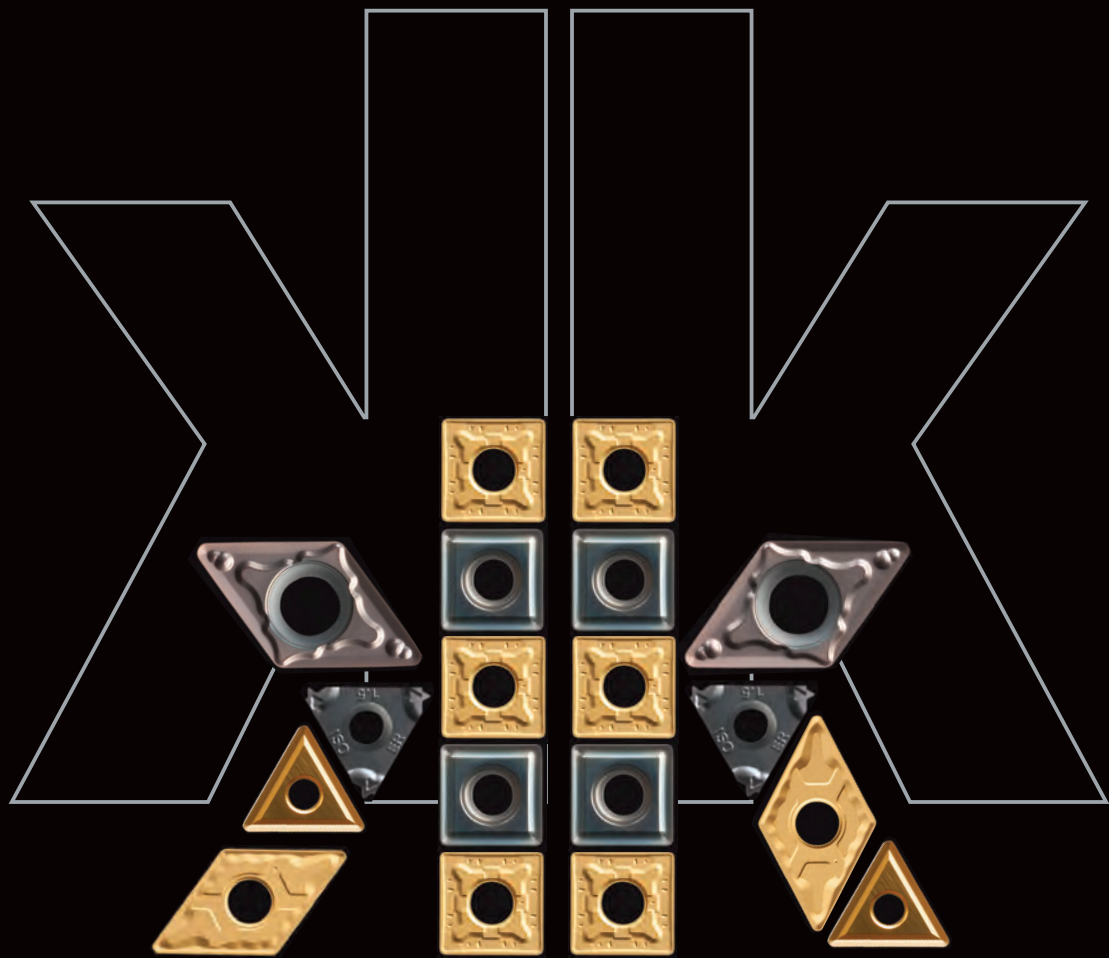


nikkoTOOLS

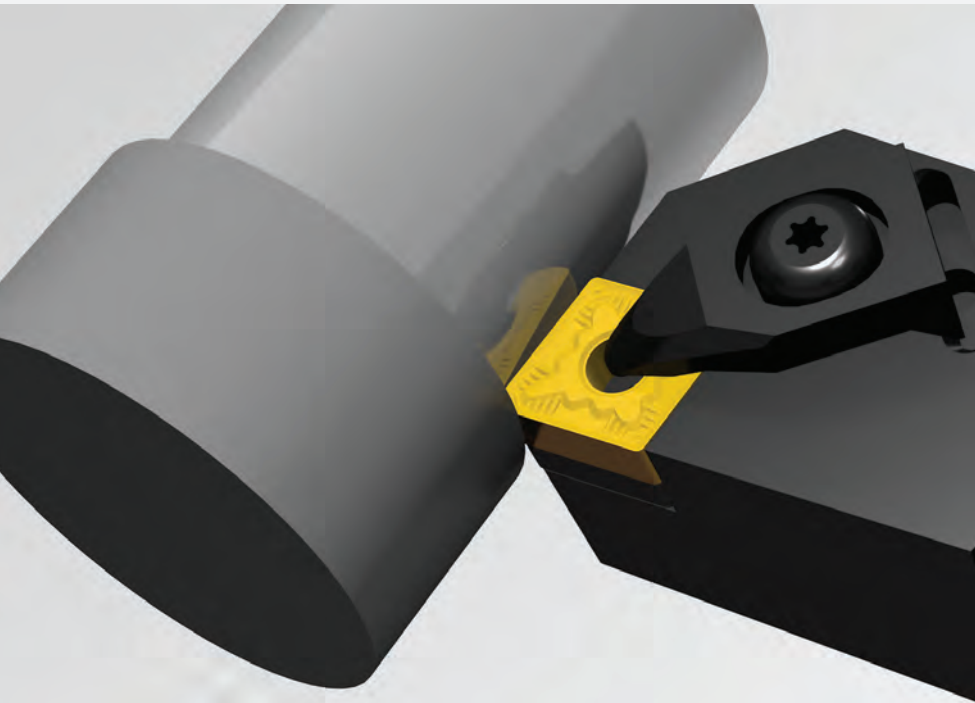


UPDATE **2019**

UPDATE 2019

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TURNING Carbide

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

CC	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT				
	Size	IC	S	D1	AN		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
	MICRO CC	3.50	1.40	1.90	7°		M			200 380	180 360	140 300	150 280	120 240	80 220	60 180					200 380
	0602□□	6.35	2.38	2.80	7°	K	180 380	150 300						80 170					160 280	160 300	
	09T3□□	9.525	3.97	4.40	7°	N										600 2200	600 2000	500 1500			
	1204□□	12.70	4.76	5.50	7°	S								40 80							
						H															
GRADE APPLICATION AREA	Stable machining, continuous cut					+															
main application	General machining, light interruption					-															
applicable	Unstable machining, interrupted cut					+															
FINISHING	GB	MICRO CC.R01-GBL	RE 0.1	a _p ▶ 0.05 f _n ▶ 0.02	0.20 0.04	0.35 0.06									○						
		CC.R02-GBL	RE 0.2	a _p ▶ 0.05 f _n ▶ 0.03	0.20 0.05	0.35 0.07									●		●	○			
		CC.R04-GBL	RE 0.4	a _p ▶ 0.05 f _n ▶ 0.04	0.20 0.06	0.35 0.08									●		●	○			
	PPF	CCET 060202 [®] /L-PPF	RE 0.2	a _p ▶ 0.10 f _n ▶ 0.04	0.40 0.07	0.70 0.10									●					●	
		060204 [®] /L-PPF	RE 0.4	a _p ▶ 0.10 f _n ▶ 0.04	0.40 0.08	0.70 0.12									●					●	
		CCET 09T302 [®] /L-PPF	RE 0.2	a _p ▶ 0.10 f _n ▶ 0.04	0.50 0.08	0.90 0.12									●					●	
		09T304 [®] /L-PPF	RE 0.4	a _p ▶ 0.10 f _n ▶ 0.04	0.50 0.09	0.90 0.14									●					●	
	PFU	CCMT 060202-PFU	RE 0.2	a _p ▶ 0.20 f _n ▶ 0.04	0.80 0.12	1.40 0.12				●	●	●	●	●	●					●	○
		060204-PFU	RE 0.4	a _p ▶ 0.20 f _n ▶ 0.05	0.80 0.11	1.40 0.17			●	●	●	●	●	●	●					●	●
		CCMT 09T302-PFU	RE 0.2	a _p ▶ 0.30 f _n ▶ 0.05	1.00 0.10	1.70 0.15				●	●	●	●	●	●					●	○
09T304-PFU		RE 0.4	a _p ▶ 0.30 f _n ▶ 0.06	1.00 0.14	1.70 0.22			●	●	●	●	●	●	●					●	●	
PPM	CCET 09T304 [®] /L-PPM	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.04	1.50 0.07	2.50 0.10									●					●		
	PMU	CCMT 060202-PMU	RE 0.2	a _p ▶ 0.50 f _n ▶ 0.05	1.50 0.10	2.50 0.15				○	●	●	●	●						●	○
		060204-PMU	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.06	1.50 0.13	2.50 0.20		●		●	●	●	●	●	●					●	●
060208-PMU		RE 0.8	a _p ▶ 0.50 f _n ▶ 0.08	1.50 0.16	2.50 0.24		●		○	●	●	●	●	●					●		
CCMT	09T302-PMU	RE 0.2	a _p ▶ 0.60 f _n ▶ 0.06	1.80 0.13	3.00 0.20				●	●	●	●	●						●	○	
	09T304-PMU	RE 0.4	a _p ▶ 0.60 f _n ▶ 0.07	1.80 0.16	3.00 0.25		●		●	●	●	●	●	●					●	●	
	09T308-PMU	RE 0.8	a _p ▶ 0.60 f _n ▶ 0.08	1.80 0.19	3.00 0.30		●	●	●	●	●	●	●	●					●	○	
	CCMT 120404-PMU	RE 0.4	a _p ▶ 0.80 f _n ▶ 0.08	2.20 0.17	3.60 0.26		●		●	●	●	●	●	●					●		
general purpose	120408-PMU	RE 0.8	a _p ▶ 0.80 f _n ▶ 0.10	2.20 0.22	3.60 0.32		●	○	●	●	●	●	●						●		
	120412-PMU	RE 1.2	a _p ▶ 0.80 f _n ▶ 0.12	2.20 0.24	3.60 0.36		●		○	○	○	○	○						●		

