940	35.640	35.8	35.7
M36 × 1.5	35.968	35.732	35.950	35.780	35.8	35.8
M38 × 1.5	37.968	37.732	37.950	37.780	37.8	37.8
M39 × 4	38.940	38.465	38.930	38.630	38.6	38.7
M39 × 3	38.952	38.577	38.952	38.577	38.7	38.7
M39 × 2	38.962	38.682	38.962	38.682	38.8	38.8
M39 × 1.5	38.968	38.732	38.968	38.732	38.8	38.8
M40 × 3	39.952	39.577	39.952	39.577	39.7	39.7
M40 × 2	39.962	39.682	39.940	39.640	39.8	39.7
M40 × 1.5	39.968	39.732	39.950	39.780	39.8	39.8
M42 × 4.5	41.937	41.437	41.930	41.610	41.6	41.7
M42 × 4	41.940	41.465	41.940	41.465	41.6	41.6
M42 × 3	41.952	41.577	41.952	41.577	41.7	41.7
M42 × 2	41.962	41.682	41.940	41.640	41.8	41.7
M42 × 1.5	41.968	41.732	41.950	41.780	41.8	41.8
M45 × 4.5	44.937	44.437	44.930	44.610	44.6	44.7
M45 × 4	44.940	44.465	44.940	44.465	44.6	44.6
M45 × 3	44.952	44.577	44.952	44.577	44.7	44.7
M45 × 2	44.962	44.682	44.940	44.640	44.8	44.7
M45 × 1.5	44.968	44.732	44.950	44.780	44.8	44.8
M48 × 5	47.929	47.399	47.930	47.590	47.5	47.7
M48 × 4	47.940	47.465	47.940	47.465	47.6	47.6
M48 × 3	47.952	47.577	47.952	47.577	47.7	47.7
M48 × 2	47.962	47.682	47.940	47.640	47.8	47.7
M48 × 1.5	47.968	47.732	47.950	47.780	47.8	47.8

Unified threads (for 2A class)

Unit: mm

size	major diameter of external threads		bar diameter (ref.)
	d _{max}	d _{min}	
No.0-80UNF	1.511	1.431	1.45
No.1-64UNC	1.838	1.743	1.77
No.1-72UNF	1.838	1.751	1.77
No.2-56UNC	2.169	2.066	2.09
No.2-64UNF	2.169	2.073	2.10
No.3-48UNC	2.496	2.383	2.41
No.3-56UNF	2.496	2.393	2.42
No.4-40UNC	2.824	2.695	2.73
No.4-48UNF	2.827	2.713	2.74
No.5-40UNC	3.154	3.026	3.06
No.5-44UNF	3.157	3.036	3.07
No.6-32UNC	3.484	3.333	3.37
No.6-40UNF	3.484	3.356	3.39
No.8-32UNC	4.142	3.991	4.03
No.8-36UNF	4.145	4.006	4.04
No.10-24UNC	4.800	4.618	4.66
No.10-32UNF	4.803	4.651	4.69
No.12-24UNC	5.461	5.279	5.32
No.12-28UNF	5.461	5.296	5.34
1/4-20UNC	6.322	6.117	6.17
1/4-28UNF	6.324	6.160	6.20
5/16-18UNC	7.907	7.687	7.74
5/16-24UNF	7.909	7.727	7.77
3/8-16UNC	9.491	9.254	9.31
3/8-24UNF	9.497	9.315	9.36
7/16-14UNC	11.076	10.816	10.88
7/16-20UNF	11.079	10.874	10.93
1/2-13UNC	12.611	12.386	12.4
1/2-20UNF	12.666	12.462	12.5
9/16-12UNC	14.246	13.958	14.0
9/16-18UNF	14.251	14.031	14.1
5/8-11UNC	15.834	15.528	15.6
5/8-18UNF	15.839	15.619	15.7
3/4-10UNC	19.004	18.677	18.8
3/4-16UNF	19.011	18.774	18.8
7/8-9UNC	22.176	21.824	21.9
7/8-14UNF	22.184	21.923	22.0
1-8UNC	25.349	24.969	25.1
1-12UNF	25.354	25.065	25.1
1 1/8-7UNC	28.519	28.103	28.2
1 1/8-12UNF	28.529	28.240	28.3
1 1/4-7UNC	31.694	31.278	31.4
1 1/4-12UNF	31.704	31.415	31.5
1 3/8-6UNC	34.864	34.402	34.5
1 3/8-12UNF	34.876	34.588	34.7
1 1/2-6UNC	38.039	37.577	37.7
1 1/2-12UNF	38.051	37.763	37.8
1 3/4-5UNC	44.381	43.861	44.0
2-4.5UNC	50.726	50.168	50.3

· from table 4 JIS B 0210 and table 4 JIS B 0212

17. Bar diameter for external threads (for cutting type dies)

■ Sewing machine screw threads (for 2nd class)

Unit : mm

Size	major diameter of external threads		bar diameter (ref.)
	d_{max}	d_{min}	
1/16 SM 80	1.588	1.518	1.54
5/64 SM 64	1.984	1.904	1.92
3/32 SM 56	2.381	2.286	2.31
3/32 SM 100	2.381	2.306	2.32
1/8 SM 40	3.175	3.045	3.08
1/8 SM 44	3.175	3.055	3.09
9/64 SM 40	3.572	3.442	3.47
11/64 SM 40	4.366	4.236	4.27
3/16 SM 24	4.762	4.602	4.64
3/16 SM 28	4.762	4.602	4.64
3/16 SM 32	4.762	4.602	4.64
7/32 SM 32	5.556	5.396	5.44
15/64 SM 28	5.953	5.773	5.82
1/4 SM 24	6.350	6.170	6.22
1/4 SM 40	6.350	6.220	6.25

· from table 2 JIS B 0226 (void in 2001)

■ Taper pipe threads (PT, R)

Unit : mm

Size	bar diameter (ref.)	
	taper (dia of thread end)	Straight
PT 1/16 - 28	7.5	7.9
PT 1/8 - 28	9.5	9.9
PT 1/4 - 19	12.8	13.4
PT 3/8 - 19	16.3	16.9
PT 1/2 - 14	20.5	21.3
PT 3/4 - 14	25.9	26.8
PT 1 - 11	32.7	33.7
PT 1 1/4 - 11	41.2	42.3
PT 1 1/2 - 11	47.1	48.2
PT 2 - 11	58.7	60.1

■ Parallel pipe threads (PF · G)(for A class)

Unit : mm

Size	major diameter of external threads		bar diameter (ref.)
	d_{max}	d_{min}	
PF 1/16 - 28	7.723	7.509	7.56
PF 1/8 - 28	9.728	9.514	9.57
PF 1/4 - 19	13.157	12.907	13.0
PF 3/8 - 19	16.662	16.412	16.5
PF 1/2 - 14	20.955	20.671	20.7
PF 5/8 - 14	22.911	22.627	22.7
PF 3/4 - 14	26.441	26.157	26.2
PF 7/8 - 14	30.201	29.917	30.0
PF 1 - 11	33.249	32.889	33.0
PF 1 1/8 - 11	37.897	37.537	37.6
PF 1 1/4 - 11	41.910	41.550	41.6
PF 1 1/2 - 11	47.803	47.443	47.5
PF 2 - 11	59.614	59.254	59.3

18. Bar diameter of external threads (for thread rolling dies)

○NRS-D recommendation for bar diameter for metric external threads

Unit : mm

size	recommended bar diameter	
	Max.	Min.
M3×0.5	2.64	2.62
M4×0.7	3.54	3.52
M5×0.8	4.40	4.38
M6×1	5.30	5.28
M8×1.25	7.10	7.07

○RS-D recommendation for bar diameter for metric external threads

Unit : mm

size	recommended bar diameter	
	Max.	Min.
M1×0.25	0.808	0.785
M1.1×0.25	0.918	0.891
M1.2×0.25	1.007	0.984
M1.4×0.3	1.168	1.142
M1.6×0.35	1.332	1.300
M1.7×0.35	1.432	1.401
M1.8×0.35	1.530	1.498
M2×0.4	1.699	1.669
M2×0.25	1.796	1.771
M2.2×0.45	1.863	1.827

size	recommended bar diameter	
	Max.	Min.
M2.3×0.4	1.998	1.968
M2.3×0.25	2.096	2.071
M2.5×0.45	2.162	2.126
M2.5×0.35	2.228	2.196
M2.6×0.45	2.262	2.226
M2.6×0.35	2.318	2.278
M3×0.5	2.627	2.589
M3×0.35	2.718	2.677
M4×0.5	3.607	3.561
M5×0.5	4.606	4.560

○MS-RS-D recommendation for bar diameter for miniature external threads

Unit : mm

size	recommended bar diameter	
	Max.	Min.
S0.5×0.125	0.410	0.396
S0.6×0.15	0.494	0.479
S0.7×0.175	0.575	0.559
S0.8×0.2	0.658	0.640
S0.9×0.225	0.741	0.720

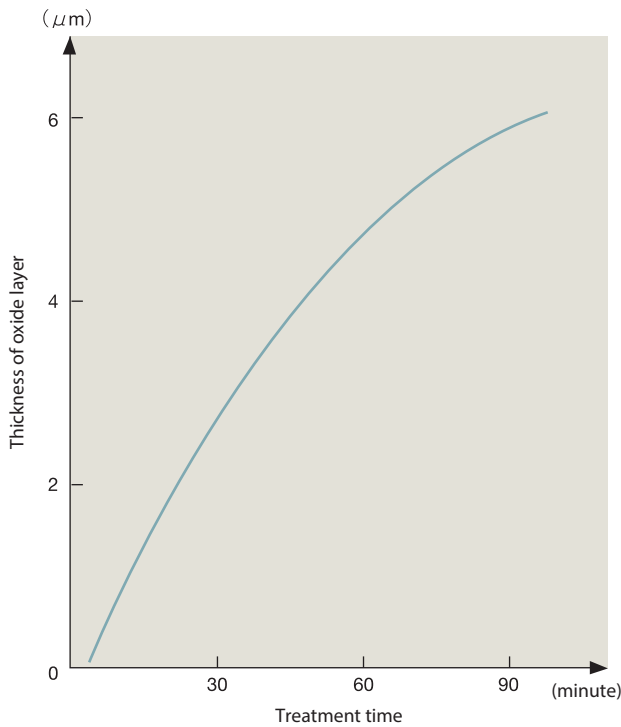
19. Surface Treatment

The best surface treatment is applied to each tap depending on the tapping purpose. Characteristics and effectiveness of surface treatment are introduced at next section.

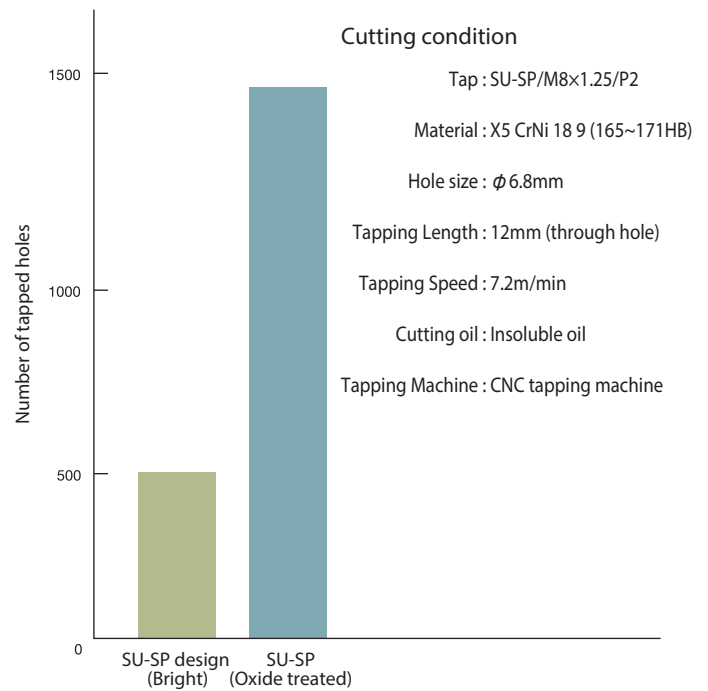
■ Oxidizing

- This treatment was processed by using HOMO furnace being made by LEED AND NORTHUP company USA in 1938, and it is called HOMO treatment. This treatment is also called vapor treatment and steam treatment. Through this treatment, Fe_3O_4 layer of blue black color is produced over the tool surface.
- Oxidization treatment produces porous layer on tool's surface. This porous layer works as oil pocket to reduce friction, to avoid welding and to improve the surface roughness of internal screw. Moreover, longer tool life is expected because the treatment reduces the remaining stress of HSS tools.
- This treatment does not increase the hardness on tool surface. Using the furnace of YAMAWA original design and choosing the proper treatment time, we have marked good result of oxidizing for YAMAWA HSS tools.
- Stainless steel and low carbon steel are the materials that are easy to get welding. We are applying this treatment to the special purpose taps for these materials to get good result. Further due to the reduction of friction force, this treatment has good result for wide range of steel type material.
- We combine oxidizing with nitriding for the taps designed for thermal refined steels of high carbon steels and alloy steels. This double treatment wins good reputation of the market.

■ Thickness of oxide layer and the time of treatment



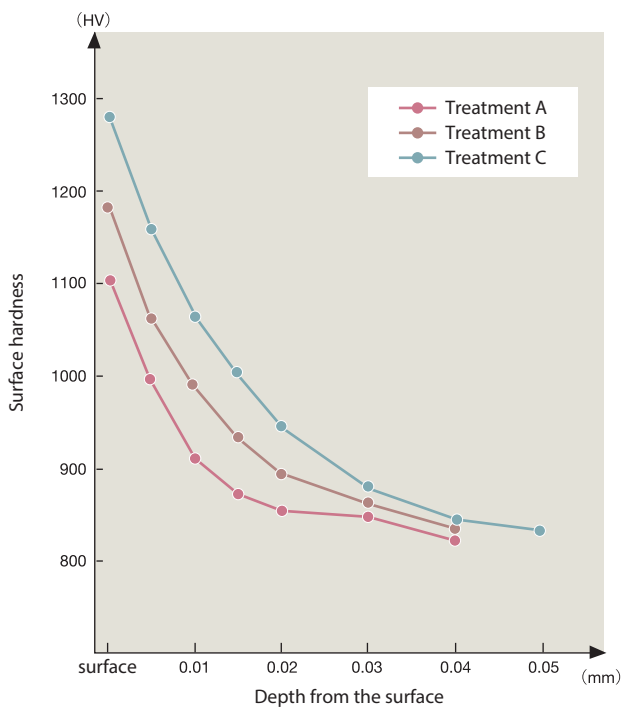
■ Comparison between bright and oxide treated



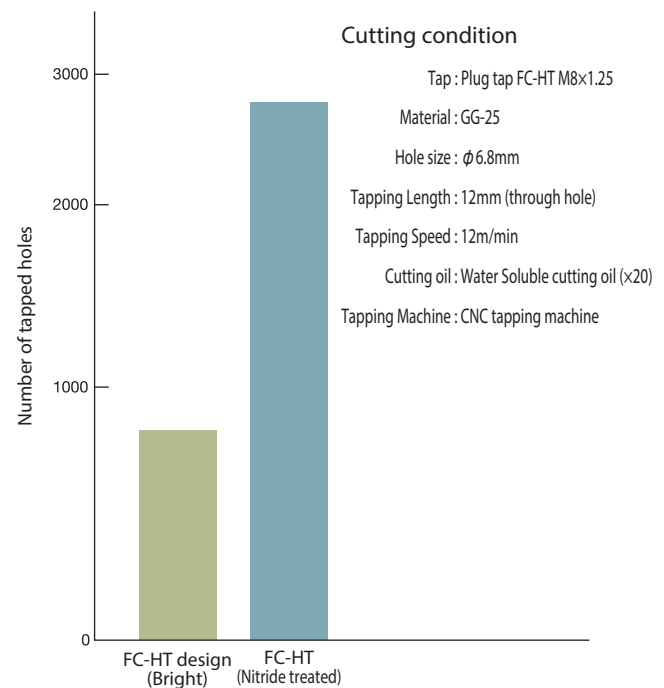
■ Nitriding

- In this treatment, we have Nitrogen and Carbon soak into the surface of HSS tools, and react with chemical of HSS material to produce hard nitride. There are 3 methods in the treatment, composition gas method, salt bath nitride method and ion nitride method.
- Salt bath nitride treatment is shifted into gas nitride treatment method because of cyanic environmental pollution.
- The temperature of treatment is 500 to 550 degree. Hardness and depth of the treatment can be controlled by active nitrogen concentration and reaction time.
- The high hardness of tool surface minimizes chemical attraction. Result is less welding and friction reduction. Great improvement is expected in tool's performance.
- We have found out the best combinations of hardness and toughness through our treatment technology
- The nitride treatment will be widely applicable to the taps for such workpiece materials as gray cast irons, special cast irons, aluminum diecastings with higher silicone content, copper alloys, and resinoids (plastics). These materials produce small segmental chips and are very abrasive.
- We combine nitrogen and oxidizing for comparatively sticky material such as thermal refined steels of high carbon steel and alloy steel. This double treatment improves the chipping resistance and have won good reputation.

■ Depth and hardness of Nitride Surface Treatment



■ Comparison between bright and nitride treated



19. Surface Treatment

■ Hard coating

High speed cutting and hard-to-machine material cutting are the recent technology. To meet this tendency, the hard layer coating by vapor deposition over tool's surface has become popular. There are two coating methods, CVD and PVD. PVD is mainly used for tap.

■ Physical Vapor Deposition

Inside of the container of high vacuum, are vapor deposition materials heated. And we vapor-deposit particles ionized by electric discharge on tool's surface.

○Due to its low reaction temperature (lower than 500°C), PVD makes little change in shape and hardness of HSS tools.

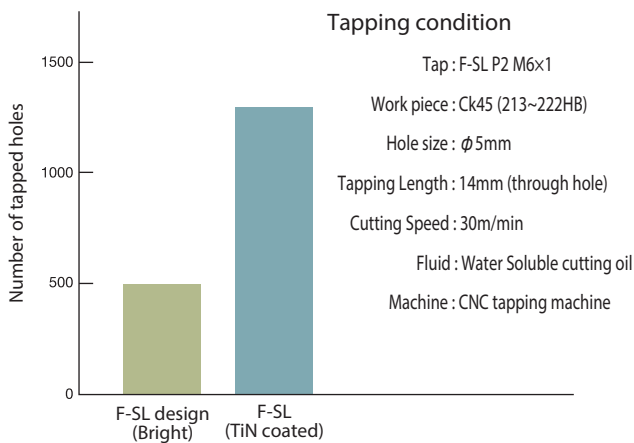
○We have adopted iron plating method, and are coating thin layer (1-4um) over our HSS and carbide tools. The layer processed by this method is very high in its adherence and its wear resistance.

■ The features and classification of coating

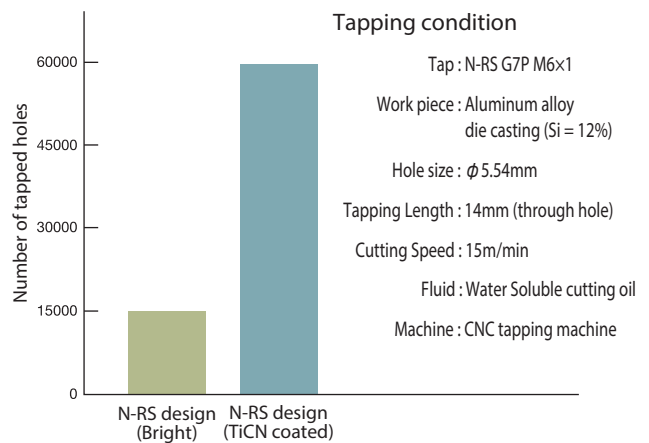
Classification	Titanium nitride (TiN)	Titanium carbonitride (TiCN)	Titanium nitride aluminum (TiAlN)	Chromium nitride (CrN)
Features				
Vickers Hardness	2000~2400	3000~3500	2300~2700	1800~2200
Wear resistance	Good	Excellent	Excellent	Normal
Welding resistance	Good	Good	Good	Excellent
Heat resistance	Good	Normal	Excellent	Excellent
Acid resistance	Good	Normal	Excellent	Good
Slippery	Good	Excellent	Good	Excellent
Color	Gold	Blue Gray Violet	Violet	Silver
Workpiece materials	Carbon Steels Aluminum forging	Carbon Steels Hard Steels Stainless Steels Aluminum forging Cast Irons Brass · Bronze	Stainless Steels Cast Irons	Copper

Note: Evaluation (tri-level) of characteristic features is just comparative of these four coatings, TiN, TiCN, TiAlN, and CrN, in the table. These coatings have great advantages of wear resistance, welding resistance, and friction reduction. The values of vickers hardness are also higher than the heat treatment or nitriding of HSS cutting tools from the table.

■ Comparison between bright and TiN coated



■ Comparison between bright and TiCN coated



20. Carbide Taps

Technological advances in CNC machines and machining centers, and machining automation have helped improve the overall tapping process. YAMAWA was quick to respond to evolving customer needs resulting from technological innovations.

We can now recommend carbide taps, which provide tremendous improvements in mass-production and in reducing costs. It is estimated that carbide taps have 50 times more durability than HSS taps in tapping, when used properly. YAMAWA engineering believes the best carbide materials suitable for taps are ultramicro grain tungsten carbide, or ultrafine grain carbide made of high cobalt.

■ Features of Carbide Taps

- (1) Excellent durability with high toughness is obtainable.
- (2) High anti-friction features are provided by the material's high hardness and comparatively high toughness, which ultimately results in a longer tool life.
- (3) Specially designed cutting angle and other dimensional features produce the internal threads with high tolerance accuracy and consistency.
- (4) Under certain tapping condition, YAMAWA carbide taps can be used even for tapping hard-to-machine materials.

■ Points to note during tapping with Carbide taps:

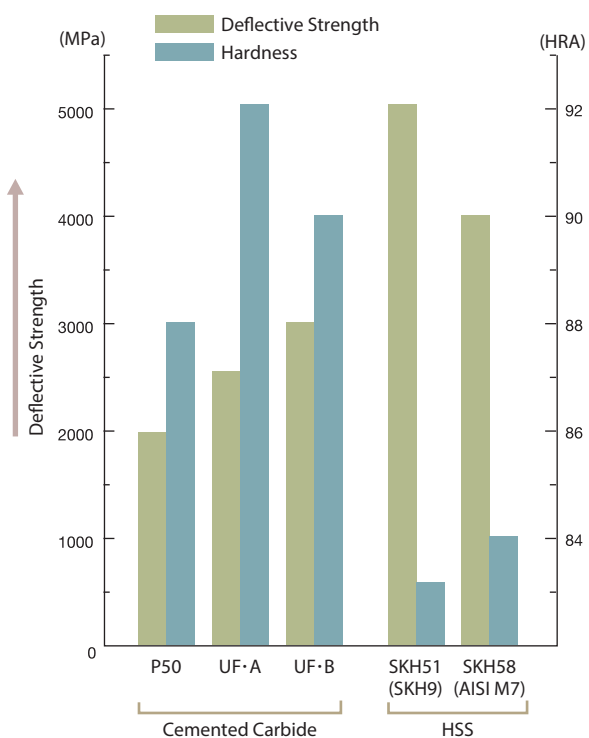
- (1) Machine vibration, or run-out, can lead to Carbide tap chipping and premature failure. Tapping vibrations need to be kept to a minimum.
- (2) Tap holder should be a rigid type for a Carbide tap. A holder attachment with axial float, or radial float tends to promote Carbide tap breakage and chipping.
- (3) The hole to be tapped must be located correctly and on center ; any centering off or non-straight drilled hole tends to cause Carbide tap breakage due to deflection. Select correct hole depth with respect to tapping length (for blind hole only). It is especially important to prevent tap damage from chip packing and bottom thrusting in blind hole tapping.
- (4) Cutting lubricants - select grade of lubricant. Improper flow of coolant, or lack of sufficient amount of lubricant, or cooling can increase the likelihood of Carbide tap chipping due to work material welding. Caution must be taken during dry machining to prevent chip welding to the tap.
- (5) Work pieces - we provide Carbide taps with increased toughness, but Carbide taps are inferior to High Speed Steel (HSS) in the area of toughness. As a matter of fact Carbide taps have limited application due to this difference in toughness to HSS.

■ Commonly used materials and cutting conditions.