● stock standard, ○ non-standard stock



CC	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT					
	Size	IC	S	D1	AN		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JPS015	JPS025	JP6010	JU6010	JU6020	JU4015	JP4020	
<p>2 edges</p>	MICRO CC	3.50	1.40	1.90	7°	P			200 380	180 360	140 300			80 220	60 180				200 380	200 400		
	0602□□	6.35	2.38	2.80	7°	M						150 280	120 240	80 160	60 120				160 280	160 300		
	09T3□□	9.525	3.97	4.40	7°	K	180 380	150 300							80 170				200 400	200 420		
	1204□□	12.70	4.76	5.50	7°	N										600 2200	600 2000	500 1500				
							S								40 80							
						H																
GRADE APPLICATION AREA	Stable machining, continuous cut																					
main application	General machining, light interruption																					
applicable	Unstable machining, interrupted cut																					
MEDIUM <p>polished surface</p>	CCGX	060202-PMN	RE 0.2	a _p ▶ 0.30 f _n ▶ 0.05	1.50 0.10	2.70 0.15																
		060204-PMN	RE 0.4	a _p ▶ 0.30 f _n ▶ 0.06	1.50 0.13	2.70 0.20												●	●	●		
		060208-PMN	RE 0.8	a _p ▶ 0.30 f _n ▶ 0.08	1.50 0.16	2.70 0.24											○	○	●			
	CCGX	09T302-PMN	RE 0.2	a _p ▶ 0.50 f _n ▶ 0.06	2.00 0.11	3.50 0.16											○	●				
		09T304-PMN	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.08	2.00 0.16	3.50 0.24											●	●	●			
		09T308-PMN	RE 0.8	a _p ▶ 0.50 f _n ▶ 0.10	2.00 0.20	3.50 0.30											○	○	●			
	CCGX	120402-PMN	RE 0.2	a _p ▶ 0.50 f _n ▶ 0.08	3.00 0.14	5.50 0.20											○	●				
		120404-PMN	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.10	3.00 0.20	5.50 0.30											○	●	●			
		120408-PMN	RE 0.8	a _p ▶ 0.50 f _n ▶ 0.15	3.00 0.25	5.50 0.35											○	●	●			
	ROUGHING <p>reinforced edge</p>	CCMT	09T304-PRU	RE 0.4	a _p ▶ 1.50 f _n ▶ 0.10	2.50 0.19	3.50 0.28	●			●											
09T308-PRU			RE 0.8	a _p ▶ 1.50 f _n ▶ 0.12	2.50 0.22	3.50 0.32	●			●												
CCMT		120408-PRU	RE 0.8	a _p ▶ 1.50 f _n ▶ 0.14	3.00 0.26	4.50 0.38	●			●												
		120412-PRU	RE 1.2	a _p ▶ 1.50 f _n ▶ 0.16	3.00 0.28	4.50 0.40	●			●												

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

CN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD				HW	HT		
	Size	IC	S	D1		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015			JP9030	JW6020
	MICRO CN	7.50	3.18	3.60	P			200 380	180 360	140 300	100 240			80 220	60 180					200 380	
	0903□	9.525	3.18	3.81	M							150 280	120 240	80 160	60 120	100 220	80 200			160 280	
	1204□	12.70	4.76	5.16	K	180 380	150 300									80 170				200 400	
	1606□	15.87	6.35	6.35	N														500 1500		
	1906□	19.05	6.35	7.94	S										40 80						
					H																
GRADE APPLICATION AREA	Stable machining, continuous cut																				
main application	General machining, light interruption																				
applicable	Unstable machining, interrupted cut																				
FINISHING MEDIUM	 MICRONEGA, picture: right-hand	MICRO	CN.R04-GB [®] /L	RE 0.4	a_p ▶ 0.20 f_n ▶ 0.05	0.50 0.10	0.80 0.15														
	 MICRONEGA, picture: right-hand	CNMG	090304-NSP	RE 0.4	a_p ▶ 0.30 f_n ▶ 0.06	0.70 0.12	1.10 0.18														
			090308-NSP	RE 0.8	a_p ▶ 0.30 f_n ▶ 0.08	0.70 0.16	1.10 0.24														
		CNMG	120404-NSP	RE 0.4	a_p ▶ 0.40 f_n ▶ 0.08	1.20 0.15	2.00 0.22														
			120408-NSP	RE 0.8	a_p ▶ 0.40 f_n ▶ 0.10	1.20 0.22	2.00 0.34														
	 MICRONEGA, picture: right-hand	CNMG	120404-NFM	RE 0.4	a_p ▶ 0.40 f_n ▶ 0.08	1.20 0.14	2.00 0.20														
			120408-NFM	RE 0.8	a_p ▶ 0.40 f_n ▶ 0.10	1.20 0.20	2.00 0.30														
	 MICRONEGA, picture: right-hand	MICRO	CN.R04-GM	RE 0.4	a_p ▶ 0.80 f_n ▶ 0.08	1.60 0.15	2.40 0.22														
			CN.R08-GM	RE 0.8	a_p ▶ 0.80 f_n ▶ 0.10	1.60 0.17	2.40 0.24														
		 MICRONEGA, picture: right-hand	MICRO	CN.R02-SS	RE 0.2	a_p ▶ 0.40 f_n ▶ 0.06	1.20 0.11	2.00 0.16													
				CN.R04-SS	RE 0.4	a_p ▶ 0.40 f_n ▶ 0.08	1.20 0.14	2.00 0.20													
	 MICRONEGA, picture: right-hand	CNMG	120404-NMP	RE 0.4	a_p ▶ 1.50 f_n ▶ 0.12	2.50 0.20	3.50 0.28														
120408-NMP			RE 0.8	a_p ▶ 1.50 f_n ▶ 0.16	2.50 0.25	3.50 0.34															
120412-NMP			RE 1.2	a_p ▶ 1.50 f_n ▶ 0.20	2.50 0.30	3.50 0.40															
120416-NMP			RE 1.6	a_p ▶ 1.50 f_n ▶ 0.25	2.50 0.35	3.50 0.45															
160608-NMP			RE 0.8	a_p ▶ 3.00 f_n ▶ 0.20	4.50 0.30	6.00 0.40															
160612-NMP			RE 1.2	a_p ▶ 3.00 f_n ▶ 0.25	4.50 0.35	6.00 0.45															
160616-NMP	RE 1.6	a_p ▶ 3.00 f_n ▶ 0.30	4.50 0.40	6.00 0.50																	

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



CN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD		HW	HT		
	Size	IC	S	D1		JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JW6020	JW4015
	P						200 380	180 360	140 300	100 240			80 220	60 180					200 380
	M	MICRO CN	7.50	3.18	3.60						150 280	120 240	80 160	60 120	100 220	80 200			160 280
	K	0903□	9.525	3.18	3.81	180 380	150 300							80 170					200 400
	N	1204□	12.70	4.76	5.16													500 1500	
	S	1606□	15.87	6.35	6.35									40 80					
	H	1906□	19.05	6.35	7.94														
GRADE APPLICATION AREA	Stable machining, continuous cut				+														
main application	General machining, light interruption				-														
applicable	Unstable machining, interrupted cut				+														

MEDIUM	NMP P	CNMG 190612-NMP	RE 1.2	a _p ▶ f _n ▶	4.00 0.30	6.00 0.40	8.00 0.50										
		190616-NMP	RE 1.6	a _p ▶ f _n ▶	4.00 0.32	6.00 0.45	8.00 0.58										
	NUP P M	CNMG 090304-NUP	RE 0.4	a _p ▶ f _n ▶	0.70 0.08	1.50 0.15	2.30 0.22										
		CNMG 090308-NUP	RE 0.8	a _p ▶ f _n ▶	0.70 0.12	1.50 0.20	2.30 0.28										
		CNMG 120404-NUP	RE 0.4	a _p ▶ f _n ▶	1.00 0.10	2.50 0.20	4.00 0.30										
		CNMG 120408-NUP	RE 0.8	a _p ▶ f _n ▶	1.00 0.15	2.50 0.25	4.00 0.35										
		CNMG 120412-NUP	RE 1.2	a _p ▶ f _n ▶	1.00 0.18	2.50 0.30	4.00 0.42										
		CNMG 120416-NUP	RE 1.6	a _p ▶ f _n ▶	1.00 0.20	2.50 0.35	4.00 0.50										
		CNMG 160608-NUP	RE 0.8	a _p ▶ f _n ▶	2.00 0.18	4.50 0.30	7.00 0.42										
		CNMG 160612-NUP	RE 1.2	a _p ▶ f _n ▶	2.00 0.22	4.50 0.35	7.00 0.48										
	CNMG 190608-NUP	RE 0.8	a _p ▶ f _n ▶	3.00 0.22	6.00 0.35	9.00 0.48											
	CNMG 190612-NUP	RE 1.2	a _p ▶ f _n ▶	3.00 0.25	6.00 0.40	9.00 0.55											
	CNMG 190616-NUP	RE 1.6	a _p ▶ f _n ▶	3.00 0.30	6.00 0.45	9.00 0.60											
	NMU P	CNMG 120408/L-NMU	RE 0.8	a _p ▶ f _n ▶	1.00 0.20	2.50 0.30	4.00 0.40										
	NMM M	CNMG 090304-NMM	RE 0.4	a _p ▶ f _n ▶	0.70 0.13	1.50 0.20	2.30 0.27										
		CNMG 090308-NMM	RE 0.8	a _p ▶ f _n ▶	0.70 0.18	1.50 0.25	2.30 0.32										
		CNMG 120404-NMM	RE 0.4	a _p ▶ f _n ▶	1.00 0.15	2.50 0.25	4.00 0.35										
		CNMG 120408-NMM	RE 0.8	a _p ▶ f _n ▶	1.00 0.20	2.50 0.30	4.00 0.40										
		CNMG 120412-NMM	RE 1.2	a _p ▶ f _n ▶	1.00 0.25	2.50 0.35	4.00 0.45										
		CNMG 120416-NMM	RE 1.6	a _p ▶ f _n ▶	1.00 0.30	2.50 0.40	4.00 0.50										
		CNMG 160608-NMM	RE 0.8	a _p ▶ f _n ▶	2.00 0.25	4.50 0.35	7.00 0.45										
		CNMG 160612-NMM	RE 1.2	a _p ▶ f _n ▶	2.00 0.30	4.50 0.40	7.00 0.50										
	CNMG 160616-NMM	RE 1.6	a _p ▶ f _n ▶	2.00 0.35	4.50 0.45	7.00 0.55											

● stock standard, ○ non-standard stock, ▽ stock exhaustion



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

CN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD		HW	HT		
	Size	IC	S	D1		JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JW6020	JW4015
<p>4 edges</p>	MICRO CN	7.50	3.18	3.60	P			200 380	180 360	140 300	100 240		80 220	60 180				200 380	
	0903□	9.525	3.18	3.81	M						150 280	120 240	80 160	60 120	100 220	80 200		160 280	
	1204□	12.70	4.76	5.16	K	180 380	150 300								80 170			200 400	
	1606□	15.87	6.35	6.35	N													500 1500	
	1906□	19.05	6.35	7.94	S									40 80					
	1906□	19.05	6.35	7.94	H														
GRADE APPLICATION AREA	Stable machining, continuous cut																		
main application	General machining, light interruption																		
applicable	Unstable machining, interrupted cut																		

MEDIUM	NMM M	CNMG	190612-NMM	RE 1.2	a _p ▶ f _n ▶	3.00 0.35	6.00 0.45	9.00 0.55																										
<p>wiper edge</p>	NMM M	CNMG	190616-NMM	RE 1.6	a _p ▶ f _n ▶	3.00 0.40	6.00 0.50	9.00 0.60																										
									NMK K	CNMG	120404-NMK	RE 0.4	a _p ▶ f _n ▶	0.50 0.10	2.00 0.20	3.50 0.30	●	○																
											120408-NMK	RE 0.8	a _p ▶ f _n ▶	0.50 0.15	2.00 0.25	3.50 0.35	●	●																
											120412-NMK	RE 1.2	a _p ▶ f _n ▶	0.50 0.20	2.00 0.30	3.50 0.40	●	●																
	120416-NMK	RE 1.6	a _p ▶ f _n ▶	0.50 0.25	2.00 0.35	3.50 0.45	●	○																										
	NMM K	CNMG	160608-NMK	RE 0.8	a _p ▶ f _n ▶	2.00 0.25	4.00 0.35	6.00 0.45	●	○																								
									NMM K	CNMG	160612-NMK	RE 1.2	a _p ▶ f _n ▶	2.00 0.30	4.00 0.40	6.00 0.50	●	○																
																	NMM K	CNMG	160616-NMK	RE 1.6	a _p ▶ f _n ▶	2.00 0.35	4.00 0.45	6.00 0.55	●	○								
NMM K																									CNMG	190612-NMK	RE 1.2	a _p ▶ f _n ▶	3.00 0.35	5.00 0.45	7.00 0.55	○	○	
	NMM K	CNMG	190616-NMK	RE 1.6	a _p ▶ f _n ▶	3.00 0.40	5.00 0.50	7.00 0.60	○	○																								
<p>polished surface</p>									CNGG	120404-NMN	RE 0.4	a _p ▶ f _n ▶	0.50 0.10	2.00 0.20	3.50 0.30																			
	NMM N	CNGG	120408-NMN	RE 0.8	a _p ▶ f _n ▶	0.50 0.15	2.00 0.25	3.50 0.35																										
																NMM N	CNGG	120412-NMN	RE 1.2	a _p ▶ f _n ▶	0.50 0.20	2.00 0.30	3.50 0.40											
<p>roughing</p>	CNMG	120408-NRP	RE 0.8	a _p ▶ f _n ▶	2.00 0.25	4.00 0.35	6.00 0.45	●	●	●	●																							
								CNMG	120412-NRP	RE 1.2	a _p ▶ f _n ▶	2.00 0.30	4.00 0.40	6.00 0.50	●	●	●	●																
															CNMG	120416-NRP	RE 1.6	a _p ▶ f _n ▶	2.00 0.35	4.00 0.45	6.00 0.55	●	●	●	●									
		CNMG	160612-NRP	RE 1.2	a _p ▶ f _n ▶	4.00 0.35	6.00 0.50	8.00 0.65	●	●	●	●																						
									CNMG	160616-NRP	RE 1.6	a _p ▶ f _n ▶	4.00 0.40	6.00 0.55	8.00 0.70	●	●	●	●															