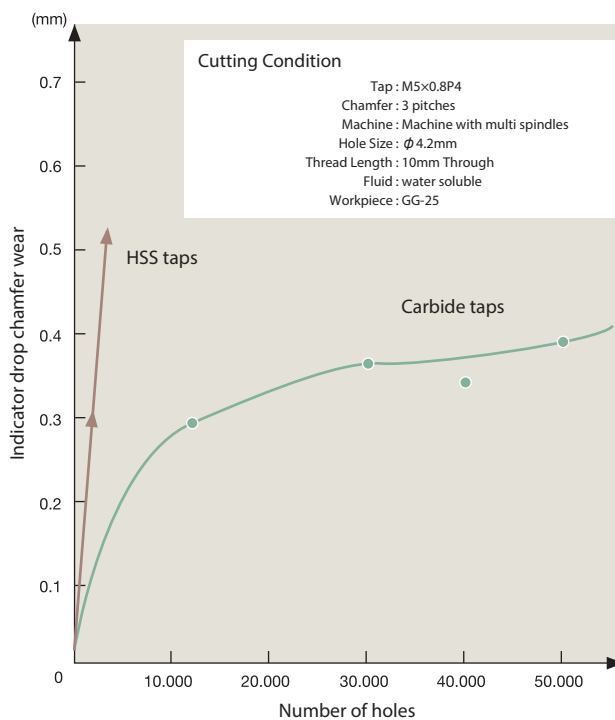
Work Materials		Cutting Speed (m/min)	Cutting Fluid (General recommendation)
Cast Iron	Ordinary	15~25	Dry, light oil, water soluble oil
	Nodular Graphite	10~20	Light oil, water soluble oil
	Malleable	10~20	Water soluble oil
Aluminum		20~40	Light oil, water soluble oil
Copper		15~30	Light oil, water soluble oil
Copper Alloy	Brass	20~30	Light oil, water soluble oil
	Phosphor Bronze	15~30	Light oil, water soluble oil
Die-Cast	Aluminum Alloy	15~25	Mixed oil of lard oil and kerosene
	Zinc Alloy	12~20	Mixed oil of lard oil and kerosene
Plastic	Thermosetting	15~25	Water soluble oil, air
	Thermo Plastic	15~25	Water soluble oil, air
Hard Rubber		15~30	Dry, air

Note : The table shows only general conditions. As for actual cutting operation, please consider the following points : (1) Machine Capacity, (2) Work piece(s), (3) Work Shape, (4) Setup (5) other factors.

■ Toughness and Hardness of Cemented Carbide and HSS



■ Chamfer wear and number of holes of Carbide taps and HSS taps



■ Carbide Tap examples and comparison of tool life

Classification		Size	M2×0.4	M8×1.25	M6×1	M8×1.25	M10×1.25
Workpiece	Material		Plastic with glass fibre	Aluminum alloy die casting (Si = 12%)	GG-25	GG-25	GG-25
	Part's name		Electric Parts	Car Parts	Electric Parts	Car Parts	Car Parts
Thread Condition	Tapping Hole. condition		φ 1.6 Through	φ 6.7 Blind	φ 5.0 Blind	φ 6.7 Blind	φ 8.7 Blind
	Tapping Length		4mm	18mm	10mm	16mm	18mm
Condition of Use	Machine		Special Machine	Special Machine	4 spindle Machine	Multi Spindle Machine	Special Machine
	Cutting Speed		6.3m/min	8.5m/min	8m/min	6m/min	5.7m/min
	Fluid		Dry	Water soluble	Water soluble	Water soluble	Water soluble
Number of Holes	Carbide Tap		10.000	75.400	53.000	18.860	38.500
	HSS Tap		200	1.000	1.000	300	500
	Comparison of Life		50	75.4	53	62.9	77

Note : In all situations, HSS taps being used are standard ones.
 Carbide taps, when used properly, bring out a long tool life.
 These datum have come from end users of carbide taps.

21. Taps for Pipe Threads

1. JIS Pipe Taps

The pipe thread standard (JIS B 0202,0203) was revised in 1982 to meet ISO standard. In the same year, JIS B 4445 (straight pipe thread taps) and JIS B 4446 (taper pipe thread taps) were also revised.

○A part of the pipe thread standard was revised in 1966 to meet ISO, but in the 1982 revision, the ISO standard was defined in the main book of JIS and the old 1966 standard was defined in JIS Appendix. For Pipe Threads specified in the main book of JIS and JIS Appendix, thread symbols are different but the nominal size 1/8 to 6 inch are same. In the 1998 revision, the contents of the main book of JIS and JIS Appendix are not changed.

○ISO tap standard for pipe threads is different from the JIS tap standard in style, size and thread limit. Like the pipe thread standard, in JIS tap standards for pipe threads, style, size and thread limits of ISO standard are adopted in the main book of JIS and those of old JIS standard are in the JIS Appendix. For ISO standard (style and size), please refer to the next page.

○Thread limits of Rp and G taps are the same as the ISO standard. The thread limit of Rc taps is the same as the JIS class 2 of PT taps shown in JIS Appendix because Rc is not specified in the ISO standard. Therefore, both Rc taps and PT taps can be used interchangeably. For the relation between thread limit of internal threads and tap thread limit, please refer to the table below.

○Pipe Tap standard was revised in 1987. And tap designations shown in JIS Appendix were changed to PF taps for Parallel Pipe Thread, PT taps for Taper Pipe Thread, and PS taps for Parallel Pipe Thread.

■ Symbol of Pipe threads

Type	Classification		Standard	JIS (ISO)	JIS Appendix
Taper Thread	Taper Thread	Internal Thread	JIS B 0203—1982	Rc	PT
		External Thread		R	PT
	Parallel Thread	Internal Thread		Rp	PS
		External Thread		—	—
Parallel Thread	Parallel Thread	Internal Thread	JIS B 0202—1982	G	PF, A class
		Internal Thread		—	PF, B class
		External Thread		G, A class	PF, A class
		External Thread		G, B class	PF, B class

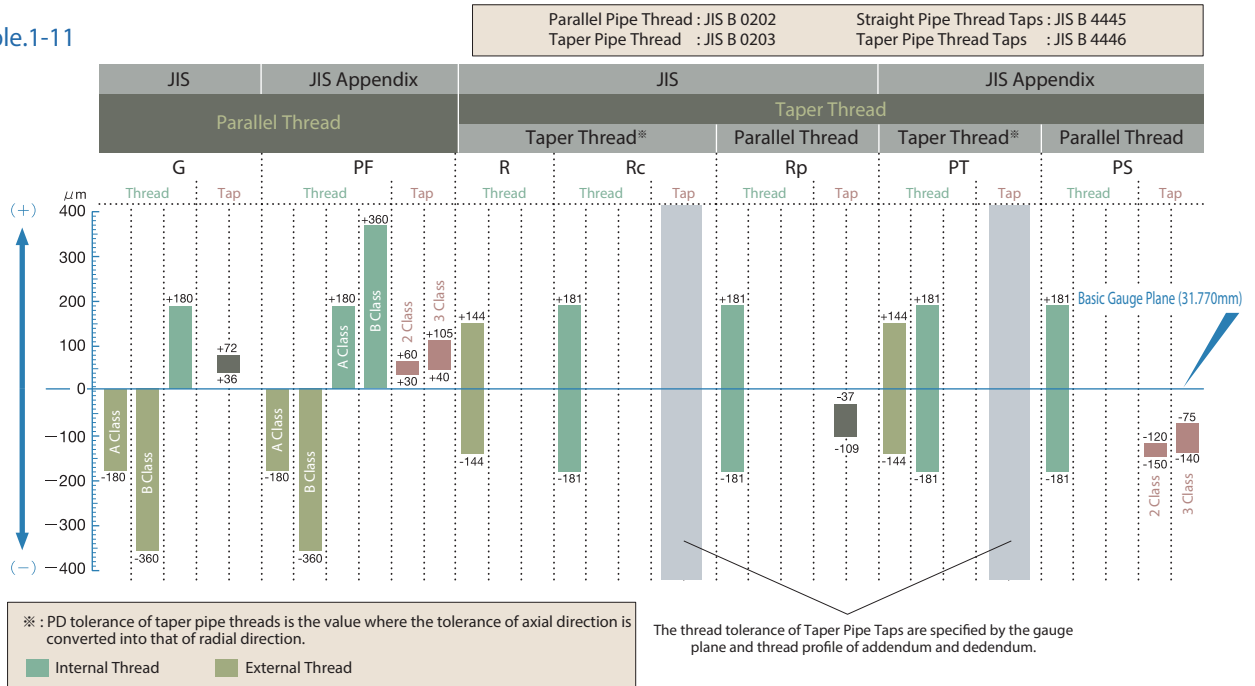
■ Relation between classification/engagement of pipe threads and taps

Kind of thread	Classification	Main usage	type	Engagement	Pipe taps	
Pipe thread	Taper pipe threads	In connection of pips, pipe parts and fluid parts they are used mainly for the purpose of pressure type joints.	Internal threads	Parallel PS (Rp)		PS
				Taper PT (Rc)		PT
			External threads	Taper PT (R)		S-PT
	Parallel pipe threads	In connection of pipes, pipe parts and fluid parts, they are used mainly for the purpose of mechanical type joints.	Internal threads	PF (G)		PF
				External threads	PF (G)	

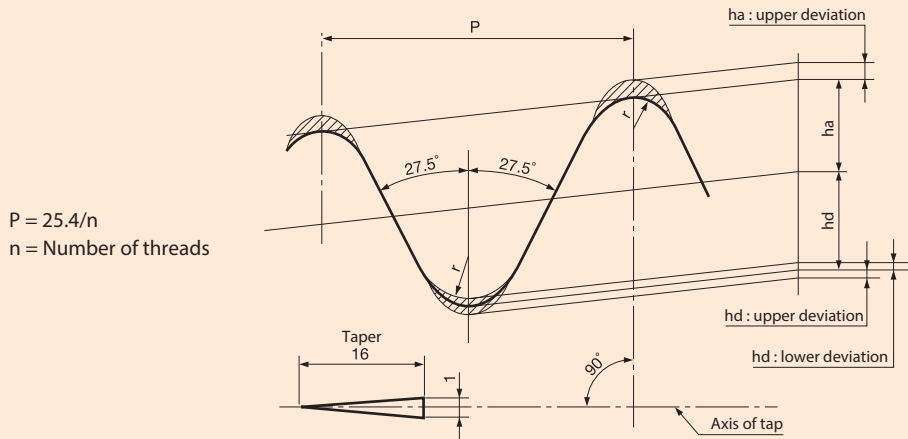
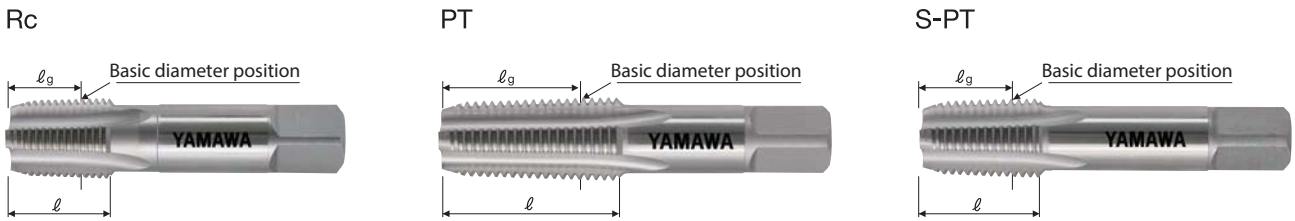
21. Taps for Pipe Threads

Relation of pitch diameter tolerance zone between thread and tap

Example.1-11



■ Comparison of the thread limit of taper pipe tap



Unit : mm

Size	Basic major Dia. of Gauge Plane	Number of Threads*	ISO (Rc)		Appendix (PT)				Thread Limit			
			Thread Length l	Basic Diameter Position l_g	PT Thread		S-PT Thread		ha		hd	
					Thread Length l	Basic Diameter Position l_g	Thread Length l	Basic Diameter Position l_g	Basic Size	Tolerance (μm)	Basic Size	Tolerance (μm)
1/16	7.723	28	14	10.1	—	—	—	—	0.291	0~+30	0.291	±15
1/8	9.728	28	15	10.1	19	13	16.5	10.5	0.291	0~+30	0.291	±15
1/4	13.157	19	19	15	28	21	19.5	12.5	0.428	0~+40	0.428	±20
3/8	16.662	19	21	15.4	28	21	21	14	0.428	0~+40	0.428	±20
1/2	20.955	14	26	20.5	35	25	27	17	0.581	0~+50	0.581	±25
3/4	26.441	14	28	21.8	35	25	29	19	0.581	0~+50	0.581	±25
1	33.249	11	33	26	45	32	35	22	0.740	0~+60	0.740	±30
1 1/4	41.910	11	36	28.3	45	32	37.5	24.5	0.740	0~+60	0.740	±30
1 1/2	47.803	11	37	28.3	45	32	38.5	25.5	0.740	0~+60	0.740	±30
2	59.614	11	41	32.7	50	35	42.5	27.5	0.740	0~+60	0.740	±30
2 1/2	75.184	11	45	37.1	—	—	—	—	0.740	0~+60	0.740	±30
3	87.884	11	48	40.2	—	—	—	—	0.740	0~+70	0.740	±35
4	113.030	11	53	46.2	—	—	—	—	0.740	0~+70	0.740	±35

Note : JIS standard has 2 types of Taper pipe thread, PT and S-PT taps. ISO standard has one type of Taper pipe thread Rc.

* : Threads per inch

21. Taps for Pipe Threads

Comparison of the thread limit for straight pipe taps

Unit : μm

Size	Number of Threads*	Pitch (mm)	The Thread Limit of ISO (G)								The Thread Limit of Appendix of PF							
			Major Dia		Pitch Dia				Minor Dia		Major Dia		Pitch Dia				Minor Dia	
			Basic Size (mm)	LT (+)	Basic Size (mm)	UT (+)	LT (+)	Tolerance	Basic Size (mm)	UT	Basic Size (mm)	LT (+)	Basic Size (mm)	UT (+)	LT (+)	Tolerance	Basic Size (mm)	UT (+)
1/16	28	0.9071	7.723	32	7.142	43	21	22	6.561	Not Specified	—		—				—	
1/8	28	0.9071	9.728	32	9.147	43	21	22	8.566		9.728	65	9.147	40	20	20	8.566	40
1/4	19	1.3368	13.157	37	12.301	50	25	25	11.445		13.157	90	12.301	50	25	25	11.445	50
3/8	19	1.3368	16.662	37	15.806	50	25	25	14.950		16.662	90	15.806	50	25	25	14.950	50
1/2	14	1.8143	20.955	43	19.793	57	28	29	18.631		20.955	115	19.793	55	25	30	18.631	55
5/8	14	1.8143	22.911	43	21.749	57	28	29	20.587		22.911	115	21.749	55	25	30	20.587	55
3/4	14	1.8143	26.441	43	25.279	57	28	29	24.117		26.441	115	25.279	55	25	30	24.117	55
7/8	14	1.8143	30.201	43	29.039	57	28	29	27.877		30.201	115	29.039	55	25	30	27.877	55
1	11	2.3091	33.249	54	31.770	72	36	36	30.291		33.249	145	31.770	60	30	30	30.291	60
1 1/8	11	2.3091	37.897	54	36.418	72	36	36	34.939		37.897	145	36.418	60	30	30	34.939	60
1 1/4	11	2.3091	41.910	54	40.431	72	36	36	38.952		41.910	145	40.431	65	30	35	38.952	65
1 1/2	11	2.3091	47.803	54	46.324	72	36	36	44.845		47.803	145	46.324	65	30	35	44.845	65
1 3/4	11	2.3091	53.746	54	52.267	72	36	36	50.788		53.746	145	52.267	65	30	35	50.788	65
2	11	2.3091	59.614	54	58.135	72	36	36	56.656		59.614	150	58.135	75	35	40	56.656	75
2 1/4	11	2.3091	65.710	65	64.231	87	43	44	62.752									
2 1/2	11	2.3091	75.184	65	73.705	87	43	44	72.226									
2 3/4	11	2.3091	81.534	65	80.055	87	43	44	78.576									
3	11	2.3091	87.884	65	86.405	87	43	44	84.926									
3 1/2	11	2.3091	100.330	65	98.851	87	43	44	97.372									
4	11	2.3091	113.030	65	111.551	87	43	44	110.072									

※ : Threads per inch
UT : The upper deviation
LT : The lower deviation

Comparison of the thread limit of taper pipe taps

Unit : μm

Size	Number of Threads*	Pitch (mm)	The Thread Limit of ISO (Rp)								The Thread Limit of Appendix of PS									
			Major Dia		Pitch Dia				Minor Dia		Major Dia		Pitch Dia				Minor Dia			
			Basic Size (mm)	LT (-)	Basic Size (mm)	UT (-)	LT (-)	Tolerance	Basic Size (mm)	UT	Basic Size (mm)	UT	LT (-)	Basic Size (mm)	UT (-)	LT (-)	Tolerance	Basic Size (mm)	UT	LT (-)
1/16	28	0.9071	7.723	43	7.142	14	43	29	6.561	Not Specified	—		—				—			
1/8	28	0.9071	9.728	43	9.147	14	43	29	8.566		9.728	+10	50	9.147	30	50	20	8.566	+10	50
1/4	19	1.3368	13.157	63	12.301	21	63	42	11.445		13.157	+ 5	75	12.301	50	75	25	11.445	+ 5	75
3/8	19	1.3368	16.662	63	15.806	21	63	42	14.950		16.662	+ 5	75	15.806	50	75	25	14.950	+ 5	75
1/2	14	1.8143	20.955	86	19.793	29	86	57	18.631		20.955	-25	115	19.793	85	115	30	18.631	-25	115
3/4	14	1.8143	26.441	86	25.279	29	86	57	24.117		26.441	-25	115	25.279	85	115	30	24.117	-25	115
1	11	2.3091	33.249	109	31.770	37	109	72	30.291		33.249	-50	150	31.770	120	150	30	30.291	-50	150
1 1/4	11	2.3091	41.910	109	40.431	37	109	72	38.952		41.910	-50	150	40.431	115	150	35	38.952	-50	150
1 1/2	11	2.3091	47.803	109	46.324	37	109	72	44.845		47.803	-50	150	46.324	115	150	35	44.845	-50	150
2	11	2.3091	59.614	109	58.135	37	109	72	56.656		59.614	-45	145	58.135	105	145	40	56.656	-45	145
2 1/2	11	2.3091	75.184	130	73.705	43	130	87	72.226											
3	11	2.3091	87.884	130	86.405	43	130	87	84.926											
4	11	2.3091	113.030	130	111.551	43	130	87	110.072											

※ : Threads per inch
UT : The upper deviation
LT : The lower deviation

2. American Pipe Thread Taps

American standard pipe thread has various types. We show their symbols and engagement of threads as follows.

■ Pair groups of external thread and internal thread.

Standard	Symbol	Internal Thread	Mating Thread	External Thread	Mating Thread
Pipe Threads, General Purpose (ANSI/ASME B1.20.1)	American Standard Taper Pipe Thread for General Use	NPT	NPT	NPT	NPT NPSC
	American Standard Straight Pipe Thread in Pipe Couplings	NPSC	NPT	—	—
	American Standard Taper Pipe Threads for Railing Joints	NPTR	NPTR	NPTR	NPTR
	American Standard Straight Pipe Thread for Free-Fitting Mechanical Joints for Fixtures	NPSM	NPSM	NPSM	NPSM
	American Standard Straight Pipe Thread for Loose-Fitting Mechanical Joints with Locknuts	NPSL	NPSL	NPSL	NPSL
	American Standard Straight Pipe Threads for Loose-Fitting Mechanical Joints for Hose Couplings	NPSH	NPSH	NPSH	NPSH
Dryseal Pipe Threads (ANSI B1.20.3)	Dryseal American Standard Taper Pipe Thread	NPTF	NPTF PTF-SAE-SHORT	NPTF	NPTF,NPSF,NPSI PTF-SAE-SHORT
	Dryseal SAE Short Taper Pipe Thread	PTF-SAE-SHORT	NPTF	PTF-SAE-SHORT	NPTF NPSI
	Dryseal American Standard Fuel Internal Straight Pipe Thread	NPSF	NPTF	—	—
	Dryseal American Standard Intermediate Internal Straight Pipe Thread	NPSI	NPTF PTF-SAE-SHORT	—	—

Note: These symbols correspond to the name of American pipe thread.

These threads are

- (1) Thread angle is 60°
- (2) Taper of Taper Thread is 3/4" per foot.
- (3) Fundamental height of triangle : H =Height of triangle thread profile $H=0.866025P$
- (4) The difference between American Standard Pipe Thread for general use and Dryseal American Standard Pipe
 - Crests and roots truncation of thread is different.
 - The length of engagement for pipe thread is different by types.
 - With regard to standard, Dryseal American Standard Pipe Thread is available in right hand.

In accordance with ANSI B 94.9, 4 types of pipe thread are specified in American Pipe Thread Standard.

Please refer to next page about the relation between taps and threads and about thread tolerance.

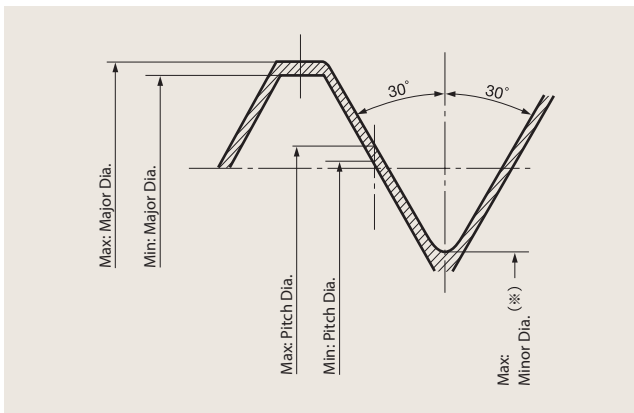
21. Taps for Pipe Threads

○Classification of American pipe thread taps

Designation	Symbol	Class	Material	Threads to be cut	Range
Straight Pipe Thread Tap	NPS	Ground Thread	HSS	NPSC,NPSM	$\frac{1}{8} \sim 1$
Dryseal Straight Pipe Thread Tap	NPSF	Ground Thread	HSS	NPSF	$\frac{1}{8} \sim \frac{3}{4}$
Taper Pipe Thread Tap	NPT	Ground Thread	HSS	NPT	$\frac{1}{16} \sim 2$
Dryseal Taper Pipe Thread Tap	NPTF	Ground Thread	HSS	NPTF	$\frac{1}{16} \sim 2$

■ Thread limit of American Pipe Thread Taps

○Straight pipe thread taps for (NPS) G Class

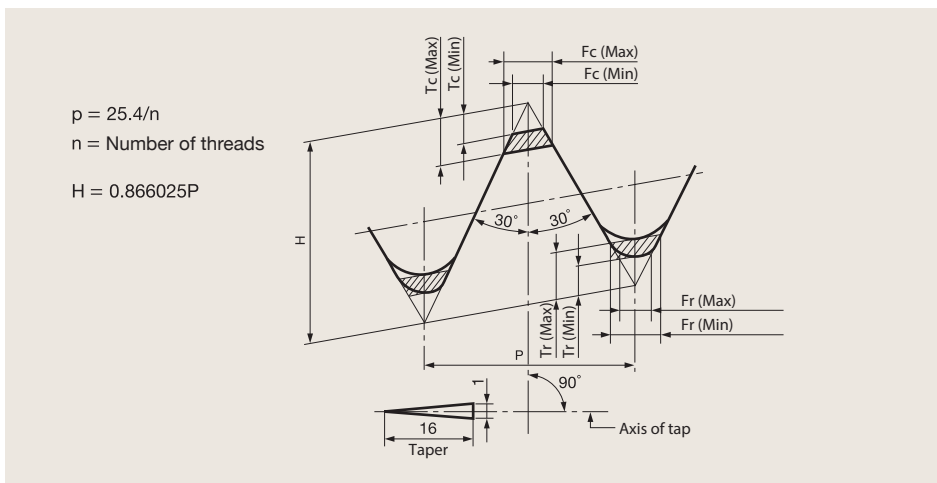


Unit : mm

Size	Major diameter			Pitch diameter			Minor diameter [※]
	Max.	Min.	Tolerance	Max.	Min.	Tolerance	Max.
NPS $\frac{1}{8}$ - 27	10.241	10.216	0.025	9.527	9.515	0.012	M-0.653
NPS $\frac{1}{4}$ - 18	13.606	13.582	0.024	12.542	12.530	0.012	M-1.019
NPS $\frac{3}{8}$ - 18	17.045	17.021	0.024	15.981	15.969	0.012	M-1.019
NPS $\frac{1}{2}$ - 14	21.226	21.202	0.024	19.840	19.828	0.012	M-1.334
NPS $\frac{3}{4}$ - 14	26.560	26.536	0.024	25.186	25.162	0.024	M-1.334
NPS 1 - 11.5	33.215	33.178	0.037	31.526	31.502	0.024	M-1.644

※ : Above dimensions change depending on actually measured.

○Taper pipe thread taps (NPT) G Class

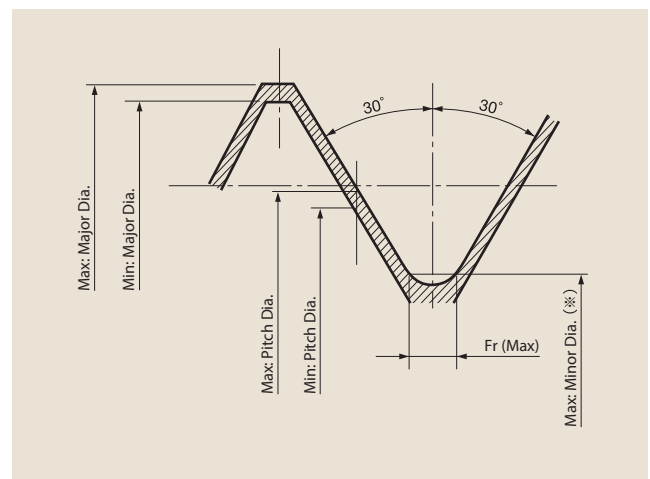
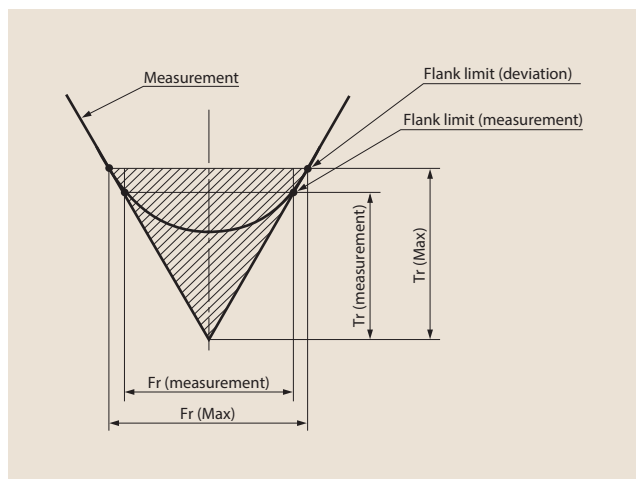


Unit : μm

Size	Crest				Root			
	Tc		Fc		Tr		Fr	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
NPT 1/16 - 27	68	32	78	37	80	32	92	37
NPT 1/8 - 27	68	32	78	37	80	32	92	37
NPT 1/4 - 18	92	48	106	56	101	48	116	56
NPT 3/8 - 18	92	48	106	56	101	48	116	56
NPT 1/2 - 14	106	61	122	71	118	61	136	71
NPT 3/4 - 14	106	61	122	71	118	61	136	71
NPT 1 - 11.5	120	74	138	85	134	74	154	85
NPT 1 1/4-11.5	120	74	138	85	134	74	154	85
NPT 1 1/2-11.5	120	74	138	85	134	74	154	85
NPT 2 - 11.5	120	74	138	85	134	74	154	85
NPT 2 1/2 - 8	147	105	169	122	173	105	199	122
NPT 3 - 8	147	105	169	122	173	105	199	122

■ Thread limit of Dryseal American Pipe Thread Taps

○ Straight pipe thread taps (NPSF) G Class



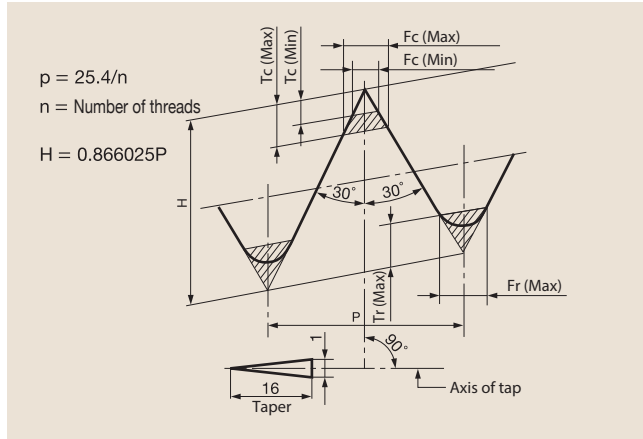
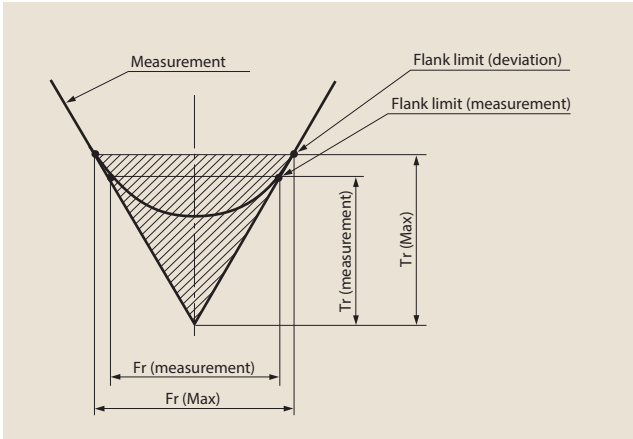
Unit : mm

Size	Major diameter			Pitch diameter			Minor diameter*		
	Max.	Min.	Tolerance	Max .	Min.	Tolerance	Max.	Fr (Max)	Tr (Max)
NPSF 1/16 - 27	7.665	7.641	0.024	7.053	7.041	0.012	M-0.638	0.101	0.086
NPSF 1/8 - 27	10.012	9.988	0.024	9.400	9.388	0.012	M-0.638	0.101	0.086
NPSF 1/4 - 18	13.332	13.308	0.024	12.354	12.342	0.012	M-1.004	0.127	0.109
NPSF 3/8 - 18	16.771	16.747	0.024	15.793	15.781	0.012	M-1.004	0.127	0.109
NPSF 1/2 - 14	20.929	20.905	0.024	19.601	19.589	0.012	M-1.354	0.127	0.109
NPSF 3/4 - 14	26.276	26.251	0.025	24.947	24.936	0.011	M-1.354	0.127	0.109

* : Above dimensions change depending on actually measured.

21. Taps for Pipe Threads

○Taper pipe thread taps (NPTF) G Class



Unit: μm

Size	Crest				Root	
	Tc		Fc		Tr	Fr
	Max.	Min.	Max.	Min.	Max.	Min.
NPTF 1/16 - 27	110	89	127	103	86	101
NPTF 1/8 - 27	110	89	127	103	86	101
NPTF 1/4 - 18	132	110	152	127	109	125
NPTF 3/8 - 18	132	110	152	127	109	125
NPTF 1/2 - 14	131	109	151	126	108	124
NPTF 3/4 - 14	131	109	151	126	108	124
NPTF 1 - 11.5	176	133	203	154	132	152
NPTF 1 1/4-11.5	176	133	203	154	132	152
NPTF 1 1/2-11.5	176	133	203	154	132	152
NPTF 2 - 11.5	176	133	203	154	132	152

3. Troubles on taper pipe thread tapping, and their solution

Taper pipe thread tapping such as for PT thread and for NPT thread is quite different from parallel thread tapping such as for metric thread. There, the trouble particularly special in taper thread tapping tends to happen.

Following is the explanation about tapping troubles on taper pipe thread tapping and their solution:

Materials and troubles

material \ trouble	low carbon steel	middle carbon steel	tool steel, alloy steel, high carbon steel, heat treated steel of lower than 35HRC	stainless steel	cast iron, tough cast iron	aluminum alloy, zinc alloy, brass	thermosetting resin, thermoplastic resin	nickel base alloy, titanium alloy, heat treated steel of lower than 35HRC
tap wear, cutting performance decreased		▲	●	▲	●			—
welding on tap	●			●	▲	●	●	—
chipping on tap	▲	▲	●	●				—
rough surface	▲	▲	▲	▲	●	▲	▲	—
torn threads	●			●	▲	●	▲	—
chip clogging	●			●			▲	—

● Trouble occurs quite frequently ▲ Trouble occurs rather frequently — Hard-to-machine material


Trouble shooting

trouble \ check point	Over-cutting of internal threads	Shrinkage of internal threads	Rough surface, Torn threads	Stop line	tap wear, cutting performance decreased	welding on tap	chipping on tap	chip clogging
Machine	Select machine suitable for tapping size		Use machine with more power		Use machine with more power			
Jigs, Holders	Fix workpiece firmly			Use tap holder of floating type, Prevent vibrating of axis of tap, Prevent centering-off with workpiece				
Cutting condition	Adjust properly the stroke of tapping		Reduce cutting speed		Reduce cutting speed			
Lubricant		Change to insoluble oil from water soluble, Use other cutting oil which prevents cold welding			Change to insoluble oil from water soluble, Use other cutting oil when prevents cold welding		Adjust oil volume, supply oil properly	
On process				Prevent slanting of hole		Use taper reamer for boring hole	Provide deeper tapping hole, Remove unnecessary chips during tapping	Provide deeper tapping hole, Check the viscosity, Use taper reamer for boring hole
Tap	Selection		Use spiral fluted tap, Use interrupted tap	Use thread mill cutters	Use carbide tap (depending on materials being cut)	Use interrupted taps	Use spiral fluted tap, Use interrupted tap	
	Design			Reconsider of number of flutes of tap	Change material of tap	Provide oxide surface treatment, Provide TiN or TiCN on taps, Provide larger cutting angle	Select long shank tap when ejecting chips interferes with tap holder in the case of SP tapping	

Examples of trouble shooting

1) Torn thread trouble was solved by changing cutting speed

Tapping condition
 size : PT 1/4-19
 tap : Straight flute tap
 material : Low carbon steel
 machine : Machining center
 holder : fixed type
 lubricant : water soluble

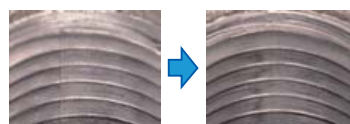


Tapping speed: 5m/min
Torn threads

Tapping speed: 2m/min
No torn threads

2) Stop line trouble was solved by using Thread milling cutter

Cutting condition
 size : PT1/4-19
 tap : Straight flute tap
 milling cutter : 08153X19G
 material : Low carbon steel
 machine : Machining center
 holder : fixed
 lubricant : water soluble

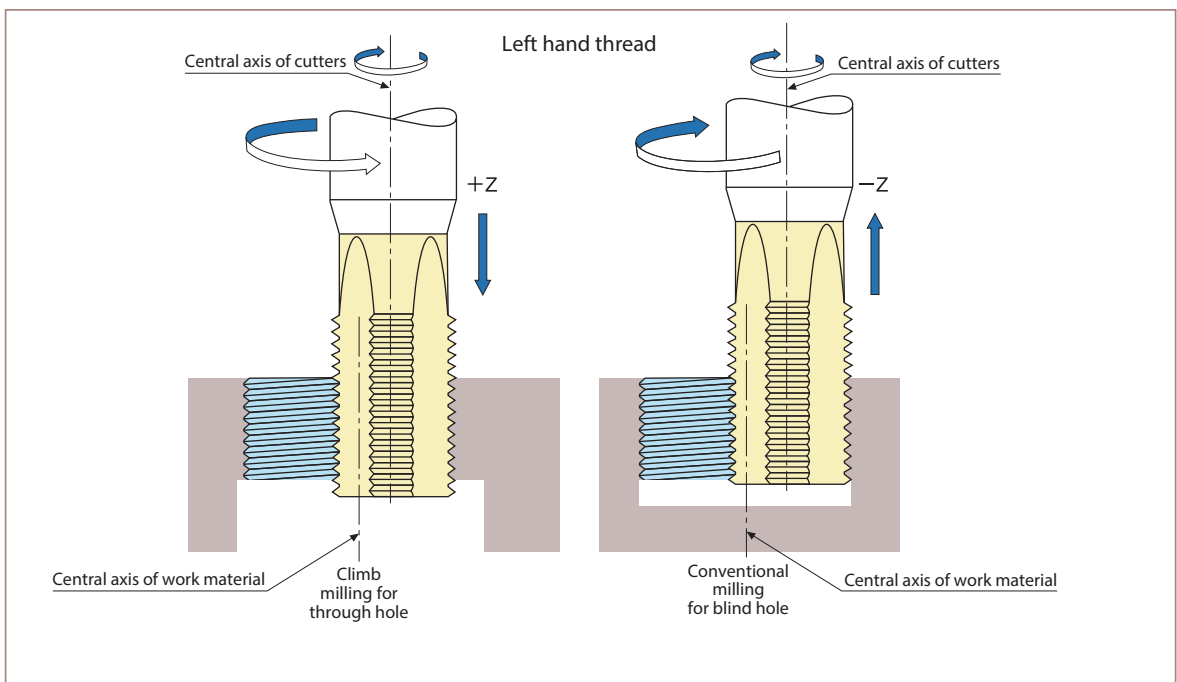
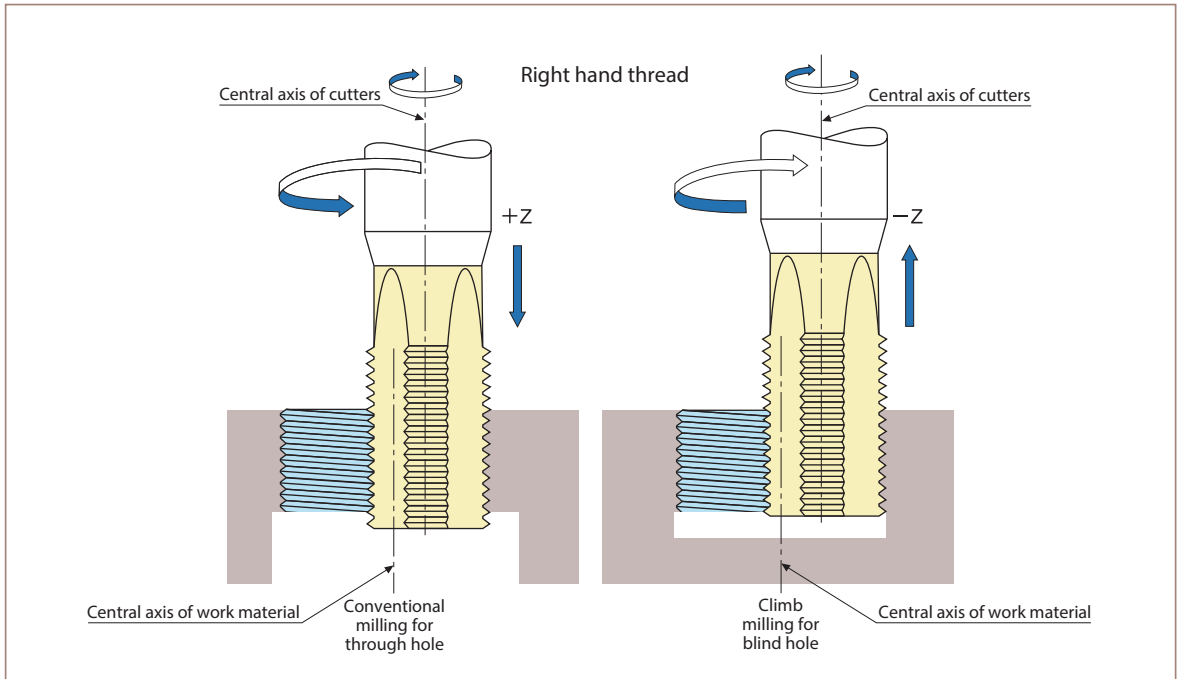


Straight flute tap
There is the stop line

Thread milling cutter
There is no stop line

22. Features of MC-Helical Thread Mills

- Various nominal diameter internal threads of the same pitch can be produced with the same thread mills.
 - The same mill can be used for both right-hand and left-hand internal threads.
 - Chips become very minute, and troubles caused by chips are rarely expected.
 - Internal threads of large diameter are obtainable even with low power machines.
 - Size control (undersize or oversize) is easy on programming process. Thus, internal threads with voluntary thread limits can be obtained.
 - When using MC-Helical threads mills for producing taper pipe threads, the threads are produced in a perfect cutting circle.
- With no stop marks (stop marks are inevitable in taper pipe thread tapping), high quality pressure-tight joint can be made.

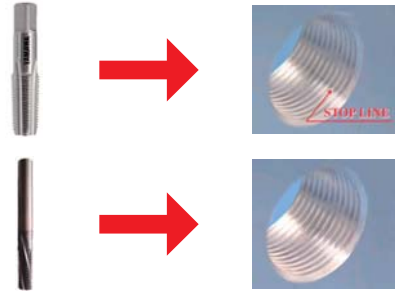


Note : Basically, conventional milling is recommended due to excellent chip ejection. However, climb milling is recommended in the case of poor horse power and poor rigidity of the machine.

■ Comparison of internal threads cut by helical cutter and by PT tap

■ Pipe thread cutting by tap

When PT tap cuts internal threads, the tap cuts the threads with all cutting edges and the tap reverses from the position where each cutting edge on lands sticks into the material wall of internal threads. This results in the stop line due to a step caused by this sticking.



■ Pipe thread cutting by helical cutter

Due to the thread cutting of 3 axis movement without reversing, the internal thread has no stop line.

■ Selection of tool diameter against the size of the internal threads

When cutting internal threads with MC-HLC, please choose the tool which diameter is smaller than 70% of internal threads diameter. The cutter having larger outside diameter is preferable due to its high rigidity.

Thread milling cutters do not have screw lead. Please select thread milling cutters by referring to product specification table to avoid poor threads caused by interference.

■ Cutting Condition

○ Carbide helical cutter

Material	Cutting Speed (m/min)	Feed per tooth (mm/t)
Structural Steel	50~250	0.02~0.1
Carbon Steel	50~200	0.02~0.1
Alloy Steel	30~180	0.02~0.1
Tool Steel	30~150	0.02~0.1
Stainless Steel	30~200	0.03~0.1
Cast Iron	50~150	0.03~0.15
Aluminum, Aluminum Alloy	50~300	0.03~0.15
Copper, Copper Alloy	50~180	0.03~0.15

○ HSS helical cutter

Material	Cutting Speed (m/min)	Feed per tooth (mm/t)
Structural Steel	25~45	0.02~0.05
Carbon Steel	20~40	0.02~0.05
Alloy Steel	15~30	0.02~0.05
Tool Steel	10~15	0.02~0.04
Stainless Steel	10~15	0.03~0.05
Cast Iron	30~50	0.03~0.08
Aluminum, Aluminum Alloy	50~90	0.03~0.05
Copper, Copper Alloy	40~80	0.03~0.05

■ Feed speed

Feed speed is decided by the characteristic of work materials. Feed speed is an important factor because machining time, thread finish and tool durability are getting influenced by the feed speed.

In the material of low tensile strength, feed per tooth can be set up rather large. However, if you set up feed per one tooth too large, thread milling cutters can cause deflection and may badly cause thread limit.

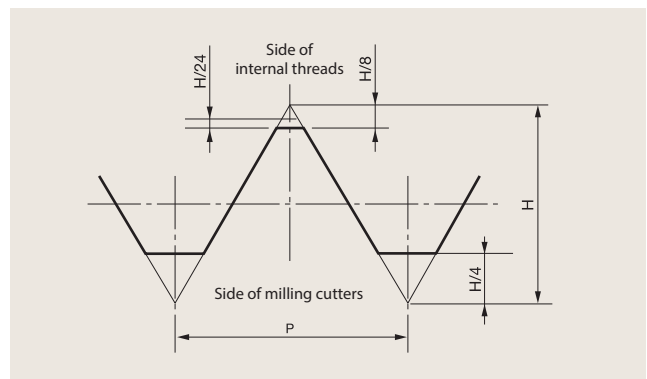
Feed speed of tool

$$F = fz \cdot Z \cdot n \cdot (Dc-d)/Dc \text{ (mm/min)}$$

- fz : Feed per tooth
- z : Number of tooth
- n : Spindle RPM
- d : Diameter of tool
- Dc : Nominal size of internal thread

■ Cut of cutters

Generally, Cut of cutter is decided by the machine programming in which the machine enables the cutter to cut the thread height in one revolution. MC helical cutter is so designed that its minor diameter does not cut, and the same bored hole size as that for cutting tap is adopted.



22. Features of MC-Helical Thread Mills

—Metric thread

[Minor dia. basis]

Tool cut

$$\begin{aligned} KR &= H - (H/8 + H/4) + H/24 + TD_2/4 - (D'_1 - D_1)/2 \\ &= (D_1 - D'_1)/2 + 2H/3 + TD_2/4 \\ &= (D_1 - D'_1)/2 + 0.577P + TD_2/4 \end{aligned}$$

where,

- D_c : Nominal size of internal threads
- D₁ : Basic minor diameter of internal threads
- D'₁ : Minor diameter before cutting
- d : Outside diameter of tool
- H : 0.866025P
- P : Pitch
- TD₂ : Tolerance of pitch diameter for producing internal thread
- TD₂/4 : Shrinkage after cutting
(Set up in the middle of pitch diameter tolerance)

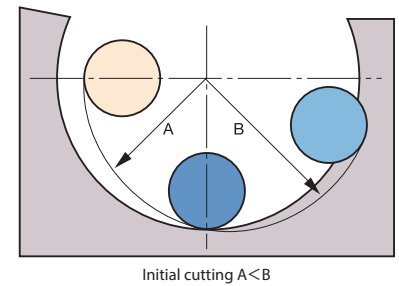
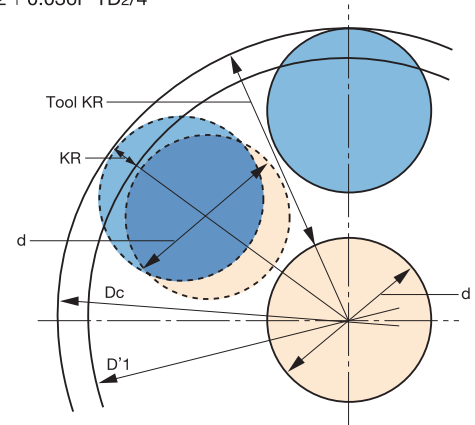
- H/24 : Difference between of basic thread profile and O.D. of the cutters.

—Metric thread

[Tool basis]

Tool transverse

$$\begin{aligned} \text{Tool KR} &= D_c/2 - d/2 + H/24 + TD_2/4 \\ &= (D_c - d)/2 + H/24 + TD_2/4 \\ &= (D_c - d)/2 + 0.036P + TD_2/4 \end{aligned}$$



■ Approaching and leaving to and from work material

On approaching and leaving to and from work material, the cutter must always be traversed in helical interpolating movement so that the cutter enables smooth cutting in and out. And it is necessary to cut the material gradually by the lead of screw thread. Otherwise, threads can be thinned.

23. Selecting different tap holder combinations by machine feed system

The function of machine feed systems

Fully synchronous feed (Rigid) tapping system

Spindle revolution and machine feed are synchronized, a perfect thread lead and feed per revolution are realized.

Feed by lead screws

A better-feed condition is realized because the tap is fed by a master lead screw shaft that has the same thread lead as this tap.

Feed by gear

The tap is fed at the same thread lead by a combinations of gears. This creates a better-feed to thread lead condition.

Asynchronous feed system

Best used when the spindle rotation and the machine feed are set independently, especially, if the machine feed value cannot be accurately predicted to be that of the tap thread lead.

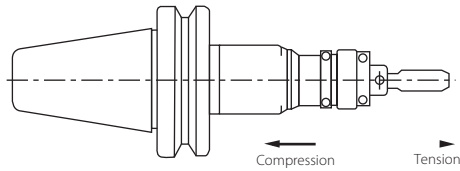
Hydraulic or Pneumatic pressure feed system

Feed is controlled by a pressure regulation system which normally results in an inaccurate feed per revolution compared to the tap thread lead.

Manual feed

Feed is controlled by operator which is difficult to keep a stable amount of feed per revolution.

Holders aspects



Spring direction

Completely rigid holder type

The tap is held with no axial or radial adjustment in the collet and holder.

Adjustable spring floating holder (Tension & Compression)

Machine feed and tap's thread lead errors are corrected by two types of spring system in the holder, the axial tension direction of the tap and the axial compression direction of the tap.

Characteristics of tap self-guiding behavior

r =tap's radius, s =thread relief, t =margin width

Eccentric thread relief
(no width of margin)

s

r

Tap characteristics ; high cutting performance and machining performance, with little to no self-guiding features. Operation ; A fully synchronous machining system with fixed rigid holder is needed.
Example : "High speed tapping" and "fully synchronous tapping."

Con-eccentric thread relief
(margin and thread relief)

t

s

r

Tap ; High level of self-guidance due to suitable tap diameter margin and thread relief. The combination of nice portion of margin and chamfer relief helps to make appropriate tap guidance.