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

DC	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT					
	Size	IC	S	D1	AN		JP7010	JP7020	JP8005	JP8015	JP8025	JP9010	JP9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020		
<p>2 edges</p>						P			200 380	180 360	140 300		80 220	60 180					200 380	200 400		
	0702□□	6.35	2.38	2.80	7°	M					150 280	120 240	80 160	60 120					160 280	160 300		
	11T3□□	9.525	3.97	4.40	7°	K	180 380	150 300						80 170					200 400	200 420		
	1504□□	12.70	4.76	5.50	7°	N									600 2200	600 2000	500 1500					
						S							40 80									
						H																
GRADE APPLICATION AREA	Stable machining, continuous cut					+																
main application	General machining, light interruption					-																
applicable	Unstable machining, interrupted cut					+																
PPF P M <p>ground chipbreaker, picture: right-hand</p>	DCET	07020 ⁴ /L-PPF	RE 0.2	a _p ▶ 0.10 f _n ▶ 0.04	0.40 0.07	0.70 0.10								●					●			
		07020 ⁴ /L-PPF	RE 0.4	a _p ▶ 0.10 f _n ▶ 0.04	0.40 0.08	0.70 0.12									●					●		
	DCET	11T302 ⁴ /L-PPF	RE 0.2	a _p ▶ 0.10 f _n ▶ 0.04	0.50 0.08	0.90 0.12									●					●		
		11T304 ⁴ /L-PPF	RE 0.4	a _p ▶ 0.10 f _n ▶ 0.04	0.50 0.09	0.90 0.14									●					●		
	PFU P M S <p>sharp edge</p>	DCMT	070202-PFU	RE 0.2	a _p ▶ 0.20 f _n ▶ 0.04	0.80 0.08	1.40 0.12		●	●		●	●	●	●					●	○	
			070204-PFU	RE 0.4	a _p ▶ 0.20 f _n ▶ 0.05	0.80 0.11	1.40 0.17			●	●		●	●	●	●					●	●
		DCMT	11T302-PFU	RE 0.2	a _p ▶ 0.30 f _n ▶ 0.05	1.00 0.10	1.70 0.15			●	●		●	●	●	●					●	○
			11T304-PFU	RE 0.4	a _p ▶ 0.30 f _n ▶ 0.06	1.00 0.14	1.70 0.22		●	●	●		●	●	●	●					●	●
		11T308-PFU	RE 0.8	a _p ▶ 0.30 f _n ▶ 0.08	1.00 0.16	1.70 0.24		●	●	●		●	●	●	●					●	○	
PPM P M <p>ground chipbreaker, picture: right-hand</p>	DCET	07020 ⁴ /L-PPM	RE 0.4	a _p ▶ 0.40 f _n ▶ 0.03	1.00 0.06	1.60 0.09								●					●			
	DCET	11T302 ⁴ /L-PPM	RE 0.2	a _p ▶ 0.50 f _n ▶ 0.04	1.50 0.06	2.50 0.08									●					●		
		11T304 ⁴ /L-PPM	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.04	1.50 0.07	2.50 0.10									●					●		
	PMU P M K <p>general purpose</p>	DCMT	070202-PMU	RE 0.2	a _p ▶ 0.50 f _n ▶ 0.05	1.50 0.10	2.50 0.15			●	●		○							●	○	
			070204-PMU	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.06	1.50 0.13	2.50 0.20	●		●	●		●	●							●	●
			070208-PMU	RE 0.8	a _p ▶ 0.50 f _n ▶ 0.08	1.50 0.16	2.50 0.24	●		○	●		○								●	
DCMT		11T302-PMU	RE 0.2	a _p ▶ 0.60 f _n ▶ 0.06	1.80 0.13	3.00 0.20			●	●		●	●							●	○	
		11T304-PMU	RE 0.4	a _p ▶ 0.60 f _n ▶ 0.07	1.80 0.16	3.00 0.25	●			●	●	●	●		●					●	●	
		11T308-PMU	RE 0.8	a _p ▶ 0.60 f _n ▶ 0.08	1.80 0.19	3.00 0.30	●		●	●	●	●	●		●					●	○	
		150404-PMU	RE 0.4	a _p ▶ 0.80 f _n ▶ 0.08	2.20 0.17	3.60 0.26	○			●												
	150408-PMU	RE 0.8	a _p ▶ 0.80 f _n ▶ 0.10	2.20 0.22	3.60 0.32	○			●	●		●										
	150412-PMU	RE 1.2	a _p ▶ 0.80 f _n ▶ 0.12	2.20 0.24	3.60 0.36				●		○											
PMN N <p>polished surface</p>	DCGX	070202-PMN	RE 0.2	a _p ▶ 0.30 f _n ▶ 0.05	1.50 0.10	2.70 0.15													●			
		070204-PMN	RE 0.4	a _p ▶ 0.30 f _n ▶ 0.06	1.50 0.13	2.70 0.20									○	○				●		
		070208-PMN	RE 0.8	a _p ▶ 0.30 f _n ▶ 0.08	1.50 0.16	2.70 0.24									○	○				●		
	DCGX	11T302-PMN	RE 0.2	a _p ▶ 0.50 f _n ▶ 0.06	2.00 0.11	3.50 0.16									○	●						
		11T304-PMN	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.08	2.00 0.16	3.50 0.24									●	●	●					
		11T308-PMN	RE 0.8	a _p ▶ 0.50 f _n ▶ 0.10	2.00 0.20	3.50 0.30									●	●	●					
															●	●	●					

● stock standard, ○ non-standard stock



DC	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT				
	Size	IC	S	D1	AN		JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020	
<p>2 edges</p>						P			200 380	180 360	140 300		80 220	60 180				200 380	200 400		
	0702 □□	6.35	2.38	2.80	7°	M					150 280	120 240	80 160	60 120				160 280	160 300		
	11T3 □□	9.525	3.97	4.40	7°	K	180 380	150 300						80 170				200 400	200 420		
	1504 □□	12.70	4.76	5.50	7°	N									600 2200	600 2000	500 1500				
							S							40 80							
							H														
GRADE APPLICATION AREA		Stable machining, continuous cut				+	○	■	■	■	■	■	■	■	■	■	■	■	■	■	■
■ main application		General machining, light interruption				-	○	■	■	■	■	■	■	■	■	■	■	■	■	■	■
■ applicable		Unstable machining, interrupted cut				+	○	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ROUGHING <p>reinforced edge</p>	DCMT	11T304-PRU	RE 0.4	a_p ▶ 1.50 f_n ▶ 0.10	2.50 0.19	3.50 0.28	●														
			11T308-PRU	RE 0.8	a_p ▶ 1.50 f_n ▶ 0.12	2.50 0.22	3.50 0.32	●													

● stock standard

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HOLDERS INTERNAL
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TURNING

THREADING

GROOVING

MILLING

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ACCESSORIES

TURNING

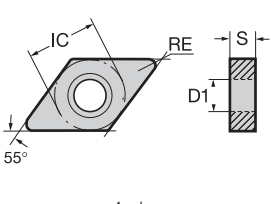
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

<div style="font-size: 2em; font-weight: bold; text-align: center;">DN</div> 	CARBIDE Negative				ISO513	HC-CVD								HC-PVD				HW	HT		
	Size	IC	S	D1		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JW6020	JW4015	
	MICRO DN	7.00	3.18	3.60		M			200 380	180 360	140 300	100 240			80 220	60 180					200 380
	1104□	9.525	4.76	3.81	K	180 380	150 300						150 280	120 240	80 160	60 120	100 220	80 200		160 280	
	1506□	12.70	6.35	5.16	N														500 1500		
					S									40 80							
					H																
GRADE APPLICATION AREA		Stable machining, continuous cut			+																
main application		General machining, light interruption			-																
applicable		Unstable machining, interrupted cut			+																

ROUGHING	NRP P	DNMG 150608-NRP	RE 0.8	a _p ▶ 2.00 f _n ▶ 0.25	4.00 0.35	6.00 0.45	Application Matrix															
							JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JW6020	JW4015		
		150612-NRP	RE 1.2	a _p ▶ 2.00 f _n ▶ 0.30	4.00 0.40	6.00 0.50																
		150616-NRP	RE 1.6	a _p ▶ 2.00 f _n ▶ 0.35	4.00 0.45	6.00 0.55																
	NTP P	DNMG 150612-NTP	RE 1.2	a _p ▶ 3.00 f _n ▶ 0.35	5.00 0.45	7.00 0.55																
	NRK K	DNMG 150608-NRK	RE 0.8	a _p ▶ 1.50 f _n ▶ 0.20	4.00 0.30	6.50 0.40	●	○														
		150612-NRK	RE 1.2	a _p ▶ 1.50 f _n ▶ 0.25	4.00 0.35	6.50 0.45	●	○														
	Flat K	DNMA 150608	RE 0.8	a _p ▶ 2.00 f _n ▶ 0.25	4.00 0.35	6.00 0.45	●	○														
		150612	RE 1.2	a _p ▶ 2.00 f _n ▶ 0.35	4.00 0.45	6.00 0.55	●	○														

● stock standard, ○ non-standard stock, ▽ stock exhaustion



KN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD	HW	HT		
	Size	IC	S			JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JW6020	JW4015	
<p>2 edges</p>					P			200 380	180 360	140 300	100 240						200 380	
	1604□□	9.525	4.76		M						150 280	120 240	100 220	80 200			160 280	
					K	180 380	150 300											200 400
					N											500 1500		
					S													
					H													
GRADE APPLICATION AREA		Stable machining, continuous cut																
main application		General machining, light interruption			+													
applicable		Unstable machining, interrupted cut			-													
MEDIUM	<p>picture: right-hand</p>	KNUX	160405*/L-11	RE 0.5	a_p ▶ 1.00 f_n ▶ 0.15	2.50 0.25	4.00 0.35											
			160410*/L-11	RE 1.0	a_p ▶ 1.00 f_n ▶ 0.20	2.50 0.30	4.00 0.40											

● stock standard

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

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ACCESSORIES

SC	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT			
	Size	IC	S	D1	AN		JP7010	JP7020	JP8005	JP8015	JP8025	JP9010	JP9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
								P			200 380	180 360	140 300		80 220	60 180				200 380
<p>4 edges</p>	09T3□	9.525	3.97	4.40	7°	M					150 280	120 240	80 160	60 120				160 280	160 300	
	1204□	12.70	4.76	5.50	7°	K	180 380	150 300						80 170				200 400	200 420	
							N								600 2200	600 2000	500 1500			
							S							40 80						
							H													
GRADE APPLICATION AREA		Stable machining, continuous cut																		
main application		General machining, light interruption																		
applicable		Unstable machining, interrupted cut																		
PMU P M K general purpose	SCMT	09T304-PMU	RE 0.4	$a_p \triangleright$ 0.60 $f_n \triangleright$ 0.07	1.80 0.16	3.00 0.25	○			●	●	○	●						●	
		09T308-PMU	RE 0.8	$a_p \triangleright$ 0.60 $f_n \triangleright$ 0.08	1.80 0.19	3.00 0.30	●			●	●		●						○	
	SCMT	120404-PMU	RE 0.4	$a_p \triangleright$ 0.80 $f_n \triangleright$ 0.08	2.20 0.17	3.60 0.26				○	●									
		120408-PMU	RE 0.8	$a_p \triangleright$ 0.80 $f_n \triangleright$ 0.10	2.20 0.22	3.60 0.32	●				●	●		●						
	PMN N polished surface	SCGX	09T304-PMN	RE 0.4	$a_p \triangleright$ 0.50 $f_n \triangleright$ 0.08	2.00 0.16	3.50 0.24								○	○	●			
			09T308-PMN	RE 0.8	$a_p \triangleright$ 0.50 $f_n \triangleright$ 0.10	2.00 0.20	3.50 0.30								○	○	●			
		SCGX	120404-PMN	RE 0.4	$a_p \triangleright$ 0.50 $f_n \triangleright$ 0.10	3.00 0.20	5.50 0.30								○	○	●			
			120408-PMN	RE 0.8	$a_p \triangleright$ 0.50 $f_n \triangleright$ 0.15	3.00 0.25	5.50 0.35								○	○	●			
PRU P K reinforced edge	SCMT	09T308-PRU	RE 0.8	$a_p \triangleright$ 1.50 $f_n \triangleright$ 0.12	2.50 0.22	3.50 0.32	●				●									
	SCMT	120408-PRU	RE 0.8	$a_p \triangleright$ 1.50 $f_n \triangleright$ 0.14	3.00 0.26	4.50 0.38	●				●									