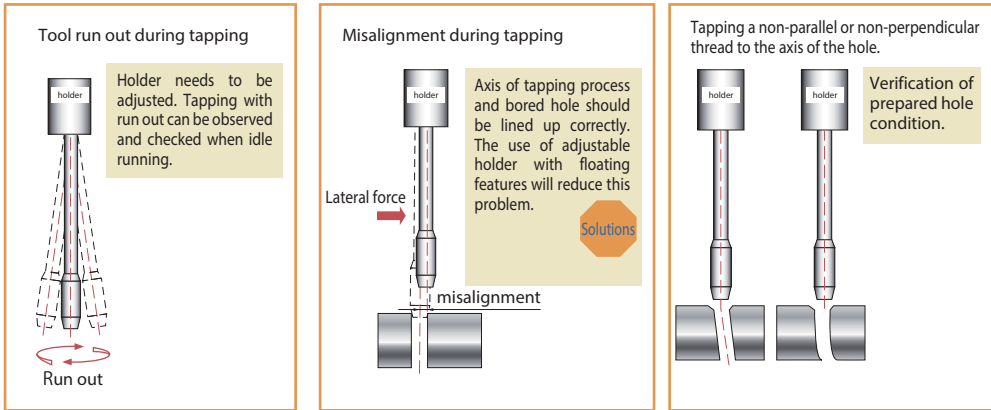
Concentric (No relief)

r

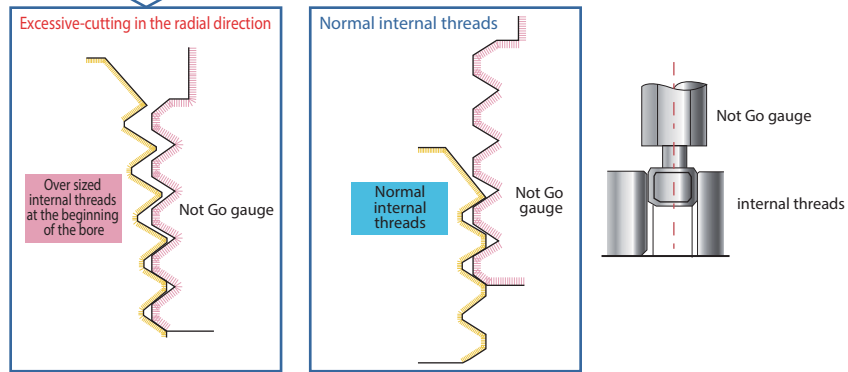
Tap ; A full thread land stays in contact with the thread major diameter at all times. Tap has no thread relief on major diameter, creating a high level of self-guidance even with unbalanced feeding conditions.

24. The mechanism for a tap to cut oversize on an internal thread

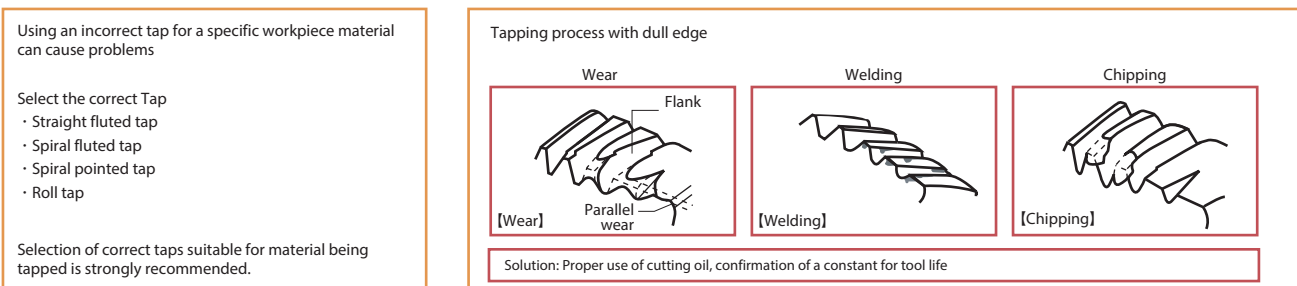
1. Run out, misalignment and tap cutting in non perpendicular to holes → Over-cutting at radial direction



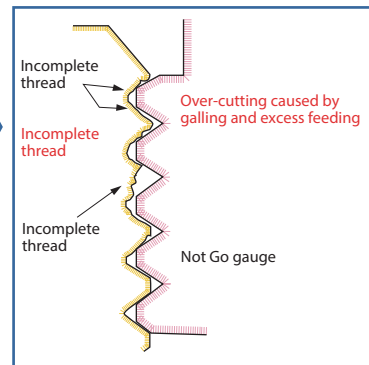
Excessive cutting in radial direction causes oversized internal threads. Since tapping proceeds along bored hole, in the depth of hole, oversize cutting is minimized, that is, oversize cutting in the beginning of the hole and normal cutting in the depth of the hole.



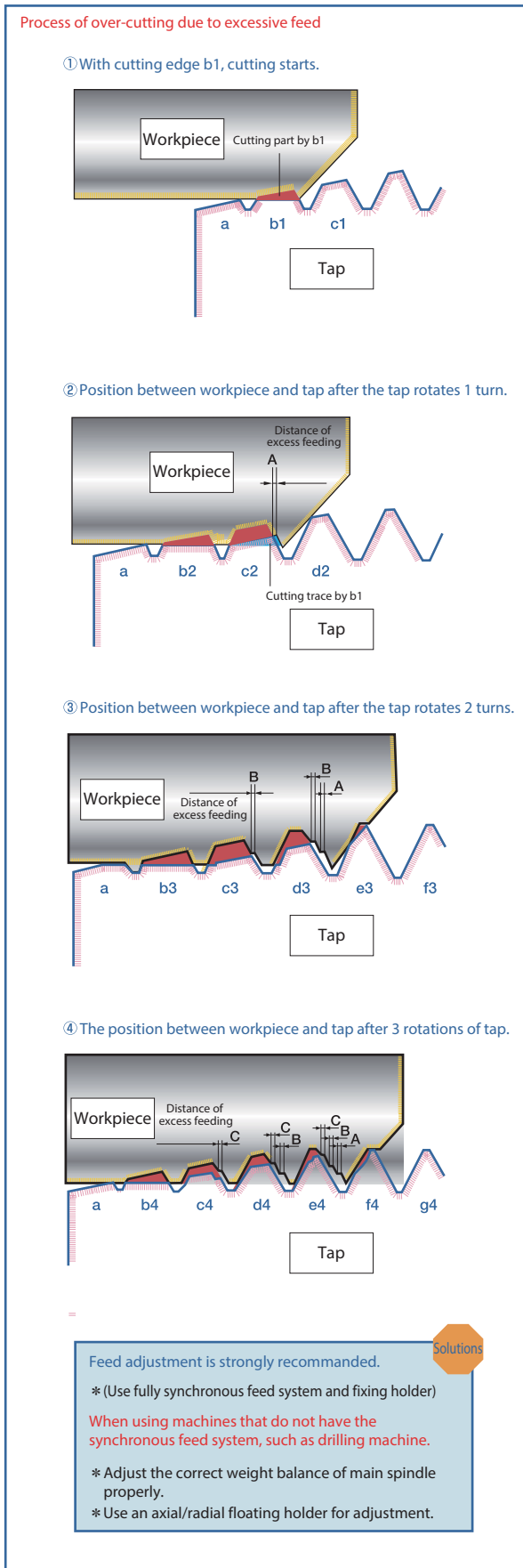
2. Using a tap not suitable for the operation or a tap with dull cutting edge may cause galling and result in over-cutting. → Over-cutting caused by galling and excess cutting



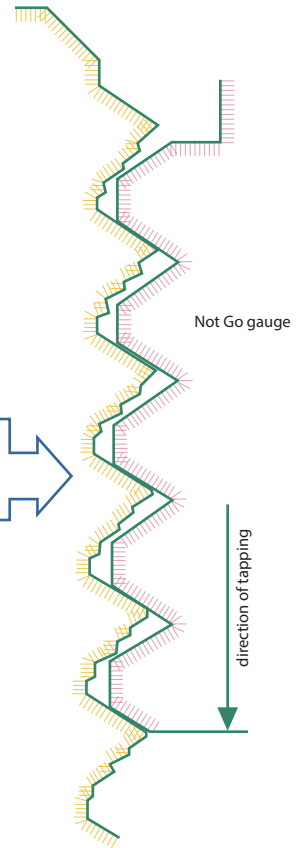
Torn threads occur on the thread flanks. If this situation gets worse, there occur large thread collapses or incomplete threads finally bringing out oversized internal threads. Depending on the condition of collapsed threads such trouble tends to occur discontinuously as NOT-GO gauge enters. Special attention needs to be taken so that random inspection should not miss this kind of trouble.



3. Tapping with an improper feed condition → over-cutting at axial direction

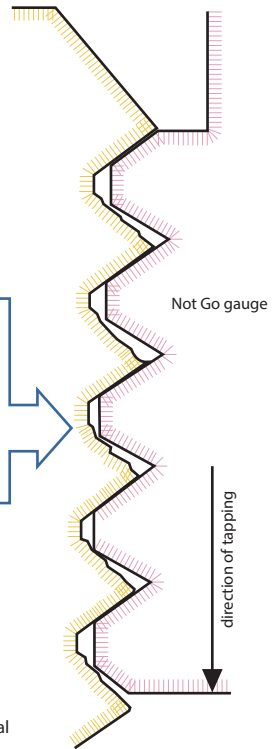


Excessive-cutting of the thread with excessive feeding



Over-cutting of the thread by too slow feeding

Process Opposite of excessive feeding Factors in fluecing extra material is cut at back frank.



over-cutting during tapping

- ① The tap mounting condition in the holder.
- ② The condition of bored hole.
- ③ The cutting oil selection.
- ④ Incorrect adjustment of feed balance.
- ⑤ Selection of the tap depending on material being cut.

25. Trouble Shooting

Troubles		Breakage			Excessive wear	
Check point		Prevent excessive cutting torque	Prevent clogging of chips	Tap	Workpiece	Tap
Segments						
Workpiece	Hardness	●Use workpiece which has even structure and hardness.			○Use workpiece which has even structure and hardness.	
	Shape	●Pay attention to tapping position and material thickness.			●Pay attention to tapping position and material thickness.	
	Bored hole	○Provide bigger bored holes. ●Prevent work hardening.			○Provide bigger bored holes. ●Provide countersinking on hole entrance. ○Prevent work hardening.	
○Provide deeper tapping hole. ●Prevent slanting of hole.						
Machine		●Avoid inconsistent feed. ●Adjust feed stroke.				
Jigs, Holders		●Use tap holder of floating type. ○Use tap holder with torque limiter.				
Cutting condition		○Reduce cutting speed.			○Reduce cutting speed.	
Lubricant		●Use the other cutting oil which prevents cold welding. ●Use insoluble type cutting oil.			●Provide proper timing for changing or filling-up of cutting oil. ●Prevent mixing of other oil into cutting oil. ●Use other cutting oil which prevents cold welding. ●Use cutting oil of insoluble type. ●Adjust flow of cutting oil and method of lubrication.	
On process			●Remove unnecessary chips during tapping. ●Provide bigger space for chips disposal.			
Tap	Selection			●Use PO tap(through hole). ●Use SP tap(blind hole). ●Use Roll tap.		
	Design		●Provide bigger chiproom.	●Change material of taps. ●Provide proper hardness on taps.		●Use serial set tap. ●Change material of taps. ●Provide proper hardness on taps.
		●Reconsider length of cutting chamfer. ●Use set tap.				●Reconsider length of cutting chamfer. ●Provide nitride on taps.
Re-grind	●Be careful about burning during re-sharpening. ●Provide proper land.			●Be careful about burning during re-sharpening. ●Increase re-sharpening frequency.		

○ : Most suitable solution ○ : Second most suitable solution

Undersize cutting of internal thread			Bad surface, surface damaged		
Improve cutting performance	Selection and design of tap	Work material	Improve cutting performance	Prevent welding	Check cutting condition
		●Check workmaterial.			●Use workpiece which has even structure and hardness.
		●Pay attention to tapping position and material thickness.			●Pay attention to tapping position and material thickness.
●Adopt bigger bored hole. ●Prevent work hardening of material.					
			●Prevent work hardening.	●Provide bigger bored holes.	○Prevent slanting of hole.
					○Feed according to pitch.
					●Use the tap holder of floating type. ●Prevent vibrating of axis of tap ●Prevent centering-off with work piece.
			●Reduce cutting speed.		
			●Provide proper timing for changing or filling-up of cutting oil. ●Prevent mixing of other oil into cutting oil. ●Use other cutting oil which prevents cold welding. ●Use cutting oil of insoluble type. ●Adjust flow of cutting oil and method of lubrication.		
				●Remove unnecessary chips	
●Provide Nitride on taps.	○Use oversize taps.		●Use spiral pointed taps (for through hole).	○Provide oxide coating on taps.	○Use oil hole taps.
○Provide larger cutting angle.	●Adjust relief angle on cutting chamfer. ○Provide thread relief.		○Provide larger cutting angle. ●Adjust relief angle on cutting chamfer. ○Provide more narrow margin.	●Change of no. of flutes on taps.	●Reconsider length of cutting chamfer.
●Increase re-sharpening frequency.			●Increase re-sharpening frequency.	●Provide better surface finishing on flutes.	
			●Provide precise re-sharpening. ●Be careful about burning during re-sharpening.		

25. Trouble Shooting

Troubles		Over-cutting of internal thread				
Check point		Prevent uneven in feed of tap	Prevent over cutting on thread	Prevent welding	Check cutting condition	Prevent unbalance on entering
Segments						
Workpiece	Hardness					
	Shape					
	Bored hole			● Provide bigger bored hole.	● Prevent slanting of hole.	● Provide countersinking on the hole entrance.
Machine		● Adjust a feed. ◎ Feed according to pitch.				
Jigs, Holders					○ Use tap holder of floating type.	◎ Prevent vibrating of axis of tap. ○ Prevent centering-off with work piece. ● Use tap holder of floating type.
Cutting condition				● Reduce cutting speed.		
Lubricant				● Use other cutting lubricant which prevents cold welding. ● Check the viscosity.		
On process						
Tap	Selection			◎ Provide oxide surface treatment. ○ Use tap with oil hole.		
	Design		○ Provide small cutting angle. ● Adjust chamfer relief angle. ◎ Check the width of thread margin.	● Provide short thread length.	● Reconsider number of flutes of tap.	● Reconsider length of cutting chamfer.
	Re-grind		● Remove burrs on teeth after re-grinding. ● Provide proper land.		● Provide precise re-sharpening.	◎ Care for vibration.

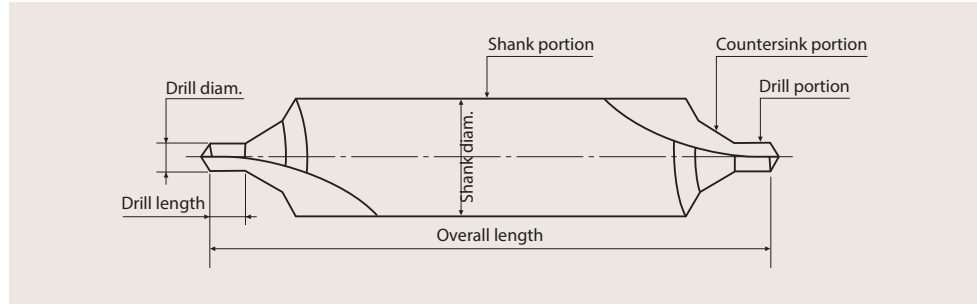
◎ : Most suitable solution ○ : Second most suitable solution

Chipping			Tapping operation		
Prevent clogging of chips	Prevent excessive cutting torque	Improve tapping method	Tap	Prevent clogging of chips	Tap
	●Use workpiece material which has even structure and hardness.				
		○Pay attention to tapping position and material thickness.		●If possible, use finer pitch tap or shorter tapping length.	
Provide deeper tapping hole (Blind hole).	○Provide bigger bored hole. ●Prevent work hardening.	●Prevent slanting of holes.		○Provide bigger bored hole. ○Provide deeper tapping hole (Blind hole).	
●Provide countersinking on hole the entrance.					
	●Avoid inconsistent feed.				
	○Use tapping holder with torque limiter.	●Prevent centering-off with workpiece. ●Prevent vibration of axis of tap. ●Use the tap holder of floating type.			●Use the tap holder of floating type. ●Prevent vibration of axis of tap. ●Prevent centering-off with workpiece.
●Reduce cutting speed.				●Reduce cutting speed.	
	●Use the other cutting oil which prevent cold welding.			●Check the viscosity.	
●Remove unnecessary chips during tapping. ●Provide bigger space for chip disposal.				●Remove unnecessary chips during tapping. ●Provide bigger space for chip disposal.	
			●Use PO taps (Through hole). ●Use SP taps (Blind hole). ●Use Roll tap.		●Use PO taps (Through hole). ●Use SP taps (Blind hole). ●Use Roll tap.
●Provide bigger chip room.			●Change material of tap. ●Provide smaller cutting angle. ●Provide proper hardness.	●Provide bigger chip room. ●Reconsider length of cutting chamfer. ○Use oil hole tap.	
●Reconsider length of cutting chamfer. ●Use set tap(Serial or conventional). ●Adjust relief angle on cutting chamfer.				●Provide shorter thread length to tap.	
●Be careful about burning during re-sharpening.					

26. Center Drills

Center Drills are the tool for making center hole. Center Drills are also used for positioning before drilling, and for chamfering of the hole.

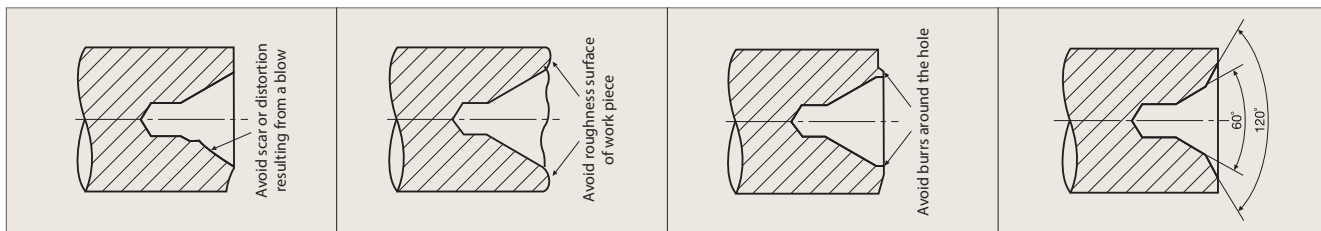
Names of each part



Shape of center hole and center

Type A (60°) Center hole & 60°center	Type B (60°) Center hole & 60°center	Type A (90°) Center hole & 90°center	Type R Center hole & 60°center

Advantage of Type B Center holes



Note : Advantage of Type B center holes : B type center drill protect the 60° conical bearing surface from scar or distortion resulting from a blow, roughness of workpiece surface or burrs around the hole.

Advantage of Type R Center holes

	Angle of center hole is higher than that of center.	Angle of center hole is lower than that of center.	Center hole and center are misaligned.
A type			
R type			

Note : R type center hole stably holds the center. It also some of advantage of B type center hole.

27. Table of recommend centering condition

■ Table of recommend centering condition.

HSS (PE-Q PE-90°)

Work material	Soft structural steels SS400		Carbon steels S50C		Alloy steels SCM440		Stainless steels SUS304		Aluminum alloy casting AC4B	
Cutting speed (m/min)	30~40		22~30		20~25		10~15		70~100	
Diameter (mm)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)
3	3700	0.04~0.08	2750	0.04~0.08	2400	0.04~0.08	1350	0.04~0.08	9000	0.10~0.22
4	2800	0.05~0.10	2050	0.05~0.10	1800	0.05~0.10	1000	0.05~0.10	6750	0.12~0.26
6	1850	0.06~0.12	1400	0.06~0.12	1200	0.06~0.12	850	0.06~0.12	4500	0.15~0.30
8	1400	0.08~0.15	1050	0.08~0.15	900	0.08~0.15	500	0.08~0.15	3400	0.18~0.35
10	1100	0.10~0.18	850	0.10~0.18	700	0.10~0.18	400	0.10~0.18	2700	0.21~0.40
12	950	0.12~0.22	700	0.12~0.22	600	0.12~0.22	350	0.12~0.22	2250	0.25~0.45
16	700	0.16~0.26	500	0.16~0.26	450	0.16~0.26	250	0.16~0.26	1700	0.32~0.50
20	550	0.20~0.35	400	0.20~0.35	350	0.20~0.35	200	0.20~0.35	1350	0.40~0.60

HSS+TiCN (PE-Q-V PE-90°)

Work material	Soft structural steels SS400		Carbon steels S50C		Alloy steels SCM440		Thermal refined steels SCM440 (30~35HRC)		Stainless steels SUS304		Aluminum alloy casting AC4B	
Cutting speed (m/min)	38~48		28~38		26~33		13~17		13~20		84~120	
Diameter (mm)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)
3	4550	0.04~0.08	3500	0.04~0.08	3150	0.04~0.08	1800	0.03~0.06	1750	0.04~0.08	10800	0.10~0.22
4	3400	0.05~0.10	2650	0.05~0.10	2350	0.05~0.10	1200	0.04~0.08	1300	0.05~0.10	8100	0.12~0.26
6	2300	0.06~0.12	1750	0.06~0.12	1550	0.06~0.12	800	0.05~0.10	900	0.06~0.12	5400	0.15~0.30
8	1700	0.08~0.15	1300	0.08~0.15	1150	0.08~0.15	600	0.06~0.12	650	0.08~0.15	4050	0.18~0.35
10	1350	0.10~0.18	1050	0.10~0.18	950	0.10~0.18	500	0.08~0.15	500	0.10~0.18	3250	0.21~0.40
12	1150	0.12~0.22	900	0.12~0.22	800	0.12~0.22	400	0.10~0.18	450	0.12~0.22	2700	0.25~0.45
16	850	0.16~0.26	650	0.16~0.26	600	0.16~0.26	300	0.12~0.22	350	0.16~0.26	2050	0.32~0.50
20	700	0.20~0.35	500	0.20~0.35	450	0.20~0.35	250	0.16~0.26	250	0.20~0.35	1600	0.40~0.60

Carbide+TiAlN (C-PE-Q-V PE-90°)

Work material	Soft structural steels SS400		Carbon steels S50C		Alloy steels SCM440		Thermal refined steels SCM440 (30~35HRC)		Stainless steels SUS304		Aluminum alloy casting AC4B	
Cutting speed (m/min)	87~102		65~78		60~70		32~40		35~45		120~160	
Diameter (mm)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)	Revolution (min ⁻¹)	Feed per revolution (mm/rev)
3	10050	0.04~0.08	7600	0.04~0.08	6900	0.04~0.08	3800	0.04~0.08	4250	0.04~0.08	14850	0.10~0.22
4	7500	0.05~0.10	5700	0.05~0.10	5150	0.05~0.10	2850	0.05~0.10	3200	0.05~0.10	11150	0.12~0.26
6	5000	0.06~0.12	3800	0.06~0.12	3450	0.06~0.12	1900	0.06~0.12	2100	0.06~0.12	7450	0.15~0.30
8	3750	0.08~0.15	2850	0.08~0.15	2600	0.08~0.15	1450	0.08~0.14	1800	0.08~0.15	5550	0.18~0.35
10	3000	0.10~0.18	2300	0.10~0.18	2050	0.10~0.18	1150	0.10~0.16	1250	0.10~0.18	4450	0.21~0.40
12	2500	0.12~0.22	1900	0.12~0.22	1700	0.12~0.22	950	0.10~0.18	1050	0.12~0.22	3700	0.25~0.45
16	1900	0.16~0.26	1400	0.16~0.26	1300	0.16~0.26	700	0.12~0.22	800	0.16~0.26	2800	0.32~0.50

1. Above condition done by Water Soluble oil.
2. 20% lower feed is recommended when centering process to inclined plane.
3. 20% lower feed is recommended in the case of long shank point drills.

27. Table of recommend centering condition

■ Reference of drilling condition for Center drills (HSS)

Reference table of cutting speed and feed per revolution (when substrate is HSS)

· Drilling speed (Cone diameter at the larger end)

Workpiece materials	Drilling speed
Low carbon steels	15~30
Carbon steels	15~30
Alloy steels	10~25
Stainless steels	5~12
Cast iron	8~15

First diameter	Feed per revolution
1~ 3	0.02~0.07
3~ 4	0.04~0.12
4~ 6	0.06~0.17
6~ 8	0.10~0.20
8~10	0.14~0.23
10~12	0.18~0.26

■ Reference of drilling condition for Center drills (Carbide)

Reference table of cutting speed and feed per revolution (when substrate is Carbide)

· Drilling speed (Cone diameter at the larger end)

Workpiece materials	Drilling speed
Low carbon steels	30~50
Carbon steels	30~50
Alloy steels	20~40
Stainless steels	15~25
Cast iron	30~50

First diameter	Feed per revolution
1	0.01 ~0.03
2	0.01 ~0.035
3	0.015~0.05
4	0.02 ~0.06
5	0.03 ~0.07
6	0.04 ~0.07

■ Reference of drilling condition for NC-SD-V

Reference table of drilling speed, feed per revolution

· Drilling speed (Tool diameter)

Workpiece materials	Drilling speed
Low carbon steels	25~40
Carbon steels	25~32
Alloy steels	15~25
Alloy tool steels	7~12
Stainless steels	7~12
Cast iron	20~35
Aluminum	60~90

Drill diameter	Feed per revolution
3	0.03~0.06
4	0.05~0.10
6	0.08~0.15
8	0.10~0.18
10	0.15~0.20
12	0.15~0.25
16	0.15~0.30
20	0.20~0.30
25	0.20~0.30

■ Reference of chamfering condition for Countersinks

Reference table of drilling speed, feed per revolution

· Cutting speed (Tool diameter)

Workpiece materials	Cutting speed	
	Single edge	Multiple edges
Low carbon steels	18~25	20~27
Carbon steels	18~25	20~25
Alloy steels	8~16	8~15
Alloy tool steels	8~16	8~15
Stainless steels	8~13	5~10
Cast iron	20~30	15~25
Aluminum	20~70	20~80

Tool diameter	Feed per revolution	
	Single edge	Multiple edges
4	0.02~0.04	0.03~0.10
6	0.03~0.05	0.05~0.12
8	0.05~0.07	0.07~0.15
10	0.06~0.09	0.10~0.16
12	0.07~0.10	0.10~0.20
16	0.08~0.13	0.10~0.20
20	0.09~0.15	0.10~0.25
25	0.10~0.16	0.15~0.30

28. Thread Series

Metric Threads

Unit : mm

Nominal Dia.			Pitch*																		
Column 1	Column 2	Column 3	Coarse			Fine															
1			0.25																		0.2
1.2	1.1		0.25																		0.2
			0.25																		0.2
1.6	1.4		0.3																		0.2
			0.35																		0.2
	1.8		0.35																		0.2
2			0.4																		0.25
	2.2		0.45																		0.25
2.5			0.45																		0.35
3			0.5																		0.35
	3.5		0.6																		0.35
			0.7																		0.5
4			0.75																		0.5
	4.5		0.8																		0.5
5		5.5																			0.5
6			1																		0.75
	7		1																		0.75
8			1.25										1								0.75
		9	1.25										1								0.75
10			1.5										1.25								0.75
		11	1.5										1								0.75
12			1.75										1.5								1
	14		2										1.5								1
		15											1.25								1
16			2										1.5								1
	18												1.5								1
			2.5						2				1.5								1
20			2.5						2				1.5								1
	22		2.5						2				1.5								1
24			3						2				1.5								1
		25							2				1.5								1
		26							2				1.5								1
	27		3						2				1.5								1
30									2				1.5								1
		28							2				1.5								1
		32	3.5						3				1.5								1
	33								2				1.5								1
36			3.5						3				1.5								1
		35							2				1.5								1
	39		4						3				1.5								1
		40							3				1.5								1
42			4.5						4				1.5								1
	45		4.5						4				1.5								1
48			5						4				1.5								1
		50							3				1.5								1
	52		5						4				1.5								1
		55							4				1.5								1
56			5.5						4				1.5								1
	60								4				1.5								1
		58	5.5						4				1.5								1
		62							4				1.5								1
64			6						4				1.5								1
		65							4				1.5								1
	68		6						4				1.5								1
		70							6				1.5								1
72									6				1.5								1
		75							4				1.5								1
	76								6				1.5								1
		78							4				1.5								1
80									6				1.5								1
		82							4				1.5								1
	85								6				1.5								1
90									6				1.5								1
		85							4				1.5								1
	95								6				1.5								1
100									6				1.5								1
		90							4				1.5								1
	105								6				1.5								1
110									6				1.5								1
		105							4				1.5								1
	115								6				1.5								1
		120							6				1.5								1
125									8				1.5								1
		135							8				1.5								1
	130								8				1.5								1
		145							6				1.5								1
140									8				1.5								1
		145							6				1.5								1
									6				1.5								1
	150								8				1.5								1

※ : Please select the first column by priority. And select second column and third column if necessary.

28. Thread Series

Production data

Unified Threads

Size		Nominal Dia.		Threads per inch													
Column 1	Column 2	inch	mm	Coarse	Fine	Extra Fine	Constant pitch series						28UN	32UN			
				UNC	UNF	UNEF	4UN	6UN	8UN	12UN	16UN	20UN					
No. 0	No. 1	0.0600	1.524		80												
		0.0730	1.854	64	72												
No. 2			0.0860	2.184	56	64											
	No. 3	0.0990	2.515	48	56												
No. 4			0.1120	2.845	40	48											
No. 5			0.1250	3.175	40	44											
No. 6		0.1380	3.505	32	40												UNC
No. 8			0.1640	4.166	32	36											UNC
No.10			0.1900	4.826	24	32											UNC
	No.12	0.2160	5.486	24	28	32											UNF
¼		0.2500	6.350	20	28	32								UNC	UNF	UNEF	UNC
⅜		0.3125	7.938	18	24	32								UNC	20	28	UNEF
½			0.3750	9.525	16	24	32							UNC	20	28	UNEF
⅝			0.4375	11.112	14	20	28							UNC	16	28	UNEF
¾		0.5000	12.700	13	20	28								UNC	16	20	28
⅞			0.5625	14.288	12	18	24							UNC	16	20	28
1			0.6250	15.875	11	18	24							UNC	12	16	20
1 ¼	1 ¼	0.6875	17.462			24								12	16	20	28
	1 ½	0.7500	19.050	10	16	20								12	16	20	28
		1 ¾	0.8125	20.638			20								12	16	20
1 ½	1 ½	0.8750	22.225	9	14	20								12	16	20	28
		1 ⅝	0.9375	23.812			20								12	16	20
1		1.0000	25.400	8	12	20								UNC	16	20	28
1 ⅛	1 ⅛	1.0625	26.988			18				8	12	16	20	28	28		
	1 ¼	1.1250	28.575	7	12	18				8	UNF	16	20	28	28		
		1 ⅝	1.1875	30.162			18				8	12	16	20	28		
1 ¼	1 ¼	1.2500	31.750	7	12	18				8	UNF	16	20	28	28		
		1 ⅝	1.3125	33.338			18				8	12	16	20	28		
1 ⅜		1.3750	34.925	6	12	18				UNC	8	UNF	16	20	28		
1 ½	1 ½	1.4375	36.512			18				6	8	12	16	20	28		
	1 ⅝	1.5000	38.100	6	12	18				UNC	8	UNF	16	20	28		
		1 ¾	1.5625	39.688			18				6	8	12	16	20		
1 ⅝	1 ⅝	1.6250	41.275			18				6	8	12	16	20			
		1 ¾	1.6875	42.862			18				6	8	12	16	20		
1 ¾		1.7500	44.450	5						6	8	12	16	20			
1 ⅞	1 ⅞	1.8125	46.038							6	8	12	16	20			
	1 ⅞	1.8750	47.625							6	8	12	16	20			
		2	1.9375	49.212							6	8	12	16	20		
2	2 ⅛	2.0000	50.800	4.5						6	8	12	16	20			
		2 ¼	2.1250	53.975							6	8	12	16	20		
2 ¼		2.2500	57.150	4.5						6	8	12	16	20			
2 ½	2 ½	2.3750	60.325							6	8	12	16	20			
		2 ¾	2.5000	63.500	4						UNC	6	8	12	16	20	
2 ¾		2.6250	66.675							4	6	8	12	16	20		
3	2 ¾	2.7500	69.850	4						UNC	6	8	12	16	20		
		3	2.8750	73.025							4	6	8	12	16	20	
		3.0000	76.200	4						UNC	6	8	12	16	20		
3 ¼	3 ¼	3.1250	79.375							4	6	8	12	16			
			3.2500	82.550	4						UNC	6	8	12	16		
			3.3750	85.725							4	6	8	12	16		
3 ½	3 ½	3.5000	88.900	4						UNC	6	8	12	16			
			3.6250	92.075							4	6	8	12	16		
			3.7500	95.250	4						UNC	6	8	12	16		
4	3 ½	3.8750	98.425							4	6	8	12	16			
		4 ¼	4.0000	101.600	4						UNC	6	8	12	16		
		4.1250	104.775							4	6	8	12	16			
4 ¼	4 ¼	4.2500	107.950							4	6	8	12	16			
			4.3750	111.125							4	6	8	12	16		
			4.5000	114.300							4	6	8	12	16		
4 ½	4 ½	4.6250	117.475							4	6	8	12	16			
			4.7500	120.650							4	6	8	12	16		
			4.8750	123.825							4	6	8	12	16		
5	5 ½	5.0000	127.000							4	6	8	12	16			
			5.1250	130.175							4	6	8	12	16		
5 ¼		5.2500	133.350							4	6	8	12	16			
5 ½	5 ½	5.3750	136.525							4	6	8	12	16			
			5.5000	139.700							4	6	8	12	16		
		5.6250	142.875							4	6	8	12	16			
5 ¾	5 ¾	5.7500	146.050							4	6	8	12	16			
			5.8750	149.225							4	6	8	12	16		
6		6.0000	152.400							4	6	8	12	16			

※ : Please select the first column by priority. And select second column and third column if necessary.

Conversion Table

Threads per inch (25.4mm)	Pitch (mm)
100	0.2540
80	0.3175
72	0.3528
64	0.3969
60	0.4233
56	0.4536
48	0.5292
44	0.5773
40	0.6350
36	0.7056
32	0.7938
28	0.9071
27	0.9407
24	1.0583
20	1.2700
19	1.3368
18	1.4111
16	1.5875
14	1.8143
13	1.9538
12	2.1167
11.5	2.2087
11	2.3091
10	2.5400
9	2.8222
8	3.1750
7	3.6286
6	4.2333
5	5.0800
4.5	5.6444
4	6.3500

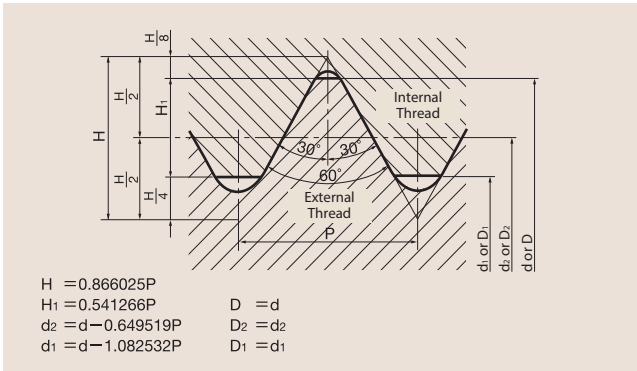
General size list of metric trapezoidal threads

Unit : mm

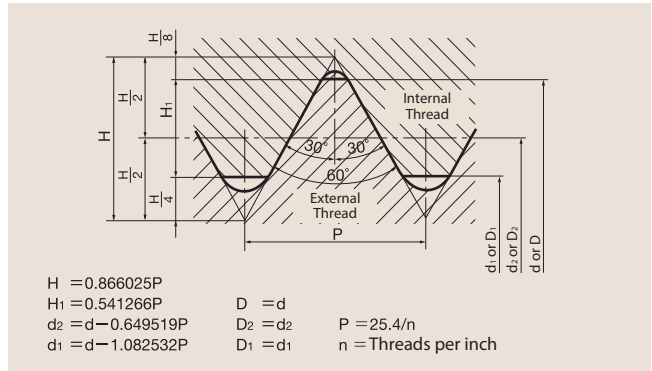
	1.5	2	3	4	5	6	7	8	10	12
Tr 8	1.5									
Tr 9	1.5	2								
Tr 10	1.5	2								
Tr 11		2	3							
Tr 12		2	3							
Tr 14		2	3							
Tr 16		2		4						
Tr 18		2		4						
Tr 20		2		4						
Tr 22			3		5			8		
Tr 24			3		5			8		
Tr 26			3		5			8		
Tr 28			3		5			8		
Tr 30			3			6			10	
Tr 32			3			6			10	
Tr 34			3			6			10	
Tr 36			3			6			10	
Tr 38			3				7		10	
Tr 40			3				7		10	
Tr 42			3				7		10	
Tr 44			3				7			12
Tr 46			3					8		12
Tr 48		</								

29. Basic profile of threads

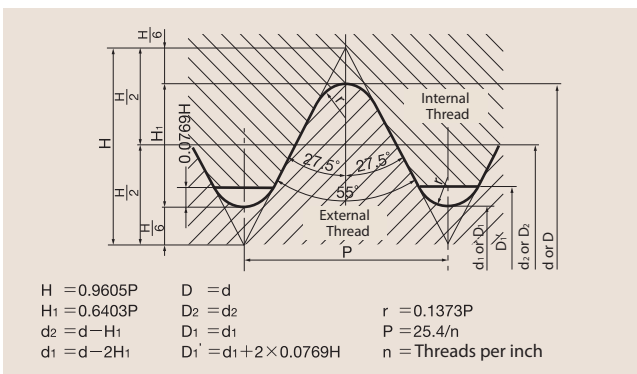
Metric Screw Threads



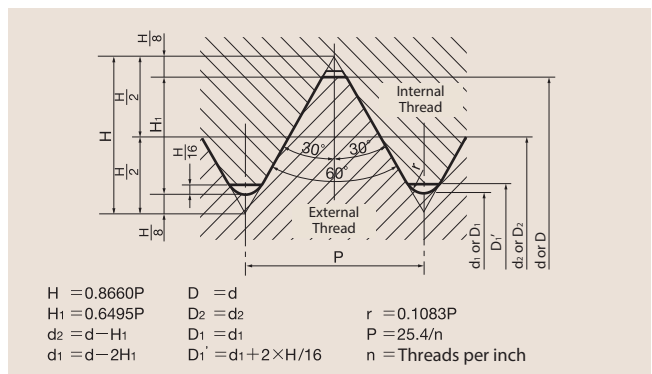
Unified Screw Threads



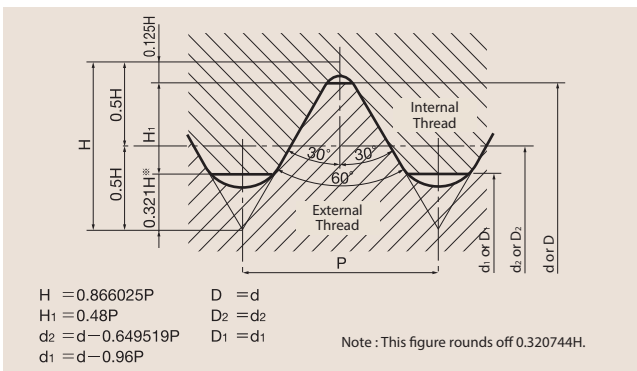
Whitworth Screw Threads



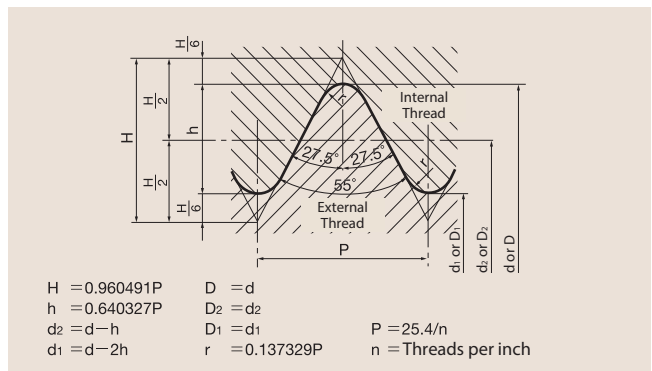
Screw Threads for Sewing Machine



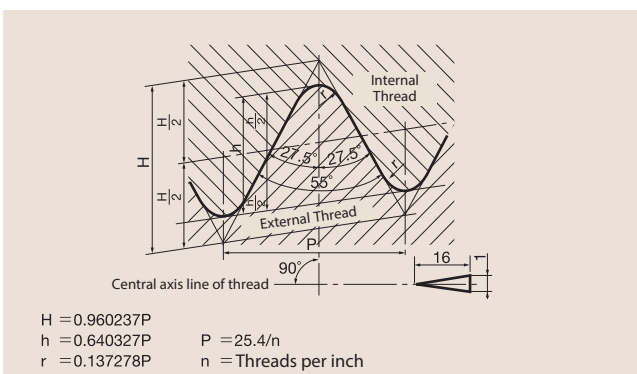
Miniature Screw Threads



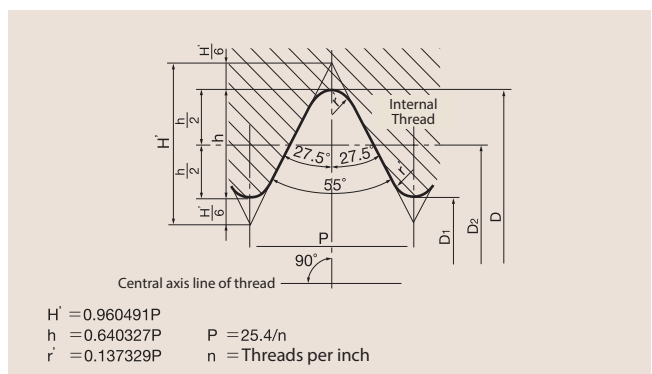
Parallel Pipe Threads



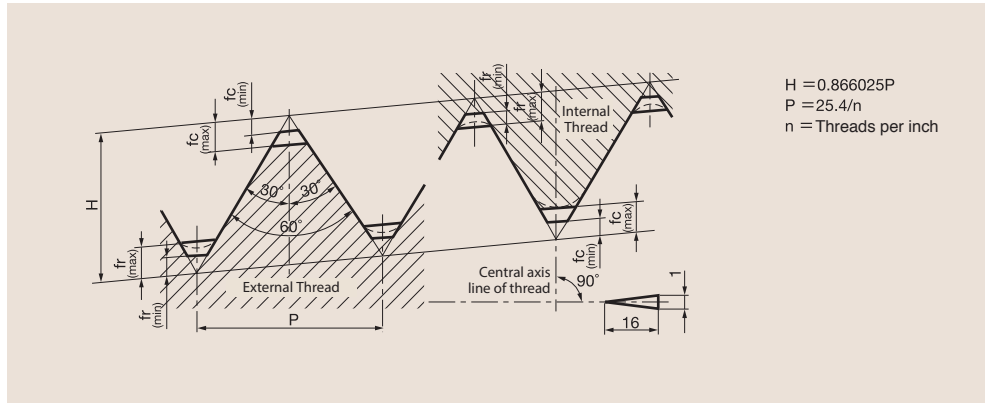
Taper Pipe Threads



Taper Pipe Threads (Parallel)

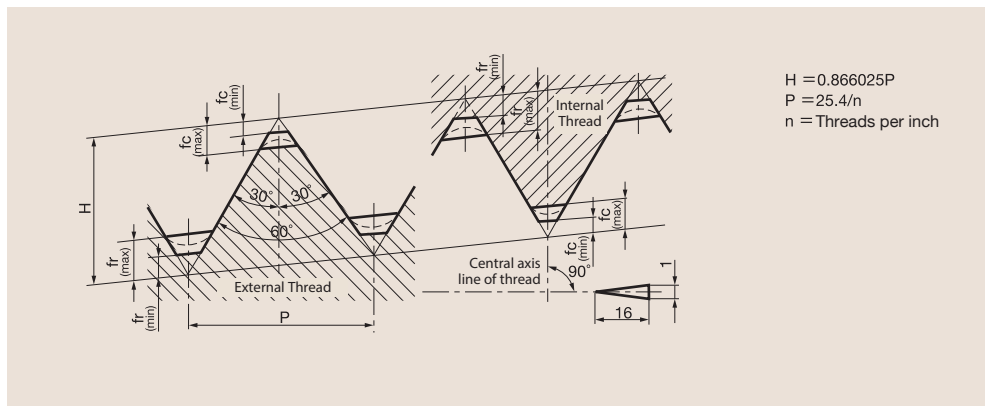


American Standard Taper Pipe Threads



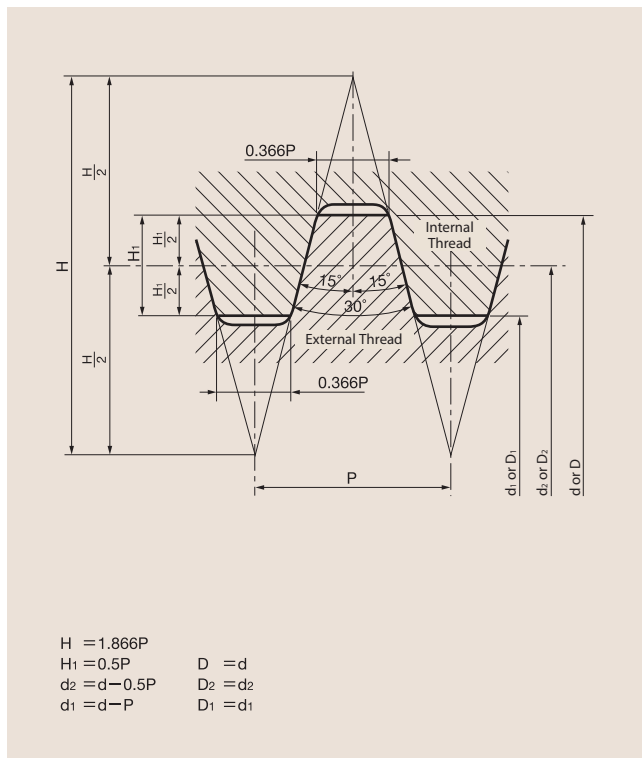
Truncation		Unit : mm	
Threads per inch	Section	$f_c = f_r$	
27	Max.	0.096P	
	Min.	0.033P	
18	Max.	0.088P	
	Min.	0.033P	
14	Max.	0.078P	
	Min.	0.033P	
11.5	Max.	0.073P	
	Min.	0.033P	
8	Max.	0.062P	
	Min.	0.033P	

Dryseal American Standard Taper Pipe Threads

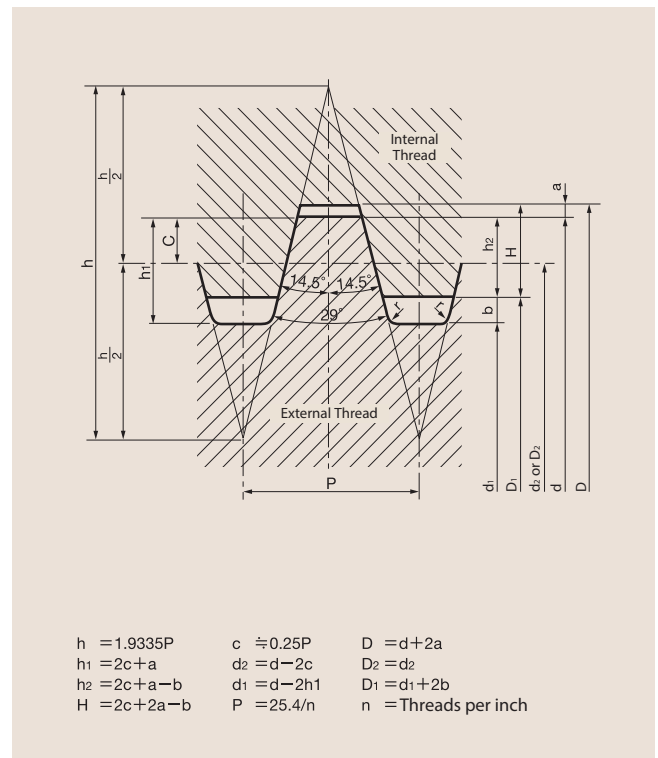


Truncation		Unit : mm		
Threads per inch	Section	f_c	f_r	
27	Max.	0.094P	0.140P	
	Min.	0.047P	0.094P	
18	Max.	0.078P	0.109P	
	Min.	0.047P	0.078P	
14	Max.	0.060P	0.085P	
	Min.	0.036P	0.060P	
11.5	Max.	0.060P	0.090P	
	Min.	0.040P	0.060P	
8	Max.	0.055P	0.076P	
	Min.	0.042P	0.055P	