● stock standard, ○ non-standard stock



SN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD	HW	HT		
	Size	IC	S	D1		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JW6020	JW4015
<p>8 edges</p>	0903□	9.525	3.18	3.81	P			200 380	180 360	140 300	100 240						200 380	
	1204□	12.70	4.76	5.16	M						150 280	120 240	100 220	80 200			160 280	
	1906□	19.05	6.35	7.94	K	180 380	150 300										200 400	
	2509□	25.40	9.52	8.80	N												500 1500	
						S												
					H													
GRADE APPLICATION AREA	Stable machining, continuous cut																	
main application	General machining, light interruption																	
applicable	Unstable machining, interrupted cut																	

FINISHING	NSP P	SNMG	120404-NSP	RE 0.4	a _p ▶ 0.40 f _n ▶ 0.08	1.20 0.15	2.00 0.22											
			120408-NSP	RE 0.8	a _p ▶ 0.40 f _n ▶ 0.10	1.20 0.22	2.00 0.34											
	NFP P	SNMG	120404-NFP	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.06	1.50 0.12	2.50 0.18			▽	▽							
			120408-NFP	RE 0.8	a _p ▶ 0.50 f _n ▶ 0.08	1.50 0.17	2.50 0.26			▽								
	NFM M	SNMG	120404-NFM	RE 0.4	a _p ▶ 0.40 f _n ▶ 0.08	1.20 0.14	2.00 0.20						●					
			120408-NFM	RE 0.8	a _p ▶ 0.40 f _n ▶ 0.10	1.20 0.20	2.00 0.30						●					
MEDIUM	NMP P	SNMG	120404-NMP	RE 0.4	a _p ▶ 1.50 f _n ▶ 0.12	2.50 0.20	3.50 0.28			●	●							
			120408-NMP	RE 0.8	a _p ▶ 1.50 f _n ▶ 0.16	2.50 0.25	3.50 0.34			●	●							
			120412-NMP	RE 1.2	a _p ▶ 1.50 f _n ▶ 0.20	2.50 0.30	3.50 0.40			●	●							
			120416-NMP	RE 1.6	a _p ▶ 1.50 f _n ▶ 0.25	2.50 0.35	3.50 0.45			○	○							
		NUP P	SNMG	120404-NUP	RE 0.4	a _p ▶ 1.00 f _n ▶ 0.10	2.50 0.20	4.00 0.30			○	○						
				120408-NUP	RE 0.8	a _p ▶ 1.00 f _n ▶ 0.15	2.50 0.25	4.00 0.35			○	●						
				120412-NUP	RE 1.2	a _p ▶ 1.00 f _n ▶ 0.18	2.50 0.30	4.00 0.42			○	●						
				120416-NUP	RE 1.6	a _p ▶ 1.00 f _n ▶ 0.20	2.50 0.35	4.00 0.50			○	○						
		NMU P	SNMG	120408/L-NMU	RE 0.8	a _p ▶ 1.00 f _n ▶ 0.20	2.50 0.30	4.00 0.40				○						
		NMM M	SNMG	120404-NMM	RE 0.4	a _p ▶ 1.00 f _n ▶ 0.15	2.50 0.25	4.00 0.35					●	○				
			120408-NMM	RE 0.8	a _p ▶ 1.00 f _n ▶ 0.20	2.50 0.30	4.00 0.40					●	○					
			120412-NMM	RE 1.2	a _p ▶ 1.00 f _n ▶ 0.25	2.50 0.35	4.00 0.45				○	○						
			120416-NMM	RE 1.6	a _p ▶ 1.00 f _n ▶ 0.30	2.50 0.40	4.00 0.50				○	○						

● stock standard, ○ non-standard stock, ▽ stock exhaustion



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

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ACCESSORIES

SN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD	HW	HT		
	Size	IC	S	D1		JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015	
<p>8 edges</p>	0903□	9.525	3.18	3.81	P			200 380	180 360	140 300	100 240					200 380		
	1204□	12.70	4.76	5.16	M						150 280	120 240	100 220	80 200		160 280		
	1906□	19.05	6.35	7.94	K	180 380	150 300									200 400		
	2509□	25.40	9.52	8.80	N											500 1500		
					S													
					H													
GRADE APPLICATION AREA	Stable machining, continuous cut				+													
main application	General machining, light interruption				-													
applicable	Unstable machining, interrupted cut				+													

MEDIUM	NMM M	SNMG	190612-NMM	RE 1.2	a _p ▶ f _n ▶	3.00 0.35	6.00 0.45	9.00 0.55																									
			190616-NMM	RE 1.6	a _p ▶ f _n ▶	3.00 0.40	6.00 0.50	9.00 0.60																									
	NMK K	SNMG	120408-NMK	RE 0.8	a _p ▶ f _n ▶	0.50 0.15	2.00 0.25	3.50 0.35	●	○																							
											120412-NMK	RE 1.2	a _p ▶ f _n ▶	0.50 0.20	2.00 0.30	3.50 0.40	●	○															
	NMN N	SNGG	120404-NMN	RE 0.4	a _p ▶ f _n ▶	0.50 0.10	2.00 0.20	3.50 0.30																									
											120408-NMN	RE 0.8	a _p ▶ f _n ▶	0.50 0.15	2.00 0.25	3.50 0.35																	
											120412-NMN	RE 1.2	a _p ▶ f _n ▶	0.50 0.20	2.00 0.30	3.50 0.40																	
					polished surface																												
	NRP P	SNMG	120408-NRP	RE 0.8	a _p ▶ f _n ▶	2.00 0.25	4.00 0.35	6.00 0.45	●	●																							
											120412-NRP	RE 1.2	a _p ▶ f _n ▶	2.00 0.30	4.00 0.40	6.00 0.50	●	●															
											120416-NRP	RE 1.6	a _p ▶ f _n ▶	2.00 0.35	4.00 0.45	6.00 0.55	●	●															
			SNMG	190612-NRP	RE 1.2	a _p ▶ f _n ▶	6.00 0.40	8.00 0.55	10.0 0.70	○	○																						
											190616-NRP	RE 1.6	a _p ▶ f _n ▶	6.00 0.45	8.00 0.60	10.0 0.75	●	●															
											190624-NRP	RE 2.4	a _p ▶ f _n ▶	6.00 0.50	8.00 0.65	10.0 0.80	●	●															
	NTP P	SNMG	120408-NTP	RE 0.8	a _p ▶ f _n ▶	3.00 0.30	5.00 0.40	7.00 0.50			▽	▽																					
											120412-NTP	RE 1.2	a _p ▶ f _n ▶	3.00 0.35	5.00 0.45	7.00 0.55			▽	▽													
	NRK K	SNMG	120408-NRK	RE 0.8	a _p ▶ f _n ▶	1.50 0.20	4.00 0.30	6.50 0.40	●	○																							
											120412-NRK	RE 1.2	a _p ▶ f _n ▶	1.50 0.25	4.00 0.35	6.50 0.45	●	○															
											120416-NRK	RE 1.6	a _p ▶ f _n ▶	1.50 0.30	4.00 0.40	6.50 0.50	●	●															
			SNMG	190612-NRK	RE 1.2	a _p ▶ f _n ▶	5.00 0.45	8.00 0.60	11.0 0.75	○	○																						
											190616-NRK	RE 1.6	a _p ▶ f _n ▶	5.00 0.50	8.00 0.65	11.0 0.80	○	○															