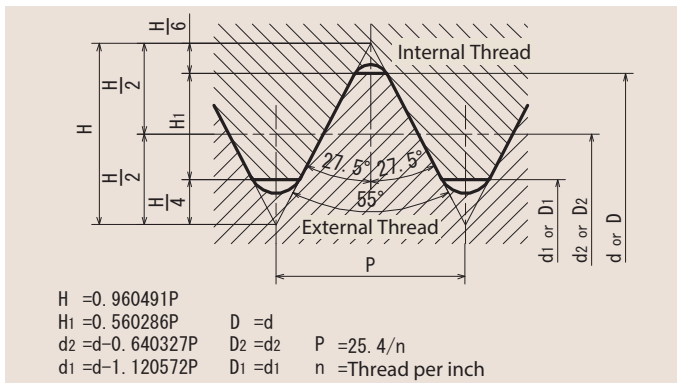
Metric Trapezoidal Screw Threads



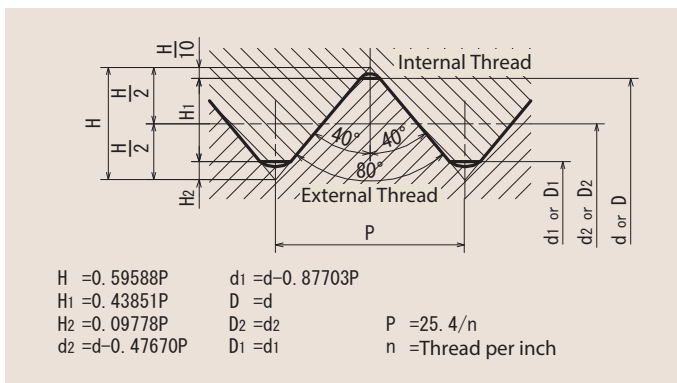
29° Trapezoidal Screw Threads



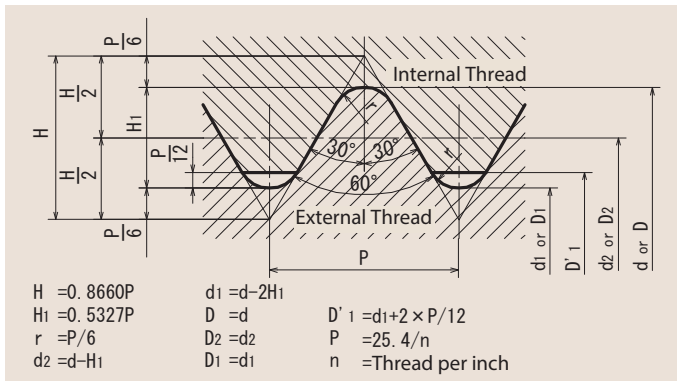
Thick Steel Conduit Threads (CTG)



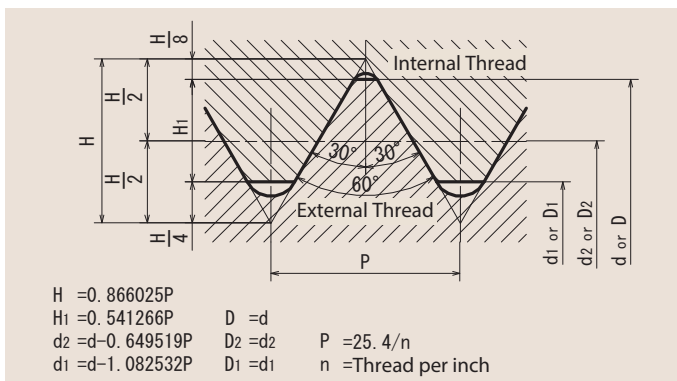
Steel Conduit Threads (CTC)



Bicycle Threads (BC)



Tire Valve Threads (TV), Bicycle Tire Valve Threads (CTV)



30. Symbols for Standard Threads

■ Japan

Thread symbols	Kinds of threads	Related Standards
M	Metric screw threads	JIS B 0205-1~0205-4
S	Miniature screw threads	JIS B 0201
UNC	Unified threads, Coarse series	JIS B 0206
UNF	Unified threads, Fine series	JIS B 0208
Tr	Metric Trapezoidal screw threads	JIS B 0216
R	Taper external pipe threads	JIS B 0203 (JIS main book)
Rc	Taper internal pipe threads	JIS B 0203 (JIS main book)
Rp	Parallel internal pipe threads	JIS B 0203 (JIS main book)
G	Parallel pipe threads	JIS B 0202 (JIS main book)
PF	Parallel pipe threads	JIS B 0202 (JIS Appendix)
PT	Taper pipe threads	JIS B 0203 (JIS Appendix)
PS	Parallel internal pipe threads	JIS B 0203 (JIS Appendix)
CTC	Screw threads for rigid metal thin-walled conduit and fitting	JIS C 8305
CTG	Screw threads for rigid metal thick-walled conduit and fitting	JIS C 8305
BC	Cycle threads	JIS B 0225
SM	Screw threads for sewing machine	JIS B 0226 (2001.2.20repeal)
E	Electric socket and lamp-base threads	JIS C 7709
V	Tire valve threads of automobile	JIS D 4207
CTV	Tire valve threads of cycle	JIS D 9422

■ ISO

Thread symbols	Kinds of threads	Related Standards
M	ISO Metric threads	ISO 261
S	ISO Miniature screw threads	ISO 1501
Tr	ISO Metric trapezoidal screw threads	ISO 2902
UNC	ISO Unified threads, coarse series	ISO 263
UNF	ISO Unified threads, fine series	ISO 263
UNEF	ISO Unified threads, extra fine series	ISO 263
UN	ISO Unified threads, constant pitch series	ISO 263
UNJC	Aerospace - UNJ threads (coarse)	ISO 3161
UNJF	Aerospace - UNJ threads (fine)	ISO 3161
UNJEF	Aerospace - UNJ threads (extra fine)	ISO 3161
UNJ	Aerospace - UNJ threads (constant pitch series)	ISO 3161
MJ	Aerospace - MJ threads	ISO 5855
R	Taper external pipe threads	ISO 7/1
Rc	Taper internal pipe threads	ISO 7/1
Rp	Parallel internal pipe threads	ISO 7/1
G	Parallel pipe threads	ISO 228/1
GL	Glass container threads	ISO 1115
V	Tire valve threads	ISO 4570/1~3

■ America

Thread symbols	Kinds of threads	Related Standards
UN	Unified inch screw threads	ANSI B 1.1
UNC/UNRC	Unified coarse thread series	ANSI B 1.1
UNF/UNRF	Unified fine thread series	ANSI B 1.1
UNEF/UNREF	Unified extra-fine thread series	ANSI B 1.1
4UN/4UNR	Unified constant-pitch series with 4-threads	ANSI B 1.1
6UN/6UNR	Unified constant-pitch series with 6-threads	ANSI B 1.1
8UN/8UNR	Unified constant-pitch series with 8-threads	ANSI B 1.1
12UN/12UNR	Unified constant-pitch series with 12-threads	ANSI B 1.1
16UN/16UNR	Unified constant-pitch series with 16-threads	ANSI B 1.1
20UN/20UNR	Unified constant-pitch series with 20-threads	ANSI B 1.1
28UN/28UNR	Unified constant-pitch series with 28-threads	ANSI B 1.1
32UN/32UNR	Unified constant-pitch series with 32-threads	ANSI B 1.1
UNS/UNRS	Unified threads of special diameters, pitches and lengths of engagement	ANSI B 1.1
NR	American National thread with a 0.108p to 0.144p controlled root radius	MIL-B-7838
Acme	Acme screw threads	ANSI B 1.5
Stub-Acme	Stub Acme screw threads	ANSI B 1.8
Butt	Buttress inch screw threads	ANSI B 1.9
UNM	Unified miniature thread series	ANSI B 1.10
NC5	Class 5 interference-fit thread	ANSI B 1.12
NPT	American Standard taper pipe threads for general use	ANSI/ASME B 1.20.1
NPTR	American Standard taper pipe threads for railing joints	ANSI/ASME B 1.20.1
NPSC	American Standard straight pipe thread in pipe couplings	ANSI/ASME B 1.20.1
NPSL	American standard straight pipe threads for loose-fitting mechanical joints with locknuts	ANSI/ASME B 1.20.1
NPSM	American Standard straight pipe threads for free-fitting mechanical joints for fixture	ANSI/ASME B 1.20.1
NPSH	American Standard straight pipe threads for loose-fitting mechanical joints for hose couplings	ANSI/ASME B 1.20.1
NPTF	Dryseal American Standard taper pipe threads	ANSI B 1.20.3, 1.20.4
F-PTF	Dryseal fine taper pipe thread series	ANSI B 1.20.3, 1.20.4
PTF-SAE SHORT	Dryseal SAE short taper pipe threads	ANSI B 1.20.3, 1.20.4
PTF-SPL SHORT	Dryseal special short taper pipe threads	ANSI B 1.20.3, 1.20.4
PTF-SPL EXTRA SHORT	Dryseal special extra short taper pipe threads	ANSI B 1.20.3, 1.20.4
SPL-PTF	Dryseal special taper pipe threads	ANSI B 1.20.3, 1.20.4
NPSI	Dryseal American Standard intermediate internal straight pipe threads	ANSI B 1.20.3, 1.20.4
NPSF	Dryseal American Standard fuel internal straight pipe threads	ANSI B 1.20.3, 1.20.4
ANPT	Aeronautical National Form taper pipe threads	MIL-P-7150
NGO	National gas outlet threads	ANSI B 57.1
NGS	National gas straight threads	ANSI B 57.1
NGT	National gas taper threads	ANSI B 57.1
SGT	Special gas taper threads	ANSI B 57.1
NH	Hose coupling and firehose coupling threads	USAS B 2.4
NHR	Hose coupling and firehose coupling threads	USAS B 2.4
NPSH	Hose coupling and firehose coupling threads	USAS B 2.4
AMO	American standard microscope objective threads	ANSI B 1.11

30. Symbols for Standard Threads

British**

Thread symbols	Kinds of threads	Related Standards
UNS	Unified special series	BS 1580
B.S.W.	British Standard Whitworth coarse threads	BS 84
B.S.F.	British Standard fine threads	BS 84
BSP	British Standard pipe thread (corresponding to R, Rc, Rp of ISO)	BS 21,2779
B.A.	B.A.-Screw threads	BS 93
Acme	General purpose, Acme screw threads	BS 1104
Buttress	Buttress threads	BS 1657
BSC	Cycle threads	BS 811
BSMO	Microscope objective threads	BS 3569
E	Edison screw threads	BS 5042

** : We left out the symbols after ISO standard was adopted.

German**

Thread symbols	Kinds of threads	Related Standards
GL	Glass containers thread	DIN 168
S	Buttress thread	DIN 513,2781,20401
Rd	Knuckle thread	DIN 262,3182,7273,15403,20400
W	Whitworth-gewinde	DIN 168,477,6630,49301
KS,KT	Screw siles for packages made of Plastics	DIN 6063
E	Edison screw thread	DIN 40400
Pg	Steel conduit thread	DIN 40430
Vg	Automobil tire valve thread	DIN 7756
Gf	Thread for freezing pipes	DIN 4930
Gg	Threads for drill pipe	DIN 4941,20314
HA	Thread for bone screws and nuts	DIN 58810
FG	Bicycle threads	DIN 79012

** : We left out the symbols after ISO standard was adopted.

31. Cross chart of thread cutting tool standard

Tap and Die names	JIS	TAS	ISO	ANSI	BS	DIN
General specification		4051				
Measuring method		4053				
Technical requirement			8830			2197
Thread limit (Metric)		4052	2857			
Thread limit (Pipe)			5969			
Hand taps (Metric coarse)	B4430	4105	529	B94.9	949	352
Hand taps (Metric fine)	B4430	4106	529	B94.9	949	2181
Hand taps (Unified coarse)	B4432	4107	529	B94.9	949	
Hand taps (Unified fine)	B4438		529	B94.9	949	
Hand taps (Parallel pipe thread)	B4445		2284	B94.9	949	
Hand taps (Taper pipe thread)	B4446		2284	B94.9	949	
Hand taps (American parallel pipe thread)		4113		B94.9		
Hand taps (American taper pipe thread)		4114		B94.9		
Hand taps (American dryseal parallel pipe thread)		4115		B94.9		
Hand taps (American dryseal taper pipe thread)		4116		B94.9		
Nut taps (Metric coarse)	B4433	4109			357	
Nut taps (Metric fine)		4110				
Nut taps (Unified coarse)		4111		B94.9		
Nut taps (Unified fine)		4112				
Machine taps (Metric coarse)						371,376
Machine taps (Metric fine)						374
Bent shank taps (Metric coarse)		4101				
Bent shank taps (Metric fine)		4102				
Bent shank taps (Unified coarse)		4103				
Bent shank taps (Unified fine)		4104				
Long shank machine taps (Metric thread)		4153	2283			
Long shank machine taps (Inch thread)		4153	2283			
Spiral pointed taps		4155		B94.9		
Spiral fluted taps		4154		B94.9		
Shell taps (Metric thread)		4117				
Pulley taps				B94.9		
Thread Forming taps				B94.9		
Blanks for carbide taps				B94.1		
Thread cutting round dies (Metric coarse, Adjustable)	B4451					223
Thread cutting round dies (Metric fine, Adjustable)	B4451					223
Thread cutting round dies (Metric, Solid)	B4451		2568		1127	223
Thread cutting round dies (Unified coarse adjustable)	B4451					
Thread cutting round dies (Unified fine adjustable)	B4451					
Thread cutting round dies (Unified thread)	B4451		2568		1127	
Thread cutting round dies (Parallel pipe thread)	B4455		4231		1127	5158
Thread cutting round dies (Taper pipe thread)	B4456		4230			5159
Hexagon dies			7226		1127	382

Symbols : Organization names

ISO : International Organization for Standardization

JIS : Japanese Industrial Standards Committee

TAS : Standards of The Japan Solid Cutting Tools' Association

ANSI : American National Standards Institute

BS : British Standards Institution, UK

DIN : Deutsches Institut für Normung

32. Hardness conversion table

■ Conversion table from Rockwell C hardness of steel. (Approximate)

Rockwell C Scale Hardness	Vickers Hardness	Brinell Hardness		Rockwell Hardness ^{※2}			Rockwell Superficial Hardness			Shore Hardness	Tensile Strength MPa ^{※1}	Rockwell C Scale Hardness ^{※2}
		Standard ball	Tungsten Carbide ball	A scale	B scale	D scale	15-N scale	30-N scale	45-N scale			
HRC	HV	HB		HRA	HRB	HRD	HS15N	HS30N	HS45N	HS	—	HRC
68	940	—	—	85.6	—	76.9	93.2	84.4	75.4	97	—	68
67	900	—	—	85.0	—	76.1	92.9	83.6	74.2	95	—	67
66	865	—	—	84.5	—	75.4	92.5	82.8	73.3	92	—	66
65	832	—	(739)	83.9	—	74.5	92.2	81.9	72.0	91	—	65
64	800	—	(722)	83.4	—	73.8	91.8	81.1	71.0	88	—	64
63	772	—	(705)	82.8	—	73.0	91.4	80.1	69.9	87	—	63
62	746	—	(688)	82.3	—	72.2	91.1	79.3	68.8	85	—	62
61	720	—	(670)	81.8	—	71.5	90.7	78.4	67.7	83	—	61
60	697	—	(654)	81.2	—	70.7	90.2	77.5	66.7	81	—	60
59	674	—	(634)	80.7	—	69.9	89.8	76.6	65.5	80	—	59
58	653	—	615	80.1	—	69.2	89.3	75.7	64.3	78	—	58
57	633	—	595	79.6	—	68.5	88.9	74.8	63.2	76	—	57
56	613	—	577	79.0	—	67.7	88.3	73.9	62.0	75	—	56
55	595	—	560	78.5	—	66.9	87.9	73.0	60.9	74	2075	55
54	577	—	543	78.0	—	66.1	87.4	72.0	59.8	72	2015	54
53	560	—	525	77.4	—	65.4	86.9	71.2	58.6	71	1950	53
52	544	(500)	512	76.8	—	64.6	86.4	70.2	57.4	69	1880	52
51	528	(487)	496	76.3	—	63.8	85.9	69.4	56.1	68	1820	51
50	513	(475)	481	75.9	—	63.1	85.5	68.5	55.0	67	1760	50
49	498	(464)	469	75.2	—	62.1	85.0	67.6	53.8	66	1695	49
48	484	451	455	74.7	—	61.4	84.5	66.7	52.5	64	1635	48
47	471	442	443	74.1	—	60.8	83.9	65.8	51.4	63	1580	47
46	458	432	432	73.6	—	60.0	83.5	64.8	50.3	62	1530	46
45	446	421	421	73.1	—	59.2	83.0	64.0	49.0	60	1480	45
44	434	409	409	72.5	—	58.5	82.5	63.1	47.8	58	1435	44
43	423	400	400	72.0	—	57.7	82.0	62.2	46.7	57	1385	43
42	412	390	390	71.5	—	56.9	81.5	61.3	45.5	56	1340	42
41	402	381	381	70.9	—	56.2	80.9	60.4	44.3	55	1295	41
40	392	371	371	70.4	—	55.4	80.4	59.5	43.1	54	1250	40
39	382	362	362	69.9	—	54.6	79.9	58.6	41.9	52	1215	39
38	372	353	353	69.4	—	53.8	79.4	57.7	40.8	51	1180	38
37	363	344	344	68.9	—	53.1	78.8	56.8	39.6	50	1160	37
36	354	336	336	68.4	(109.0)	52.3	78.3	55.9	38.4	49	1115	36
35	345	327	327	67.9	(108.5)	51.5	77.7	55.0	37.2	48	1080	35
34	336	319	319	67.4	(108.0)	50.8	77.2	54.2	36.1	47	1055	34
33	327	311	311	66.8	(107.5)	50.0	76.6	53.3	34.9	46	1025	33
32	318	301	301	66.3	(107.0)	49.2	76.1	52.1	33.7	44	1000	32
31	310	294	294	65.8	(106.0)	48.4	75.6	51.3	32.5	43	980	31
30	302	286	286	65.3	(105.5)	47.7	75.0	50.4	31.3	42	950	30
29	294	279	279	64.7	(104.5)	47.0	74.5	49.5	30.1	41	930	29
28	286	271	271	64.3	(104.0)	46.1	73.9	48.6	28.9	41	910	28
27	279	264	264	63.8	(103.0)	45.2	73.3	47.7	27.8	40	880	27
26	272	258	258	63.3	(102.5)	44.6	72.8	46.8	26.7	38	860	26
25	266	253	253	62.8	(101.5)	43.8	72.2	45.9	25.5	38	840	25
24	260	247	247	62.4	(101.0)	43.1	71.6	45.0	24.3	37	825	24
23	254	243	243	62.0	100.0	42.1	71.0	44.0	23.1	36	805	23
22	248	237	237	61.5	99.0	41.6	70.5	43.2	22.0	35	785	22
21	243	231	231	61.0	98.5	40.9	69.9	42.3	20.7	35	770	21
20	238	226	226	60.5	97.8	40.1	69.4	41.5	19.6	34	760	20
(18)	230	219	219	—	96.7	—	—	—	—	33	730	(18)
(16)	222	212	212	—	95.5	—	—	—	—	32	705	(16)
(14)	213	203	203	—	93.9	—	—	—	—	31	675	(14)
(12)	204	194	194	—	92.3	—	—	—	—	29	650	(12)
(10)	196	187	187	—	90.7	—	—	—	—	28	620	(10)
(8)	188	179	179	—	89.5	—	—	—	—	27	600	(8)
(6)	180	171	171	—	87.1	—	—	—	—	26	580	(6)
(4)	173	165	165	—	85.5	—	—	—	—	25	550	(4)
(2)	166	158	158	—	83.5	—	—	—	—	24	530	(2)
(0)	160	152	152	—	81.7	—	—	—	—	24	515	(0)

※1 : 1MPa=1N/mm²

※2 : In above table, numbers in parenthesis are only for reference.

This table is abstracted from SAE J 417.

33. Conversion table from inch to millimeter

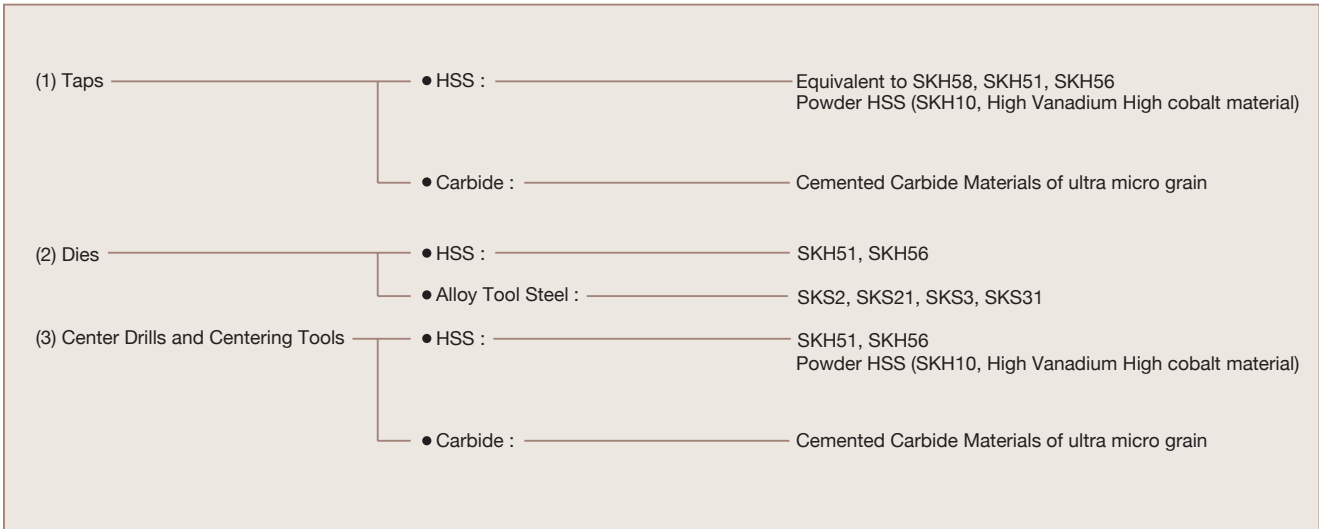
■ Conversion table from inch to millimeter

Designation		0"	1"	2"	3"	4"	5"	6"	7"	8"	9"
Fractional	Decimal										
0"	0"	—	25.400	50.800	76.200	101.600	127.000	152.400	177.800	203.200	228.600
1/64"	0.015625"	0.397	25.797	51.197	76.597	101.997	127.397	152.797	178.197	203.597	228.997
1/32"	0.03125"	0.794	26.194	51.594	76.994	102.394	127.794	153.194	178.594	203.994	229.394
3/64"	0.046875"	1.191	26.591	51.991	77.391	102.791	128.191	153.591	178.991	204.391	229.791
1/16"	0.0625"	1.588	26.988	52.388	77.788	103.188	128.588	153.988	179.388	204.788	230.188
3/64"	0.078125"	1.984	27.384	52.784	78.184	103.584	128.984	154.384	179.784	205.184	230.584
3/32"	0.09375"	2.381	27.781	53.181	78.581	103.981	129.381	154.781	180.181	205.581	230.981
7/64"	0.109375"	2.778	28.178	53.578	78.978	104.378	129.778	155.178	180.578	205.978	231.378
1/8"	0.125"	3.175	28.575	53.975	79.375	104.775	130.175	155.575	180.975	206.375	231.775
9/64"	0.140625"	3.572	28.972	54.372	79.772	105.172	130.572	155.972	181.372	206.772	232.172
3/32"	0.15625"	3.969	29.369	54.769	80.169	105.569	130.969	156.369	181.769	207.169	232.569
11/64"	0.171875"	4.366	29.766	55.166	80.566	105.966	131.366	156.766	182.166	207.566	232.966
3/16"	0.1875"	4.762	30.162	55.562	80.962	106.362	131.762	157.162	182.562	207.962	233.362
13/64"	0.203125"	5.159	30.559	55.959	81.359	106.759	132.159	157.559	182.959	208.359	233.759
7/32"	0.21875"	5.556	30.956	56.356	81.756	107.156	132.556	157.956	183.356	208.756	234.156
15/64"	0.234375"	5.953	31.353	56.753	82.153	107.553	132.953	158.353	183.753	209.153	234.553
1/4"	0.25"	6.350	31.750	57.150	82.550	107.950	133.350	158.750	184.150	209.550	234.950
17/64"	0.265625"	6.747	32.147	57.547	82.947	108.347	133.747	159.147	184.547	209.947	235.347
9/32"	0.28125"	7.144	32.544	57.944	83.344	108.744	134.144	159.544	184.944	210.344	235.744
19/64"	0.296875"	7.541	32.941	58.341	83.741	109.141	134.541	159.941	185.341	210.741	236.141
5/16"	0.3125"	7.938	33.338	58.738	84.138	109.538	134.938	160.338	185.738	211.138	236.538
21/64"	0.328125"	8.334	33.734	59.134	84.534	109.934	135.334	160.734	186.134	211.534	236.934
11/32"	0.34375"	8.731	34.131	59.531	84.931	110.331	135.731	161.131	186.531	211.931	237.331
23/64"	0.359375"	9.128	34.528	59.928	85.328	110.728	136.128	161.528	186.928	212.328	237.728
3/8"	0.375"	9.525	34.925	60.325	85.725	111.125	136.525	161.925	187.325	212.725	238.125
25/64"	0.390625"	9.922	35.322	60.722	86.122	111.522	136.922	162.322	187.722	213.122	238.522
13/32"	0.40625"	10.319	35.719	61.119	86.519	111.919	137.319	162.719	188.119	213.519	238.919
27/64"	0.421875"	10.716	36.116	61.516	86.916	112.316	137.716	163.116	188.516	213.916	239.316
7/16"	0.4375"	11.112	36.512	61.912	87.312	112.712	138.112	163.512	188.912	214.312	239.712
29/64"	0.453125"	11.509	36.909	62.309	87.709	113.109	138.509	163.909	189.309	214.709	240.109
15/32"	0.46875"	11.906	37.306	62.706	88.106	113.506	138.906	164.306	189.706	215.106	240.506
31/64"	0.484375"	12.303	37.703	63.103	88.503	113.903	139.303	164.703	190.103	215.503	240.903
1/2"	0.5"	12.700	38.100	63.500	88.900	114.300	139.700	165.100	190.500	215.900	241.300
33/64"	0.515625"	13.097	38.497	63.897	89.297	114.697	140.097	165.497	190.897	216.297	241.697
17/32"	0.53125"	13.494	38.894	64.294	89.694	115.094	140.494	165.894	191.294	216.694	242.094
35/64"	0.546875"	13.891	39.291	64.691	90.091	115.491	140.891	166.291	191.691	217.091	242.491
9/16"	0.5625"	14.288	39.688	65.088	90.488	115.888	141.288	166.688	192.088	217.488	242.888
37/64"	0.578125"	14.684	40.084	65.484	90.884	116.284	141.684	167.084	192.484	217.884	243.284
19/32"	0.59375"	15.081	40.481	65.881	91.281	116.681	142.081	167.481	192.881	218.281	243.681
39/64"	0.609375"	15.478	40.878	66.278	91.678	117.078	142.478	167.878	193.278	218.678	244.078
5/8"	0.625"	15.875	41.275	66.675	92.075	117.475	142.875	168.275	193.675	219.075	244.475
41/64"	0.640625"	16.272	41.672	67.072	92.472	117.872	143.272	168.672	194.072	219.472	244.872
21/32"	0.65625"	16.669	42.069	67.469	92.869	118.269	143.669	169.069	194.469	219.869	245.269
43/64"	0.671875"	17.066	42.466	67.866	93.266	118.666	144.066	169.466	194.866	220.266	245.666
11/16"	0.6875"	17.462	42.862	68.262	93.662	119.062	144.462	169.862	195.262	220.662	246.062
45/64"	0.703125"	17.859	43.259	68.659	94.059	119.459	144.859	170.259	195.659	221.059	246.459
23/32"	0.71875"	18.256	43.656	69.056	94.456	119.856	145.256	170.656	196.056	221.456	246.856
47/64"	0.734375"	18.653	44.053	69.453	94.853	120.253	145.653	171.053	196.453	221.853	247.253
3/4"	0.75"	19.050	44.450	69.850	95.250	120.650	146.050	171.450	196.850	222.250	247.650
49/64"	0.765625"	19.447	44.847	70.247	95.647	121.047	146.447	171.847	197.247	222.647	248.047
25/32"	0.78125"	19.844	45.244	70.644	96.044	121.444	146.844	172.244	197.644	223.044	248.444
51/64"	0.796875"	20.241	45.641	71.041	96.441	121.841	147.241	172.641	198.041	223.441	248.841
13/16"	0.8125"	20.638	46.038	71.438	96.838	122.238	147.638	173.038	198.438	223.838	249.238
53/64"	0.828125"	21.034	46.434	71.834	97.234	122.634	148.034	173.434	198.834	224.234	249.634
27/32"	0.84375"	21.431	46.831	72.231	97.631	123.031	148.431	173.831	199.231	224.631	250.031
55/64"	0.859375"	21.828	47.228	72.628	98.028	123.428	148.828	174.228	199.628	225.028	250.428
7/8"	0.875"	22.225	47.625	73.025	98.425	123.825	149.225	174.625	200.025	225.425	250.825
57/64"	0.890625"	22.622	48.022	73.422	98.822	124.222	149.622	175.022	200.422	225.822	251.222
29/32"	0.90625"	23.019	48.419	73.819	99.219	124.619	150.019	175.419	200.819	226.219	251.619
59/64"	0.921875"	23.416	48.816	74.216	99.616	125.016	150.416	175.816	201.216	226.616	252.016
15/16"	0.9375"	23.812	49.212	74.612	100.012	125.412	150.812	176.212	201.612	227.012	252.412
61/64"	0.953125"	24.209	49.609	75.009	100.409	125.809	151.209	176.609	202.009	227.409	252.809
31/32"	0.96875"	24.606	50.006	75.406	100.806	126.206	151.606	177.006	202.406	227.806	253.206
63/64"	0.984375"	25.003	50.403	75.803	101.203	126.603	152.003	177.403	202.803	228.203	253.603

34. Materials used for Cutting Tools

Materials

We have been seeking the best materials used for cutting tools since the company establishment because the performance of tools are depending on the selection of materials used. Major materials used in our company are listed below.



※For product's improvement, material may be changed without notice.

Circumstance of tools' materials

Tensile strength, heat resistance, corrosion resistance and accuracy are the important features required of tool' s materials. These requirements have been changing due to miniaturization and lightening of parts.

And manufacturing methods, as well, have been changing because of necessity of economical efficiency such as saving process/cycle time while parts become hard-to-machine type and their hardness increases.

As a result, the demand of industrial tools by users has become very tough.

For example, higher wear resistance and chipping resistance are required in the area of hardness, and heavy cutting process or high-speed cutting are required in the area of cycle time.

Moreover, product accuracy with its rigidity, laborsaving brought by uniformity, and systematic reliability are highly required.

Therefore, technological improvement of tool steels never stops developing so that they satisfy users needs.

○The major materials used for taps are already listed in the chart, but those materials are ready to develop from conventional alloy tool steels and current high speed steel into next generation materials such as cemented carbide and cermet materials.

New materials are developed even in high-speed tool steel area, such as SKH51 and SKH58 from SKH2, and they are moving into high performance materials, such as high vanadium, cobalt, and powder HSS made of high vanadium and high cobalt contents.

○As the material for round dies, were alloy tool steels mostly used because of the relationship with the use of adjustable round dies. However, for the hard-to-machine material. die material has been shifted into High Speed Steel.

○Major materials for center drills and centering tools are high speed steel materials, but they have been shifting to cobalt type or even cemented carbide from SKH51.

We keep on seeking to develop our technology to meet user's needs and are trying to find the best materials in collaboration with steel manufacturers.

Chemical composition of the materials specified in JIS

Classification	Symbols	Chemical composition									
		C	Si	Mn	P	S	Cr	Mo	W	V	Co
W type HSS	SKH 2	0.73~0.83	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	—	17.20~18.70	1.00~1.20	—
	SKH 3	0.73~0.83	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	—	17.00~19.00	0.80~1.20	4.50~ 5.50
	SKH 4	0.73~0.83	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	—	17.00~19.00	1.00~1.50	9.00~11.00
	SKH10	1.45~1.60	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	—	11.50~13.50	4.20~5.20	4.20~ 5.20
Mo type HSS	SKH51	0.80~0.88	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	4.70~ 5.20	5.90~ 6.70	1.70~2.10	—
	SKH52	1.00~1.10	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	5.50~ 6.50	5.90~ 6.70	2.30~2.80	—
	SKH53	1.15~1.25	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	4.70~ 5.20	5.90~ 6.70	2.70~3.20	—
	SKH54	1.25~1.40	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	4.20~ 5.00	5.20~ 6.00	3.70~4.20	—
	SKH55	0.87~0.95	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	4.70~ 5.20	5.90~ 6.70	1.70~2.10	4.50~ 5.00
	SKH56	0.85~0.95	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	4.70~ 5.20	5.90~ 6.70	1.70~2.10	7.00~ 9.00
	SKH57	1.20~1.35	≤0.45	≤0.4	≤0.030	≤0.030	3.80~4.50	3.20~ 3.90	9.00~10.00	3.00~3.50	9.50~10.50
	SKH58	0.95~1.05	≤0.7	≤0.4	≤0.030	≤0.030	3.50~4.50	8.20~ 9.20	1.50~ 2.10	1.70~2.20	—
	SKH59	1.05~1.15	≤0.7	≤0.4	≤0.030	≤0.030	3.50~4.50	9.00~10.00	1.20~ 1.90	0.90~1.30	7.50~ 8.50

Classification	Symbols	Usage	Cross chart		
			AISI	VDEH	ISO
W type HSS	SKH 2	Tools for general cutting and other kinds of tools.	T 1	S18-0-1	S1 (HS18-0-1)
	SKH 3	Tools for high speed heavy cutting and other kinds of tools.	T 4	S18-1-2-5	S7 (HS18-1-1-5)
	SKH 4	Tools for cutting hard -to-machine materials and other kinds of tools.	T 5	S18-1-2-10	S6 (HS18-0-1-10)
	SKH10	Tools for cutting ultra hard-to-machine materials and other kinds of tools.	T15	—	S9 (HS12-1-5-5)
Mo type HSS	SKH51	General cutting tools from which toughness is particularly required, and other kinds of tools.	M 2	S6-5-2	S4 (HS6-5-2)
	SKH52	Tools for cutting high hardness material from which comparatively high toughness is required and other kinds of tools.	M 3-1	—	—
	SKH53		M 3-2	S6-5-3	S5 (HS6-5-3)
	SKH54	Tools for cutting ultra hard-to-machine materials and other kinds of tools.	M 4	—	—
	SKH55	High speed cutting tools from which comparatively high toughness is required and other kinds of tools.	M35	S6-5-2-5	S8 (HS6-5-2-5)
	SKH56		M36	—	—
	SKH57	Tools for cutting ultra hard-to-machine materials and other kinds of tools.	—	S10-4-3-10	S10 (HS10-4-3-10)
	SKH58	General cutting tools from which toughness is particularly required, and other kinds of tools.	M 7	S2-9-2	S2 (HS2-9-2)
SKH59	High speed heavy cutting tools from which comparatively high toughness is required, and other kinds of tools.	M42	S2-10-1-8	S11 (HS2-9-1-8)	

The standard of HSS material is specified in JIS. But there are many HSS materials which standard is not specified in JIS. Recently even the kind of HSS-P is getting wider and various. Besides, SKH10, SKH53, SKH57 and their equivalents, such Hi vanadium/hi cobalt material as contains 4-12% vanadium and 8-11% cobalt is now being manufactured. Material engineering will be developed rapidly in the future. Under such situation, there can be many cases where JIS symbols are not used, and the use of larger classification and their symbols is getting popular.

Searching table by product name

	Code No.	Product name	Page No.
H	H*****ANEBC	SP LH Metric	DIN/SP-13
L	L*****BEDTLZ	HDISL	DIN/SL-10
	L*****BFCL*	MHSL	DIN/SL-4
	L*****BGEX	SL+VA	DIN/SL-1
	L*****BIPN	ZET-P	DIN/SL-8
	L*****BNEV	F-SL	DIN/SL-9
	L*****BNEV	AU+SL	DIN/SL-6
	LX*****BNEV	AUXSL	DIN/SL-7
	P	P*****GEX	PO-VA Metric
P*****NEB		PO Metric	DIN/PO-2
P*****NEX		PO OX Metric	DIN/PO-9
P*****BDCB		EH-PO	DIN/PO-13
P*****BGET		PO-VA Coated	DIN/PO-17
P*****BJPW		ZEN-P Metric	DIN/PO-18
P**NT***NEBC		DPO NPT Threads	DIN/Di-4
P*U***XNEB		PO Unified Threads	DIN/PO-4
P*U***YGEX		PO-VA Unified Threads	DIN/PO-15
P*U***YJPW		ZEN-P Unified Threads	DIN/PO-18
PD*****LNEBC		DPO Metric	DIN/Di-1
PD*U***GNEBC		DPO Unified Threads	DIN/Di-3
PV*G*****NEBC		DPO G Threads	DIN/Di-4
PVG*****NEB		PO G Threads	DIN/PO-5
PVG*****NEX	PO OX G Threads	DIN/PO-12	
R	R*****FPTB	HP+RZ/HP-RZ	DIN/RO-7
	R*****BHEXB	N+RZ/N-RZ	DIN/RO-5
	R*****BHPTP	OL+RZ	DIN/RO-6
	R*****BKENB	N+RS/N-RS	DIN/RO-4
	R*****BNEBB	R-D	DIN/RO-1
	R*****BOCT*	MHRZ	DIN/RO-10
S	S*****GEX	SP-VA Metric	DIN/SP-28
	S*****NEB	SP Metric	DIN/SP-2
	S*****NEXH	LO-SP OX Metric	DIN/SP-22
	S*****AEEX	PH-SP Metric	DIN/SP-24
	S*****AGET	SP-VA(Coating)	DIN/SP-31
	S*****AGEX	SP+VA	DIN/SP-27
	S*****AGEXJ	SU2-SP Metric	DIN/SP-36
	S*****AHEX	E-SP	DIN/SP-26
	S*****ALEN	AL+SP/AL-SP	DIN/SP-17
	S*****ANEBAJ	SP-BLF 1.5P	DIN/SP-32
	S*****ANEBH	LO-SP Metric	DIN/SP-19
	S*****ANEBJ	SP-BLF	DIN/SP-32

	Code No.	Product name	Page No.	
S	S*****ANEX	SP OX Metric	DIN/SP-9	
	S*****ANEXJ	SP-BLF OX	DIN/SP-35	
	S*****BEDTHZ	HFISP	DIN/SP-44	
	S*****BEDTLZ	HDISP	DIN/SP-47	
	S*****BEDTZ	HFIHS	DIN/SP-43	
	S*****BIPN	ZET-B Metric	DIN/SP-40	
	S*****BJPX	ZEN-B Metric	DIN/SP-38	
	S*****BLDTHZ	HFASP	DIN/SP-46	
	S*****BLDTLZ	HDASP	DIN/SP-48	
	S*****BLDTZ	HFAHS	DIN/SP-45	
	S*****BNEV	F-SP	DIN/SP-42	
	S*U***XGEX	SP-VA Unified Threads	DIN/SP-29	
	S*U***XNEB	SP Unified Threads	DIN/SP-4	
	S*U***YIPN	ZET-B Unified Threads	DIN/SP-41	
	S*U***YJPX	ZEN-B Unified Threads	DIN/SP-39	
	S*****ANEV	AU+SP	DIN/SP-15	
	SVG*****EEX	PH-SP G Threads	DIN/SP-25	
	SVG*****GEX	SP-VA G Threads	DIN/SP-30	
	SVG*****GEXJ	SU2-SP G Threads	DIN/SP-36	
	SVG*****NEB	SP G Threads	DIN/SP-5	
	SVG*****NEBH	LO-SP G Threads	DIN/SP-20	
	SVG*****NEX	SP OX G Threads	DIN/SP-12	
	SVG*****NEXH	LO-SP OX G Threads	DIN/SP-23	
	SX*****ANEV	AUXSP	DIN/SP-16	
	T	T*****ANEBC*	HT Metric	DIN/HT-2
		T*****BAENC	GG-HT Metric	DIN/HT-14
		T*****BAFNC	GG-HT-OH	DIN/HT-18
		T*****BBWA5	UH-CT	DIN/CT-6
T*****BCWA5		EH-CT	DIN/CT-4	
T*****BDCBC		EH-HT Metric	DIN/HT-12	
T*****BLENS		LA-HT	DIN/HT-20	
T*****BLPVA		AXE-HT	DIN/HT-21	
T*G*****NEB*		HT G Threads	DIN/HT-10	
T*U***XNEBC		HT Unified Threads	DIN/HT-8	
TPW*****NEB*		HT Whitworth Threads	DIN/HT-9	
TVG*****AENC		GG-HT G Threads	DIN/HT-15	
TVG*****DCBC		EH-HT G Threads	DIN/HT-13	
TYPG*****NEBU		HT Pg Threads	DIN/HT-10	
3	3*****	CT-FC Metric	DIN/CT-1	
	3***G**	CT-FC G Threads	DIN/CT-1	
9	9*40***TI	SP(Coating) Metric	DIN/SP-7	

Searching table by product name

Code No.	Product name	Page No.
9*40***TI	SP(Coating) Metric	DIN/SP-7
9940R**TI	SP(Coating) G Threads	DIN/SP-7
9*47***TI	SP-BLF(Coating) Metric	DIN/SP-34
9*30***TI	PO(Coating) Metric	DIN/PO-6
9*30***TI	PO(Coating) Metric	DIN/PO-6
9930R**TI	PO(Coating) G Threads	DIN/PO-7
9 9*26***TC	GG-HT(Coating) Metric	DIN/HT-16
9*26***TC	GG-HT(Coating) Metric	DIN/HT-16
9926R**TC	GG-HT(Coating) G Threads	DIN/HT-17
9*26***TCOH	GG-HT-OH(Coating) Metric	DIN/HT-19
9*26***TCOH	GG-HT-OH(Coating) Metric	DIN/HT-19
9353***BTI	R-D(Coating) Metric	DIN/RO-2
9353***BTC	R-D(Coating) Metric	DIN/RO-3

Alphabet of product name

Symbol	Application	Page No.			
		DIN	ANSI	JIS	
A	AL-HT	Hand Taps for Helical Coil Wire Screw Thread Inserts	-	-	JIS/HT-42
	AL-SP	Spiral Fluted Taps for Aluminum/Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts	DIN/SP-17	-	JIS/SP-49
	AL-SP 1.5P	Spiral Fluted Taps for Aluminum 1.5P	-	-	JIS/SP-51
	AL+SP/AL-SP	Spiral Fluted Taps for Aluminum	DIN/SP-17	-	JIS/SP-49
	AU+SL	Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)	DIN/SL-5	-	JIS/SL-2
	AU+SP	Plus Series Spiral Fluted Taps, Coated	DIN/SP-14	ANSI/SP-11	JIS/SP-23
	AUXSL	X Series Spiral Fluted Taps, Coated, Through Hole Use (with LH spiral flutes)	DIN/SL-7	-	JIS/SL-3
	AUXSP	X Series Spiral Fluted Taps, Coated	DIN/SP-16	-	JIS/SP-25
AXE-HT	AXE Hand Taps	DIN/HT-21	ANSI/HT-15	JIS/HT-40	
C	C-CD-Q	Low Helix Carbide Center Drills-Type A 90°	-	-	JIS/CE-18
	C-CD-QL	Long Shank Low Helix Carbide Center Drills-Type A 90°	-	-	JIS/CE-21
	C-CD-S	Carbide Center Drills-Type A 60°	-	-	JIS/CE-6
	C-CD-SL	Long Shank Low Helix Carbide Center Drills-Type A 60°	-	-	JIS/CE-11
	C-PE-Q V	Carbide Point Drills 90°, Coated	-	-	JIS/CE-44
	C-PE-S V	Carbide Point Drills 60°, Coated	-	-	JIS/CE-48
	CD-A	Low Helix Center Drills-Type A 60°	DIN/CE-1	-	-
	CD-Q	Low Helix Center Drills-Type A 90°	-	-	JIS/CE-14
	CD-Q LH	Low Helix Center Drills - Type A 90°, Left Hand Cut	-	-	JIS/CE-15
	CD-Q V	Low Helix Center Drills-Type A 90°, Coated	-	-	JIS/CE-17
	CD-R	Low Helix Center Drills-Type R	-	-	JIS/CE-23
	CD-S	Low Helix Center Drills-Type A 60°	-	-	JIS/CE-3
	CD-S LH	Low Helix Center Drills-Type A 60°, Left Hand Cut	-	-	JIS/CE-4
	CD-SL	Long Shank Low Helix Center Drills-Type A 60°	-	-	JIS/CE-8
	CD-SL V	Long Shank Low Helix Center Drills-Type A 60°, Coated	-	-	JIS/CE-10
	CE-Q	High Helix Center Drills-Type A 90°	-	-	JIS/CE-13
	CE-Q V	High Helix Center Drills-Type A 90°, Coated	-	-	JIS/CE-16
	CE-QL	Long Shank High Helix Center Drills-Type A 90°	-	-	JIS/CE-19
	CE-QL V	Long Shank High Helix Center Drills-Type A 90°, Coated	-	-	JIS/CE-20
	CE-S	High Helix Center Drills-Type A 60°	-	-	JIS/CE-2
	CE-S V	High Helix Center Drills-Type A 60°, Coated	-	-	JIS/CE-5
	CE-SL	Long Shank High Helix Center Drills-Type A 60°	-	-	JIS/CE-7
	CE-SL V	Long Shank High Helix Center Drills-Type A 60°, Coated	-	-	JIS/CE-9
	CEIR	High Helix Center Drills-JIS Type R	-	-	JIS/CE-22
	CEQA	High Helix Center Drills-JIS Type A 90°	-	-	JIS/CE-12
	CESA	High Helix Center Drills-JIS Type A 60°	-	-	JIS/CE-1
	CESB	High Helix Center Drills-JIS Type B 60°	-	-	JIS/CE-24
	CESC	High Helix Center Drills-JIS Type C 60°	-	-	JIS/CE-25
	CPC-S	Check Pins for Bored Hole in thread cut tapping (Straight Type)	-	ANSI/ST-1	JIS/ST-15
	CPC-T	Check Pins for Bored Holes in thread cut tapping (Taper Type)	-	ANSI/ST-4	JIS/ST-17
	CPR-S	Check Pins for Bored Hole in thread form tapping (Straight Type)	-	-	JIS/ST-18
	CPR-T	Check Pins for Bored Holes in thread form tapping (Taper Type)	-	-	JIS/ST-20
	CS-G	Submarine Gate Cutter, 20°, 30°	-	-	JIS/CE-55
	CS-Q	Countersinks 90°, Machining Center Use	-	-	JIS/CE-53
	CS-QM	Countersinks 90°and 60°, Drilling Machine Use	-	-	JIS/CE-54
	CT-FC	Carbide Taps for Cast Irons	DIN/CT-1	-	-
CT-PF	Carbide Taps for Parallel Pipe Threads	-	-	JIS/Pipe-41	
CT-PS	Carbide Taps for Parallel Pipe Threads	-	-	JIS/Pipe-32	
CT-PT	Carbide Taps for Taper Pipe Threads, Long (lg) Type, for Cast Irons	-	-	JIS/Pipe-24	
CT-S-PT	Carbide Taps for Taper Pipe Threads, Short (lg) Type, for Cast Irons	-	-	JIS/Pipe-25	
D	D	Solid Round Dies	-	-	JIS/Di-1
	D LH	Solid Round Dies for Left Hand Threads	-	-	JIS/Di-10
	D NPSM	Solid Round Dies for American Parallel Pipe Threads	-	-	JIS/Di-15
	D NPT	Solid Round Dies for American Taper Pipe Threads	-	-	JIS/Di-18
	D NPTF	Solid Round Dies for American Dryseal Taper Pipe Threads	-	-	JIS/Di-19
	D PF	Solid Round Dies for Parallel Pipe Threads	-	-	JIS/Di-13
	D PF LH	Solid Round Dies for Parallel Pipe Threads, for Left Hand Threads	-	-	JIS/Di-14
	D PT	Solid Round Dies for Taper Pipe Threads	-	-	JIS/Di-16
	D PT LH	Solid Round Dies for Taper Pipe Threads, for Left Hand Threads	-	-	JIS/Di-17
	D PO	Hss Spiral Pointed Dies	DIN/Di-1	-	-