● stock standard, ○ non-standard stock, ▽ stock exhaustion



TURNING

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ACCESSORIES

TC	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT							
	Size	IC	S	D1	AN		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020			
<p>3 edges</p>	0902□	5.56	2.38	2.50	7°	P			200 380	180 360	140 300			80 220	60 180					200 380	200 400			
	1102□	6.35	2.38	2.80	7°	M						150 280	120 240	80 160	60 120					160 280	160 300			
	16T3□	9.525	3.97	4.40	7°	K	180 380	150 300							80 170					200 400	200 420			
	2204□	12.70	4.76	5.50	7°	N										600 2200	600 2000	500 1500						
						S								40 80										
						H																		
GRADE APPLICATION AREA	Stable machining, continuous cut																							
main application	General machining, light interruption																							
applicable	Unstable machining, interrupted cut																							
FINISHING	<p>sharp edge</p>	PFU P M S	TCMT 110202-PFU	RE 0.2	a_p 0.20 f_n 0.04	0.80 0.08	1.40 0.12																	
			TCMT 110204-PFU	RE 0.4	a_p 0.20 f_n 0.05	0.80 0.11	1.40 0.17																	
MEDIUM	<p>general purpose</p>	PMU P M K	TCMT 090204-PMU	RE 0.4	a_p 0.50 f_n 0.05	1.00 0.09	1.50 0.13	●																
			TCMT 110202-PMU	RE 0.2	a_p 0.50 f_n 0.05	1.50 0.10	2.50 0.15			○					▽									
			TCMT 110204-PMU	RE 0.4	a_p 0.50 f_n 0.06	1.50 0.13	2.50 0.20			●														
			TCMT 110208-PMU	RE 0.8	a_p 0.50 f_n 0.08	1.50 0.16	2.50 0.24			●														
			TCMT 16T304-PMU	RE 0.4	a_p 0.60 f_n 0.07	1.80 0.16	3.00 0.25			●														
			TCMT 16T308-PMU	RE 0.8	a_p 0.60 f_n 0.08	1.80 0.19	3.00 0.30			●	●													
			TCMT 16T312-PMU	RE 1.2	a_p 0.60 f_n 0.10	1.80 0.22	3.00 0.34			●			○											
TCMT 220408-PMU	RE 0.8	a_p 0.80 f_n 0.10	2.20 0.22	3.60 0.32			○			●														
ROUGHING	<p>polished surface</p>	PMN P M	TCGX 090204-PMN	RE 0.4	a_p 0.30 f_n 0.05	1.00 0.11	1.70 0.17									○	○	●						
			TCGX 110202-PMN	RE 0.2	a_p 0.30 f_n 0.05	1.50 0.10	2.70 0.15										○	●						
			TCGX 110204-PMN	RE 0.4	a_p 0.30 f_n 0.06	1.50 0.13	2.70 0.20											○	○	●				
			TCGX 110208-PMN	RE 0.8	a_p 0.30 f_n 0.08	1.50 0.16	2.70 0.24											○	○	●				
			TCGX 16T302-PMN	RE 0.2	a_p 0.50 f_n 0.06	2.00 0.11	3.50 0.16											○	●					
			TCGX 16T304-PMN	RE 0.4	a_p 0.50 f_n 0.08	2.00 0.16	3.50 0.24											○	○	●				
			TCGX 16T308-PMN	RE 0.8	a_p 0.50 f_n 0.10	2.00 0.20	3.50 0.30											○	○	●				
ROUGHING	<p>reinforced edge</p>	PRU P K	TCMT 16T304-PRU	RE 0.4	a_p 1.50 f_n 0.10	2.50 0.19	3.50 0.28	●																
			TCMT 16T308-PRU	RE 0.8	a_p 1.50 f_n 0.12	2.50 0.22	3.50 0.32																	

● stock standard, ○ non-standard stock, ▽ stock exhaustion



<h1>TN</h1> <p>6 edges</p>	CARBIDE Negative				ISO513	HC-CVD								HC-PVD	HW	HT									
	Size	IC	S	D1		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015							
	1604□	9.525	4.76	3.81		M			200 380	180 360	140 300	100 240			150 280	120 240	100 220	80 200		200 380	160 280				
2204□	12.70	4.76	5.16	K	180 380	150 300												200 400							
				N														500 1500							
				S																					
				H																					
GRADE APPLICATION AREA	Stable machining, continuous cut				+	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
main application	General machining, light interruption				-	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
applicable	Unstable machining, interrupted cut				+	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

FINISHING	NSP P		TNMG	160404-NSP	RE 0.4	a_p 0.40 f_n 0.08	1.20 0.15	2.00 0.22																							
									160408-NSP	RE 0.8	a_p 0.40 f_n 0.10	1.20 0.22	2.00 0.34																		
FINISHING	NFP P		TNMG	160408-NFP	RE 0.8	a_p 0.50 f_n 0.08	1.50 0.17	2.50 0.26																							
									TNMG	160404-NFM	RE 0.4	a_p 0.40 f_n 0.08	1.20 0.14	2.00 0.20																	
															TNMG	160408-NFM	RE 0.8	a_p 0.40 f_n 0.10	1.20 0.20	2.00 0.30											
MEDIUM	NMP P		TNMG	160404-NMP	RE 0.4	a_p 1.50 f_n 0.12	2.50 0.20	3.50 0.28																							
									TNMG	160408-NMP	RE 0.8	a_p 1.50 f_n 0.16	2.50 0.25	3.50 0.34																	
				TNMG	160412-NMP	RE 1.2	a_p 1.50 f_n 0.20	2.50 0.30							3.50 0.40																
			TNMG						220408-NMP	RE 0.8	a_p 3.00 f_n 0.20	4.50 0.30	6.00 0.40																		
														TNMG		220412-NMP	RE 1.2	a_p 3.00 f_n 0.25	4.50 0.35	6.00 0.45											
			MEDIUM	NUP P M		TNMG	160404-NUP	RE 0.4	a_p 1.00 f_n 0.10	2.50 0.20	4.00 0.30																				
TNMG	160408-NUP	RE 0.8										a_p 1.00 f_n 0.15	2.50 0.25	4.00 0.35																	
							TNMG	160412-NUP	RE 1.2	a_p 1.00 f_n 0.18	2.50 0.30				4.00 0.42																
TNMG	220408-NUP	RE 0.8				a_p 2.00 f_n 0.18						4.50 0.30	7.00 0.42																		
														TNMG		220412-NUP	RE 1.2	a_p 2.00 f_n 0.22	4.50 0.35	7.00 0.48											
TNMG	220416-NUP	RE 1.6				a_p 2.00 f_n 0.24	4.50 0.40	7.00 0.56																							
			MEDIUM	NMU P M	<p>picture: right-hand</p>				TNMG	160404*/-NMU	RE 0.4	a_p 1.00 f_n 0.15	2.50 0.25	4.00 0.35																	
TNMG	160408*/-NMU	RE 0.8				a_p 1.00 f_n 0.20	2.50 0.30	4.00 0.40																							

● stock standard, ○ non-standard stock, ▽ stock exhaustion



TURNING

THREADING

FINISHING

GROOVING

MILLING

DRILLING

ACCESSORIES

TP	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT				
	Size	IC	S	D1	AN		JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JPS015	JPS025	JP6010	JU6010	JU6020	JW4015	JP4020	
		0902□□	5.56	2.38	3.00		11°	P			200 380	180 360	140 300		80 220	60 180				200 380	200 400
	1103□□	6.35	3.18	3.40	11°	M					150 280	120 240	80 160	60 120				160 280	160 300		
						K	180 380	150 300						80 170				200 400	200 420		
						N									600 2200	600 2000	500 1500				
						S							40 80								
						H															
GRADE APPLICATION AREA	Stable machining, continuous cut																				
main application	General machining, light interruption																				
applicable	Unstable machining, interrupted cut																				
FINISHING ground chipbreaker, picture: right-hand	TPEH	090202 [®] /L-PPF	RE 0.2	a _p ▶ 0.10 f _n ▶ 0.03	0.30 0.06	0.50 0.09									●				●		
		090204 [®] /L-PPF	RE 0.4	a _p ▶ 0.10 f _n ▶ 0.04	0.30 0.07	0.50 0.10									●				●		
	TPEH	110302 [®] /L-PPF	RE 0.2	a _p ▶ 0.10 f _n ▶ 0.04	0.40 0.07	0.70 0.10									●				●		
		110304 [®] /L-PPF	RE 0.4	a _p ▶ 0.10 f _n ▶ 0.04	0.40 0.08	0.70 0.12									●				●		
MEDIUM ground chipbreaker, picture: right-hand	TPEH	110304 [®] /L-PPM	RE 0.4	a _p ▶ 0.40 f _n ▶ 0.03	1.00 0.06	1.60 0.09								●					●		

● stock standard

VB	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT					
	Size	IC	S	D1	AN		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020	
	1103□	6.35	3.18	2.80	5°		M			200 380	180 360	140 300			80 220	60 180				200 380	200 400	
	1604□	9.525	4.76	4.40	5°	K	180 380	150 300						80 170					200 400	200 420		
						N										600 2200	600 2000	500 1500				
						S								40 80								
						H																
	GRADE APPLICATION AREA	Stable machining, continuous cut					+															
main application	General machining, light interruption					-																
applicable	Unstable machining, interrupted cut					+																
FINISHING ground chipbreaker, picture: right-hand sharp edge	VBET	110302 [®] /L-PPF	RE 0.2	a_p ▶ 0.10 f_n ▶ 0.04	0.40 0.07	0.70 0.10									●					●		
		110304 [®] /L-PPF	RE 0.4	a_p ▶ 0.10 f_n ▶ 0.04	0.40 0.08	0.70 0.12										●					●	
	VBMT	110304-PFU	RE 0.4	a_p ▶ 0.20 f_n ▶ 0.05	0.80 0.11	1.40 0.17								●	●						●	○
		160404-PFU	RE 0.4	a_p ▶ 0.30 f_n ▶ 0.06	1.00 0.14	1.70 0.22			●	●	●		●	●	●	●					●	●
		160408-PFU	RE 0.8	a_p ▶ 0.30 f_n ▶ 0.08	1.00 0.16	1.70 0.24			●	●	●		●	●	●	●					●	○
	MEDIUM ground chipbreaker, picture: right-hand general purpose	VBET	110302 [®] /L-PPM	RE 0.2	a_p ▶ 0.40 f_n ▶ 0.03	1.00 0.05	1.60 0.07									●					●	
		110304 [®] /L-PPM	RE 0.4	a_p ▶ 0.40 f_n ▶ 0.03	1.00 0.06	1.60 0.09										●					●	
VBMT		160404-PMU	RE 0.4	a_p ▶ 0.60 f_n ▶ 0.07	1.80 0.16	3.00 0.25	●			●	●		●	●	●						●	
		160408-PMU	RE 0.8	a_p ▶ 0.60 f_n ▶ 0.08	1.80 0.19	3.00 0.30	●			●	●		●	●	●							●
ROUGHING reinforced edge	VBMT	160408-PRU	RE 0.8	a_p ▶ 1.50 f_n ▶ 0.12	2.50 0.22	3.50 0.32	●				●											

● stock standard



TURNING

THREADING

GROOVING

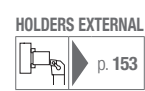
MILLING

DRILLING

ACCESSORIES

VC	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT					
	Size	IC	S	D1	AN		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JPS015	JPS025	JP6010	JU6010	JU6020	JU4015	JP4020	
	1103□	6.35	3.18	2.80	7°	M			200 380	180 360	140 300			80 220	60 180					200 380	200 400	
	1604□	9.525	4.76	4.40	7°	K	180 380	150 300				150 280	120 240	80 160	60 120					160 280	160 300	
	2205□	12.70	5.56	5.50	7°	N											600 2200	600 2000	500 1500			
							S								40 80							
							H															
GRADE APPLICATION AREA	Stable machining, continuous cut					+																
main application	General machining, light interruption					Hardness																
applicable	Unstable machining, interrupted cut					Toughness																
PMU P M K general purpose	VCMT	110304-PMU	RE 0.4	a_p ▶ 0.50 f_n ▶ 0.06	1.50 0.13	2.50 0.20	●			●	●		●							●		
	VCMT	160404-PMU	RE 0.4	a_p ▶ 0.60 f_n ▶ 0.07	1.80 0.16	3.00 0.25	●			●	●		●								●	
		160408-PMU	RE 0.8	a_p ▶ 0.60 f_n ▶ 0.08	1.80 0.19	3.00 0.30	●			●	●		●		▽						●	
	PMN N polished surface	VCGX	110302-PMN	RE 0.2	a_p ▶ 0.30 f_n ▶ 0.05	1.50 0.10	2.70 0.15													●		
			110304-PMN	RE 0.4	a_p ▶ 0.30 f_n ▶ 0.06	1.50 0.13	2.70 0.20										○	○		●		
			110308-PMN	RE 0.8	a_p ▶ 0.30 f_n ▶ 0.08	1.50 0.16	2.70 0.24										○	○		●	●	
		VCGX	160402-PMN	RE 0.2	a_p ▶ 0.50 f_n ▶ 0.06	2.00 0.11	3.50 0.16										○	○		●		
			160404-PMN	RE 0.4	a_p ▶ 0.50 f_n ▶ 0.08	2.00 0.16	3.50 0.24										○	○		●	●	
			160408-PMN	RE 0.8	a_p ▶ 0.50 f_n ▶ 0.10	2.00 0.20	3.50 0.30										○	○		●	●	
			160412-PMN	RE 1.2	a_p ▶ 0.50 f_n ▶ 0.12	2.00 0.24	3.50 0.36										○			●		
		VCGX	220512-PMN	RE 1.6	a_p ▶ 1.00 f_n ▶ 0.14	3.00 0.27	5.00 0.40										○	○				
			220516-PMN	RE 1.6	a_p ▶ 1.00 f_n ▶ 0.14	3.00 0.30	5.00 0.46										○			●		
	220530-PMN	RE 3.0	a_p ▶ 1.00 f_n ▶ 0.20	3.00 0.40	5.00 0.60										●	●		●				
PRU P K reinforced edge	VCMT	160404-PRU	RE 0.4	a_p ▶ 1.50 f_n ▶ 0.10	2.50 0.19	3.50 0.28	●				●											
		160408-PRU	RE 0.8	a_p ▶ 1.50 f_n ▶ 0.12	2.50 0.22	3.50 0.32	●				●											

● stock standard, ○ non-standard stock



VN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD	HW	HT		
	Size	IC	S	D1		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
	1604□	9.525	4.76	3.81	P			200 380	180 360	140 300	100 240						200 380	
					M						150 280	120 240	100 220	80 200			160 280	
					K	180 380	150 300										200 400	
					N												500 1500	
					S													
					H													
GRADE APPLICATION AREA	Stable machining, continuous cut				+													
main application	General machining, light interruption				-													
applicable	Unstable machining, interrupted cut				+													

FINISHING	NSP P	VNMG	160404-NSP	RE 0.4	a _p ▶ f _n ▶	0.40 0.08	1.20 0.15	2.00 0.22										
									JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030
			160408-NSP	RE 0.8	a _p ▶ f _n ▶	0.40 0.10	1.20 0.22	2.00 0.34										
	NFP P	VNMG	160408-NFP	RE 0.8	a _p ▶ f _n ▶	0.50 0.08	1.50 0.17	2.50 0.26				▽						
	NFM M	VNMG	160404-NFM	RE 0.4	a _p ▶ f _n ▶	0.40 0.08	1.20 0.14	2.00 0.20							●			
			160408-NFM	RE 0.8	a _p ▶ f _n ▶	0.40 0.10	1.20 0.20	2.00 0.30							●			
	NMP P	VNMG	160404-NMP	RE 0.4	a _p ▶ f _n ▶	1.50 0.12	2.50 0.20	3.50 0.28										▽
			160408-NMP	RE 0.8	a _p ▶ f _n ▶	1.50 0.16	2.50 0.25	3.50 0.34										▽
			160412-NMP	RE 1.2	a _p ▶ f _n ▶	1.50 0.20	2.50 0.30	3.50 0.40										
	NUP P	VNMG	160404-NUP	RE 0.4	a _p ▶ f _n ▶	1.00 0.10	2.50 0.20	4.00 0.30				○	○					●
			160408-NUP	RE 0.8	a _p ▶ f _n ▶	1.00 0.15	2.50 0.25	4.00 0.35										●
			160412-NUP	RE 1.2	a _p ▶ f _n ▶	1.00 0.18	2.50 0.30	4.00 0.42				○	○					
	NMM M	VNMG	160404-NMM	RE 0.4	a _p ▶ f _n ▶	1.00 0.15	2.50 0.25	4.00 0.35						●	○			▽
			160408-NMM	RE 0.8	a _p ▶ f _n ▶	1.00 0.20	2.50 0.30	4.00 0.40					○	○				▽
	NMK K	VNMG	160404-NMK	RE 0.4	a _p ▶ f _n ▶	0.50 0.10	2.00 0.20	3.50 0.30	●	○								
			160408-NMK	RE 0.8	a _p ▶ f _n ▶	0.50 0.15	2.00 0.25	3.50 0.35	●	○								
			160412-NMK	RE 1.2	a _p ▶ f _n ▶	0.50 0.20	2.00 0.30	3.50 0.40	●	○								

● stock standard, ○ non-standard stock, ▽ stock exhaustion



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

VN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD	HW	HT	
	Size	IC	S	D1		JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
<p>4 edges</p>	1604□□	9.525	4.76	3.81	P			200 380	180 360	140 300	100 240					200 380	
					M						150 280	120 240	100 220	80 200		160 280	
					K	180 380	150 300									200 400	
					N											500 1500	
					S												
					H												
GRADE APPLICATION AREA	Stable machining, continuous cut				+												
main application	General machining, light interruption				-												
applicable	Unstable machining, interrupted cut				+												
MEDIUM	<p>polished surface</p>	VNMG 160404-NMN	RE 0.4	a_p ▶ 0.50 f_n ▶ 0.10	2.00	3.50 0.30										●	
		VNMG 160408-NMN	RE 0.8	a_p ▶ 0.50 f_n ▶ 0.15	2.00	3.50 0.35											●
ROUGHING		VNMG 160408-NRK	RE 0.8	a_p ▶ 1.50 f_n ▶ 0.20	4.00	6.50 0.40	○	○									
		VNMG 160412-NRK	RE 1.2	a_p ▶ 1.50 f_n ▶ 0.25	4.00	6.50 0.45	○	○									