Alphabet of product name

	Symbol	Application	Page No.		
			DIN	ANSI	JIS
E	E-SP	Spiral Fluted Taps for Soft Structural Steels	DIN/SP-26	-	JIS/SP-44
	EH-CT	Carbide Taps for Hard Materials	DIN/CT-3	-	JIS/CT-11
	EH-HT	Hand Taps for Hard-to-Machine Materials (DIN) Straight Fluted Taps for Hard-to-Machine Materials	DIN/HT-12	ANSI/HT-21	JIS/HT-49
	EH-PO	Spiral Pointed Taps for Hard-to-Machine Materials	DIN/PO-13	-	JIS/PO-30
F	F-SL	Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)	DIN/SL-9	-	JIS/SL-9
	F-SP	Spiral Fluted Taps for High Speed Tapping	DIN/SP-42	-	JIS/SP-57
	FC-HT	Hand Taps for Cast Irons	-	-	JIS/HT-36
	FC-PF	Hand Taps for Parallel Pipe Threads, for Cast Irons	-	-	JIS/Pipe-40
	FC-PT	Hand Taps for Taper Pipe Threads, Long (lg) Type, for Cast Irons	-	-	JIS/Pipe-22
	FC-S-PT	Hand Taps for Taper Pipe Threads, Short (lg) Type, for Cast Irons	-	-	JIS/Pipe-23
G	G	Hand Taps for Parallel Pipe Threads	-	-	JIS/Pipe-33
	GG-HT	Straight Fluted Taps for Cast Irons	DIN/HT-14	-	-
	GG-HT(Coating)	Straight Fluted Taps for Cast Irons, Coated	DIN/HT-16	-	-
	GG-HT-OH	Straight Fluted Taps for Cast Irons with Internal Coolant Hole	DIN/HT-18	-	-
	GG-HT-OH(Coating)	Straight Fluted Taps for Cast Irons with Internal Coolant Hole, Coated	DIN/HT-19	-	-
H	HC+PO/HC-PO	Spiral Pointed Taps for High Carbon Steels	-	-	JIS/PO-27
	HC+SP/HC-SP	Spiral Fluted Taps for High Carbon Steels	-	-	JIS/SP-46
	HC+SP OX/HC-SP OX	Spiral Fluted Taps for High Carbon Steels, Oxidized	-	-	JIS/SP-48
	HDASP	For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Aluminum	DIN/SP-48	-	JIS/SP-63
	HDISL	Spiral Fluted Taps for Steels, for Dry Tapping and for Ultra High Speed Tapping, Through Hole Use (with LH spiral fluted)	DIN/SL-10	-	JIS/SL-10
	HDISP	For Dry Tapping, Blind Hole Use. Spiral Fluted Taps for Steels	DIN/SP-47	-	JIS/SP-62
	HFACT-B	Carbide Taps for Ultra Fast Tappings, Blind Hole Use, for Aluminum	-	-	JIS/CT-14
	HFACT-P	Carbide Taps for Ultra Fast Tappings, Through Hole Use, for Aluminum	-	-	JIS/CT-13
	HFAHS	For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Aluminum	DIN/SP-45	-	JIS/SP-60
	HFASP	For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Aluminum	DIN/SP-46	-	JIS/SP-61
	HFICT-B	Carbide Taps for Ultra Fast Tappings, Blind Hole Use, for Cast Irons	-	-	JIS/CT-16
	HFICT-P	Carbide Taps for Ultra Fast Tappings, Through Hole Use, for Cast Irons	-	-	JIS/CT-15
	HFIHS	For Ultra Fast Tapping, Vertical Use. Spiral Fluted Taps for Carbon Steels	DIN/SP-43	-	JIS/SP-58
	HFISP	For Ultra Fast Tapping, Horizontal Use. Low Spiral Fluted Taps for Carbon Steels	DIN/SP-44	-	JIS/SP-59
	HP-RZ	High Performance Thread Forming Taps, Coated	DIN/RO-7	ANSI/RO-10	-
	HP+RZ	High Performance Thread Forming Taps, Coated	DIN/RO-7	-	JIS/RO-19
	HPsRZ	High Performance Roll Taps for Miniature Threads	-	-	JIS/ST-1
	HT	Hand Taps (DIN) Hand Taps and Straight Fluted Taps	DIN/HT-1	ANSI/HT-3	JIS/HT-3
	HT LH	Hand Taps for Left Hand Threads	-	-	JIS/HT-18
	HT OX	Hand Taps, Oxidized.	-	ANSI/HT-8	-
HT OX STI	Hand Taps for Helical Coil Wire Screw Thread Inserts, Oxidized	-	ANSI/HT-18	-	
HT STI	Hand Taps for Helical Coil Wire Screw Thread Inserts	-	ANSI/HT-16	-	
HT-CI	Hand Taps for Cast Irons	-	ANSI/HT-13	-	
I	IHT	Hand Taps for General Purpose	-	ANSI/HT-1	JIS/HT-1
	INT-NPT	Interrupted Taps for American Taper Pipe Threads	-	ANSI/Pipe-5	JIS/Pipe-47
	INT-PT	Interrupted Taps for Taper Pipe Threads, Long (lg) Type	-	-	JIS/Pipe-14
	INT-S-NPT	Interrupted Taps for American Taper Pipe Threads, Short (lg) Type	-	-	JIS/Pipe-48
	INT-S-PT	Interrupted Taps for Taper Pipe Threads, Short (lg) Type	-	-	JIS/Pipe-15
	IPO	Spiral Pointed Taps for General Purpose	-	ANSI/PO-1	JIS/PO-1
J	ISP	Spiral Fluted Taps for General Purpose	-	ANSI/SP-1	JIS/SP-1
	JO-C-CDS	Joint- Low Helix Carbide Center Drills-Type A 60°	-	-	JIS/CE-34
	JO-C-PEQ V	Joint- Carbide Point Drills 90°, Coated	-	-	JIS/CE-37
	JO-CDS	Joint- Low Helix Center Drills-Type A 60°	-	-	JIS/CE-32
	JO-CDS V	Joint- Low Helix Center Drills-Type A 60°, Coated	-	-	JIS/CE-33
	JO-CES	Joint- High Helix Center Drills-Type A 60°	-	-	JIS/CE-30
	JO-CES V	Joint- High Helix Center Drills-Type A 60°, Coated	-	-	JIS/CE-31
	JO-CSQM	Joint- Countersinks 90°, Drilling Machine Use	-	-	JIS/CE-39
	JO-HOLDER	Holders for Joint Tools, for 150mm	-	-	JIS/CE-40
	JO-NCSD V	Joint- NC Starting Drills for Beveling, Coated	-	-	JIS/CE-38
	JO-PEQ	Joint- Point Drills 90°	-	-	JIS/CE-35
	JO-PEQ V	Joint- Point Drills 90°, Coated	-	-	JIS/CE-36

Alphabet of product name

Symbol	Application	Page No.		
		DIN	ANSI	JIS
LA-HT	Hand Taps for Die Cast Materials (DIN) Straight Fluted Taps for Die Cast Materials	DIN/HT-20	-	JIS/HT-38
LC-PT	Hand Taps for Taper Pipe Threads Long (lg) Type, for Low Carbon Steels	-	-	JIS/Pipe-18
LC-S-PT	Hand Taps for Taper Pipe Threads Short (lg) Type, for Low Carbon Steels	-	-	JIS/Pipe-19
LO-SP	Low Spiral Fluted Taps (ANSI) Low Spiral Fluted Taps for Alloy Steels	DIN/SP-19	ANSI/SP-10	JIS/SP-52
LO-SP OX	Low Spiral Fluted Taps, Oxided	DIN/SP-21	-	-
LS-HT	Long Shank Hand Taps	-	-	JIS/HT-21
LS-HT LH	Long Shank Hand Taps for Left Hand Threads	-	-	JIS/HT-29
LS-HT V	Long Shank Hand Taps, Coated	-	-	JIS/HT-31
LS-INT-PT	Long Shank Interrupted Taps for Taper Pipe Threads, Long (lg) Type	-	-	JIS/Pipe-16
LS-INT-S-PT	Long Shank Interrupted Taps for Taper Pipe Threads, Short (lg) Type	-	-	JIS/Pipe-17
LS-LO-SP	Long Shank Low Spiral Fluted Taps	-	-	JIS/SP-53
LS-N-RS	Long Shank Thread Forming Taps for Non-Ferrous Materials	-	-	JIS/RO-13
LS-N-RZ	Long Shank Thread Forming Taps for Steels	-	-	JIS/RO-6
LS-NPT	Long Shank Hand Taps for American Taper Pipe Threads	-	-	JIS/Pipe-44
L LS-NPTF	Long Shank Hand Taps for American Dryseal Taper Pipe Threads	-	-	JIS/Pipe-50
LS-PF	Long Shank Hand Taps for Parallel Pipe Threads	-	-	JIS/Pipe-36
LS-PO	Long Shank Spiral Pointed Taps	-	-	JIS/PO-17
LS-PO V	Long Shank Spiral Pointed Taps, Coated	-	-	JIS/PO-21
LS-PS	Long Shank Taps for Parallel Pipe Threads	-	-	JIS/Pipe-29
LS-PT	Long Shank Hand Taps for Taper Pipe Threads Long (lg) Type	-	-	JIS/Pipe-7
LS-S-PT	Long Shank Hand Taps for Taper Pipe Threads, Short (lg) Type	-	-	JIS/Pipe-8
LS-SP	Long Shank Spiral Fluted Taps	-	-	JIS/SP-26
LS-SP LH	Long Shank Spiral Fluted Taps for Left Hand Threads	-	-	JIS/SP-30
LS-SP V	Long Shank Spiral Fluted Taps, Coated	-	-	JIS/SP-31
LS-SP-PF	Long Shank Spiral Fluted Taps for Parallel Pipe Threads	-	-	JIS/Pipe-38
LS-SP-PS	Long Shank Spiral Fluted Taps for Parallel Pipe Threads	-	-	JIS/Pipe-31
LS-SP-PT	Long Shank Spiral Fluted Taps for Taper Pipe Threads, Long (lg) Type	-	-	JIS/Pipe-12
LS-SP-S-NPT	Long Shank Hand Taps for American Taper Pipe Threads, Short (lg) Type	-	-	JIS/Pipe-46
LS-SP-S-PT	Long Shank Spiral Fluted Taps for Taper Pipe Threads, Short (lg) Type	-	-	JIS/Pipe-13
MC-AD-CT	Carbide Taps with Oil Hole	-	-	JIS/CT-9
MC-CSLC	Carbide Thread Mills	-	-	JIS/MC-1
MC-HLC	Thread Mills	-	-	JIS/MC-4
MC-HT	Hand Taps with Internal Coolant Hole	-	-	JIS/HT-46
MC-PO	Spiral Pointed Taps with Internal Coolant Hole	-	-	JIS/PO-29
M MC-SP	Spiral Fluted Taps with Internal Coolant Hole	-	-	JIS/SP-54
MG-HT	Hand Taps with Short Chamfer for Magnesium Alloy Castings	-	-	JIS/HT-41
MHCDS	Center Drills for Carbon Steels of Middle Hardness for Running at High Speed	-	-	JIS/CE-27
MHRZ	Roll Taps for Carbon Steels of Middle Hardness	DIN/RO-9	ANSI/RO-13	JIS/RO-27
MHSL	Spiral Fluted Taps for Carbon Steels of middle hardness, Through Hole Use (with LH spiral flutes)	DIN/SL-3	ANSI/SL-4	JIS/SL-11
MS-RS-D	Rolling Dies for Miniature Threads	-	-	JIS/Di-20
MS+RS	Roll Taps for Miniature Threads	-	-	JIS/ST-1
N-CT FC	Carbide Taps for Cast Irons	-	-	JIS/CT-4
N-CT LA	Carbide Taps for Light Alloys/Carbide Taps for Helical Coil Wire Screw Thread Inserts	-	-	JIS/CT-1
N-CT-PO	Spiral Pointed Carbide Taps	-	-	JIS/CT-8
N-RS	Thread Forming Taps for Non-Ferrous Materials (JIS) Thread Forming Taps for Helical Coil Wire Screw Threads Inserts	DIN/RO-4	ANSI/RO-5	JIS/RO-7
N-RSD	New Rolling Dies	-	-	JIS/Di-22
N-RZ	Thread Forming Taps for Steels	DIN/RO-5	ANSI/RO-1	-
N+RS	Thread Forming Taps for Non-Ferrous Materials	DIN/RO-4	-	JIS/RO-7
N+RZ	Thread Forming Taps for Steels	DIN/RO-5	-	JIS/RO-1
N NC-SD	NC Starting Drills for Center Positioning (125°)	-	-	JIS/CE-51
N NC-SD V	NC Starting Drills for Beveling (90°), Coated	-	-	JIS/CE-51
NPS	Hand Taps for American Parallel Pipe Threads	-	ANSI/Pipe-9	JIS/Pipe-51
NPSF	Hand Taps for American Dryseal Parallel Pipe Threads	-	ANSI/Pipe-10	JIS/Pipe-52
NPT	Hand Taps for American Taper Pipe Threads	-	ANSI/Pipe-4	JIS/Pipe-42
NPT-CI	For American Taper Pipe Threads for Cast Irons	-	ANSI/Pipe-6	-
NPTF	Hand Taps for American Dryseal Taper Pipe Threads	-	ANSI/Pipe-7	JIS/Pipe-49
NPTF-CI	For American Dryseal Taper Pipe Threads, for Cast Irons	-	ANSI/Pipe-8	-

Alphabet of product name

Symbol	Application	Page No.			
		DIN	ANSI	JIS	
O	OL-RZ	Thread Forming Taps for Dry Tapping, Coated	-	ANSI/RO-9	JIS/RO-17
	OL+RZ	Thread Forming Taps for Dry Tapping, Coated	DIN/RO-6	-	JIS/RO-17
P	PE-Q	Point Drills 90°	-	-	JIS/CE-42
	PE-Q V	Point Drills 90°, Coated	-	-	JIS/CE-43
	PE-QL V	Long Shank Point Drills 90°, Coated	-	-	JIS/CE-45
	PE-S	Point Drills 60°	-	-	JIS/CE-46
	PE-S V	Point Drills 60°, Coated	-	-	JIS/CE-47
	PE-SL V	Long Shank Point Drills 60°, Coated	-	-	JIS/CE-49
	PF	Hand Taps for Parallel Pipe Threads	-	-	JIS/Pipe-34
	PF LH	Hand Taps for Parallel Pipe Threads, for LH Threads	-	-	JIS/Pipe-35
	PH-SP	Spiral Fluted Taps for Hard-to-Machine Materials	DIN/SP-24	-	-
	PL1	Hand Taps for Plastics	-	-	JIS/HT-45
	PO	Spiral Pointed Taps	DIN/PO-1	ANSI/PO-2	JIS/PO-3
	PO(Coating)	Spiral Pointed Taps, Coated	DIN/PO-6	-	-
	PO LH	Spiral Pointed Taps for Left Hand Threads	-	-	JIS/PO-14
	PO OX	Spiral Pointed Taps, Oxidized	DIN/PO-8	ANSI/PO-5	JIS/PO-11
	PO OX STI	Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts, Oxidized	-	ANSI/PO-17	-
	PO STI	Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts	-	ANSI/PO-15	-
	PO V	Spiral Pointed Taps, Coated	-	-	JIS/PO-16
	PO-D	HSS Spiral Pointed Dies	-	ANSI/Di-1	-
	PO-VA	Spiral Pointed Taps for Stainless Steels	DIN/PO-14	-	-
	PO-VA(Coating)	Spiral Pointed Taps for Stainless Steels, Coated	DIN/PO-17	-	-
PS	Hand Taps for Parallel Pipe Threads	-	-	JIS/Pipe-27	
PS LH	Hand Taps for Parallel Pipe Threads, for LH Threads	-	-	JIS/Pipe-28	
PT	Hand Taps for Taper Pipe Threads, Long (lg) Type	-	-	JIS/Pipe-2	
PT LH	Hand Taps for Taper Pipe Threads Long (lg) Type for LH Threads	-	-	JIS/Pipe-3	
PT-X	X Series Hand Taps for Taper Pipe Threads Short (lg) Type	-	-	JIS/Pipe-4	
R	R-D	Thread Forming Taps for Soft Structural Steel Sheets	DIN/RO-1	-	-
	R-D(Coating)	Thread Forming Taps for Soft Structural Steel Sheets	DIN/RO-2	-	-
	R-D(Coating)	Thread Forming Taps for Soft Structural Steel Sheets	DIN/RO-3	-	-
	R+V	Thread Forming Taps, Coated	-	-	JIS/RO-15
	Rc	Hand Taps for Taper Pipe Threads	-	-	JIS/Pipe-1
	RD-DA	Die Attachment (for Solid Dies)	-	ANSI/Di-2	JIS/Di-25
	RD-DC	Die Collets for Die Holders	-	-	JIS/Di-24
	RD-DH	Die Holders for Solid Dies	-	-	JIS/Di-23
	Rp	Hand Taps for Parallel Pipe Threads	-	-	JIS/Pipe-26
RS-D	Rolling Dies for Matric Threads	-	-	JIS/Di-20	
S	S-NPT	Hand Taps for American Taper Pipe Threads, Short (lg) Type	-	-	JIS/Pipe-43
	S-PO	Short Spiral Pointed Taps for Deep Hole Use	-	-	JIS/PO-25
	S-PT	Hand Taps for Taper Pipe Threads Short (lg) Type	-	-	JIS/Pipe-5
	S-PT LH	Hand Taps for Taper Pipe Threads Short (lg) Type for LH Threads	-	-	JIS/Pipe-6
	S-SP	Short Spiral Fluted Taps, Deep Hole Use	-	-	JIS/SP-42
	SA	Shank Adjusters	-	-	JIS/ST-22
	SC-TL-RZ	Torqueless Thread Forming Taps with short chamfer	-	-	JIS/RO-23
	SIT	Simple Thread Inspection Tools	-	-	JIS/ST-3
	SITD	Simple Thread Inspection Tools, Tandem Type	-	-	JIS/ST-9
	SL+VA	Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)	DIN/SL-1	-	-
	SP	Spiral Fluted Taps	DIN/SP-1	ANSI/SP-2	JIS/SP-3
SP	Spiral Fluted Taps for Alloy Steels	-	ANSI/SP-9	-	
SP(Coating)	Spiral Fluted Taps, Coated	DIN/SP-6	-	-	
SP (LH)	Spiral Fluted Taps for Left Hand Threads	DIN/SP-13	-	JIS/SP-20	
SP 1.5P	Spiral Fluted Taps 1.5P	-	-	JIS/SP-11	
SP LH	Spiral Fluted Taps for Left Hand Threads	-	-	JIS/SP-20	
SP OX	Spiral Fluted Taps, Oxidized	DIN/SP-8	ANSI/SP-6	JIS/SP-16	
SP OX STI	Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts, Oxidized	-	ANSI/SP-24	-	
SP STI	Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts	-	ANSI/SP-22	-	

Alphabet of product name

Symbol	Application	Page No.			
		DIN	ANSI	JIS	
	SP V	Spiral Fluted Taps, Coated	-	-	JIS/SP-22
	SP-BLF	Spiral Fluted Taps, Deep Hole Use	DIN/SP-32	-	-
	SP-BLF(Coating)	Spiral Fluted Taps, Deep Hole Use, Coated	DIN/SP-34	-	-
	SP-BLF OX	Spiral Fluted Taps, Deep Hole Use, Oxided	DIN/SP-35	-	-
	SP-NPT	Spiral Fluted Taps for American Taper Pipe Threads	-	-	JIS/Pipe-45
	SP-PF	Spiral Fluted Taps for Parallel Pipe Threads	-	-	JIS/Pipe-37
	SP-PS	Spiral Fluted Taps for Parallel Pipe Threads	-	-	JIS/Pipe-30
	SP-PT	Spiral Fluted Taps for Taper Pipe Threads, Long (lg) Type	-	-	JIS/Pipe-9
	SP-PT-X	X Series Spiral Fluted Taps for Taper Pipe Threads Short (lg) Type	-	-	JIS/Pipe-11
	SP-S-PT	Spiral Fluted Taps for Taper Pipe Threads Short (lg) Type	-	-	JIS/Pipe-10
	SP-VA	Spiral Fluted Taps for Stainless Steels	DIN/SP-28	-	-
	SP-VA(Coating)	Spiral Fluted Taps for Stainless Steels, Coated	DIN/SP-31	-	-
S	SP+VA	Spiral Fluted Taps for Stainless Steels	DIN/SP-27	-	-
	SU-HT	Hand Taps for Stainless Steels	-	-	JIS/HT-33
	SU-PF	Taps for Parallel Pipe Threads, for Stainless Steels	-	-	JIS/Pipe-39
	SU-PT	Hand Taps for Taper Pipe Threads Long (lg) Type, for Stainless Steels	-	-	JIS/Pipe-20
	SU-S-PT	Hand Taps for Taper Pipe Threads Short (lg) Type, for Stainless Steels	-	-	JIS/Pipe-21
	SU-S-SP	Spiral Fluted Taps for Stainless Steels, Deep Hole Use	-	-	JIS/SP-41
	SU+PO/SU-PO	Spiral Pointed Taps for Stainless Steels	-	-	JIS/PO-22
	SU+SL	Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)	-	-	JIS/SL-5
	SU+SP/SU-SP	Spiral Fluted Taps for Stainless Steels	-	-	JIS/SP-33
	SU2-SP	Spiral Fluted Taps for Tough Stainless Steels	DIN/SP-36	-	JIS/SP-39
	SURZ	SU Thread Forming Taps	-	-	JIS/RO-25
	SUXSL	X Series Spiral Fluted Taps for Stainless Steels, Through Hole Use (with LH spiral flutes)	-	-	JIS/SL-7
	SUXSP	X Series Spiral Fluted Taps for Stainless Steels	-	-	JIS/SP-38
T	TA	Tap Adapter	-	-	DIN ANSI JIS/ST-23
U	UH-CT	Carbide Taps for Ultra Hard Materials	DIN/CT-5	-	JIS/CT-12
X	XSL	X Series Spiral Fluted Taps, Through Hole Use (with LH spiral flutes)	-	-	JIS/SL-1
	XSP	X Series Spiral Fluted Taps	-	-	JIS/SP-15
	ZELX AL PO	Spiral Pointed Taps for Aluminum	-	ANSI/PO-13	-
	ZELX AL SP	Spiral Fluted Taps for Aluminum	-	ANSI/SP-18	-
	ZELX ALS SP	Spiral Fluted Taps for Aluminum	-	ANSI/SP-20	-
	ZELX CARB AL	Carbide Taps for Light Alloys	-	ANSI/CT-1	-
	ZELX CARB CI	Carbide Taps for Cast Irons	-	ANSI/CT-4	-
	ZELX FR	Spiral Fluted Taps for High Speed Tapping	-	ANSI/SP-33	-
	ZELX FR LHSP	Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)	-	ANSI/SL-3	-
	ZELX MOLD	Hand Taps for Hard-to-Machine Materials	-	ANSI/HT-20	-
	ZELX MOLD NPT	Hand Taps for Hard-to-Machine Materials For American Taper Pipe Threads	-	ANSI/Pipe-3	-
	ZELX NI PO	Spiral Pointed Taps for Nickel Base Alloys	-	ANSI/PO-19	-
	ZELX NI PO STI	Spiral Pointed Taps for Nickel Base Alloys for Helical Coil Wire Screw Thread Inserts	-	ANSI/PO-22	-
	ZELX NI SP	Spiral Fluted Taps for Nickel Base Alloys	-	ANSI/SP-28	-
Z	ZELX NI SP STI	Spiral Fluted Taps for Nickel Base Alloys, for Helical Coil Wire Screw Thread Inserts	-	ANSI/SP-31	-
	ZELX SS NPT	For American Taper Pipe Threads	-	ANSI/Pipe-1	-
	ZELX SS NPTF	For American Dryseal Taper Pipe Threads	-	ANSI/Pipe-2	-
	ZELX SS PO	Spiral Pointed Taps for Stainless Steels	-	ANSI/PO-8	-
	ZELX SS PO 6"	Long Shank Spiral Pointed Taps for Stainless Steels	-	ANSI/PO-12	-
	ZELX SS SP	Spiral Fluted Taps for Stainless Steels	-	ANSI/SP-12	-
	ZELX SS SP 6"	Long Shank Spiral Fluted Taps for Stainless Steels	-	ANSI/SP-17	-
	ZELX TI LHSP	Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)	-	ANSI/SL-1	-
	ZELX TI SP	Spiral Fluted Taps for Titanium Alloys	-	ANSI/SP-26	-
	ZEN-B	Spiral Fluted Taps for Nickel Base Alloys	DIN/SP-38	-	JIS/SP-56
	ZEN-P	Spiral Pointed Taps for Nickel Base Alloys	DIN/PO-18	-	JIS/PO-31
	ZET-B	Spiral Fluted Taps for Titanium Alloys	DIN/SP-40	-	JIS/SP-55
	ZET-P	Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)	DIN/SL-8	-	JIS/SL-8
+	+PO	Plus Series Spiral Pointed Taps	-	-	JIS/PO-10
	+PO OX	Plus Series Spiral Pointed Taps Oxided	-	-	JIS/PO-13
	+SP	Plus Series Spiral Fluted Taps	-	-	JIS/SP-13
	+SP OX	Plus Series Spiral Fluted Taps Oxided	-	-	JIS/SP-19

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**Yonezawa Plant (ISO9001 : 1996)
(ISO14001 : 2003)**



Yonezawa is the main manufacturing plant of the Yamawa Group, this location is equipped with production lines and is the Quality Control Center. The plant obtained ISO 9001 certification in 1996. Of the four Yamawa plants, the Yonezawa location has the longest history of manufacturing and the highest production capacity. Products include roll taps, spiral pointed, pipe and hand taps. The Yonezawa Plant stepped ahead of our competitors by receiving ISO 9001 before any other cutting tool manufacturing in Japan.

**Fukushima Plant (ISO9001 : 2000)
(ISO14001 : 2002)**



The Fukushima plant provides both tap production lines and in-house facilities for the manufacturing of specialized production machine tools to produce the exceptional high quality cutting tools. This plant develops and manufactures special tap and die production equipment. It also supplies these machines to our other manufacturing sites. Products include spiral fluted taps, dies and combined drills/countersinks as well as production machinery.

**Aizu Plant (ISO9001 : 2000)
(ISO14001 : 2002)**



Equipped with the most sophisticated machine tools available, this plant is famous for its automation and robotized labor saving manufacturing processes. The plant is designed for mass production of the highest quality cutting tools and screw thread tools. Products include spiral fluted taps and carbide taps.

**Tsutsumi Plant (ISO9001 : 2011)
(ISO14001 : 2011)**



The Tsutsumi plant is the main tool blank manufacturing operation of Yamawa group. This location is also the testing center where Yamawa executes the innovation in metal machining and performance tests of the products for the Yamawa group.

**Head Office (ISO9001 : 2012)
(ISO14001 : 2003)**



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