● stock standard, ○ non-standard stock



WC	CARBIDE Positive					ISO513	HC-CVD						HC-PVD		HW		HT			
	Size	IC	S	D1	AN		JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
<p>3 edges</p>						P			200 380	180 360	140 300		80 220	60 180					200 380 400	200 400
	12T3 □□	9.525	3.97	4.40	7°	M					150 280	120 240	80 160	60 120					160 280 300	160 300
						K	180 380	150 300						80 170					200 400	200 420
						N									600 2200	600 2000	500 1500			
						S								40 80						
						H														
GRADE APPLICATION AREA	Stable machining, continuous cut					+	○	■	■	■	■	■	■	■	■	■	■	■	■	■
■ main application	General machining, light interruption					-	○	■	■	■	■	■	■	■	■	■	■	■	■	■
■ applicable	Unstable machining, interrupted cut					+	○	■	■	■	■	■	■	■	■	■	■	■	■	■
MEDIUM general purpose	WCMT	12T304-PMU	RE 0.4	a_p ▶ 0.60 f_n ▶ 0.07	1.80 3.00 0.16 0.25	●			●	●		●							●	
			12T308-PMU	RE 0.8	a_p ▶ 0.60 f_n ▶ 0.08	1.80 3.00 0.19 0.30	●			●	●		●							●

● stock standard

- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

WN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD	HW	HT									
	Size	IC	S	D1		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015							
									200 380	180 360	140 300	100 240		150 280	120 240	100 220	80 200		200 380	160 280					
<p>6 edges</p>	0604□	9.525	4.76	3.81	M																				
	0804□	12.70	4.76	5.16	K	180 380	150 300															200 400			
					N													500 1500							
					S																				
					H																				
GRADE APPLICATION AREA		Stable machining, continuous cut			+																				
main application		General machining, light interruption			-																				
applicable		Unstable machining, interrupted cut			+																				
FINISHING	NSP P	WNMG 060404-NSP	RE 0.4	a _p ▶ 0.30 f _n ▶ 0.06	0.70 0.12	1.10 0.18																			
			RE 0.8	a _p ▶ 0.30 f _n ▶ 0.08	0.70 0.16	1.10 0.24																			
		WNMG 080404-NSP	RE 0.4	a _p ▶ 0.40 f _n ▶ 0.08	1.20 0.15	2.00 0.22																			
			RE 0.8	a _p ▶ 0.40 f _n ▶ 0.10	1.20 0.22	2.00 0.34																			
	NFP P	WNMG 060404-NFP	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.05	1.00 0.10	1.50 0.15																			
			RE 0.8	a _p ▶ 0.50 f _n ▶ 0.07	1.00 0.14	1.50 0.21																			
		WNMG 080404-NFP	RE 0.4	a _p ▶ 0.50 f _n ▶ 0.06	1.50 0.12	2.50 0.18																			
			RE 0.8	a _p ▶ 0.50 f _n ▶ 0.08	1.50 0.17	2.50 0.26																			
	NFM M	WNMG 060404-NFM	RE 0.4	a _p ▶ 0.30 f _n ▶ 0.05	0.70 0.10	1.10 0.15																			
			RE 0.8	a _p ▶ 0.30 f _n ▶ 0.07	0.70 0.15	1.10 0.23																			
		WNMG 080404-NFM	RE 0.4	a _p ▶ 0.40 f _n ▶ 0.08	1.20 0.14	2.00 0.20																			
			RE 0.8	a _p ▶ 0.40 f _n ▶ 0.10	1.20 0.20	2.00 0.30																			
NMP P	WNMG 060404-NMP	RE 0.4	a _p ▶ 1.00 f _n ▶ 0.10	1.50 0.15	2.00 0.20																				
		RE 0.8	a _p ▶ 1.00 f _n ▶ 0.15	1.50 0.20	2.00 0.25																				
	WNMG 080404-NMP	RE 0.4	a _p ▶ 1.50 f _n ▶ 0.12	2.50 0.20	3.50 0.28																				
		RE 0.8	a _p ▶ 1.50 f _n ▶ 0.16	2.50 0.25	3.50 0.34																				
	080412-NMP	RE 1.2	a _p ▶ 1.50 f _n ▶ 0.20	2.50 0.30	3.50 0.40																				
		RE 1.6	a _p ▶ 1.50 f _n ▶ 0.25	2.50 0.35	3.50 0.45																				
MEDIUM	NUP P M	WNMG 060404-NUP	RE 0.4	a _p ▶ 0.70 f _n ▶ 0.08	1.50 0.15	2.30 0.22																			
			RE 0.8	a _p ▶ 0.70 f _n ▶ 0.12	1.50 0.20	2.30 0.28																			
	WNMG 080404-NUP	RE 0.4	a _p ▶ 1.00 f _n ▶ 0.10	2.50 0.20	4.00 0.30																				
		RE 0.8	a _p ▶ 1.00 f _n ▶ 0.15	2.50 0.25	4.00 0.35																				
	080412-NUP	RE 1.2	a _p ▶ 1.00 f _n ▶ 0.18	2.50 0.30	4.00 0.42																				
		RE 1.6	a _p ▶ 1.00 f _n ▶ 0.20	2.50 0.35	4.00 0.50																				
NMM M	WNMG 060404-NMM	RE 0.4	a _p ▶ 0.70 f _n ▶ 0.13	1.50 0.20	2.30 0.27																				
		RE 0.8	a _p ▶ 0.70 f _n ▶ 0.18	1.50 0.25	2.30 0.32																				
		RE 1.2	a _p ▶ 0.70 f _n ▶ 0.20	1.50 0.28	2.30 0.36																				

● stock standard, ○ non-standard stock, ▽ stock exhaustion



WN	CARBIDE Negative				ISO513	HC-CVD								HW	HT					
	Size	IC	S	D1		P	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010			JC9025	JP9015	JP9030	JU6020	JU4015
							180 380	150 300	200 380	180 360	140 300	100 240	150 280			120 240	100 220	80 200	500 1500	200 380
<p>6 edges</p>	0604□	9.525	4.76	3.81	M															
	0804□	12.70	4.76	5.16	K															
					N															
					S															
					H															
GRADE APPLICATION AREA	Stable machining, continuous cut				+															
■ main application	General machining, light interruption				-															
■ applicable	Unstable machining, interrupted cut				+															

MEDIUM	NMM M	WNMG	080404-NMM	RE 0.4	a_p 1.00	f_n 0.15	2.50 0.25	4.00 0.35	●	○	●	●	●	●	●	▽			
			080412-NMM	RE 1.2	a_p 1.00	f_n 0.25	2.50 0.35	4.00 0.45			●	●	○	●					
	NMK K	WNMG	080404-NMK	RE 0.4	a_p 0.50	f_n 0.10	2.00 0.20	3.50 0.30	●	○									
			080408-NMK	RE 0.8	a_p 0.50	f_n 0.15	2.00 0.25	3.50 0.35	●	●									
			080412-NMK	RE 1.2	a_p 0.50	f_n 0.20	2.00 0.30	3.50 0.40	●	●									
	NWU P K	WNMG	080408-NWU	RE 0.8	a_p 0.80	f_n 0.20	2.00 0.40	3.20 0.60	●		●						●		
			080412-NWU	RE 1.2	a_p 0.80	f_n 0.25	2.00 0.45	3.20 0.65	●		●						●		
	NMN N	WNGG	060404-NMN	RE 0.4	a_p 0.30	f_n 0.08	1.00 0.15	1.70 0.22								●			
			060408-NMN	RE 0.8	a_p 0.30	f_n 0.10	1.00 0.20	1.70 0.30								●			
		WNGG	080404-NMN	RE 0.4	a_p 0.50	f_n 0.10	2.00 0.20	3.50 0.30								●			
			080408-NMN	RE 0.8	a_p 0.50	f_n 0.15	2.00 0.25	3.50 0.35								●			
			080412-NMN	RE 1.2	a_p 0.50	f_n 0.20	2.00 0.30	3.50 0.40								●			
	NRP P	WNMG	080408-NRP	RE 0.8	a_p 2.00	f_n 0.25	4.00 0.35	6.00 0.45			●	●	●	●					
			080412-NRP	RE 1.2	a_p 2.00	f_n 0.30	4.00 0.40	6.00 0.50			●	●	●	●					
			080416-NRP	RE 1.6	a_p 2.00	f_n 0.35	4.00 0.45	6.00 0.55				●	●	●					
	NTP P	WNMG	080408-NTP	RE 0.8	a_p 3.00	f_n 0.30	5.00 0.40	7.00 0.50											

● stock standard, ○ non-standard stock, ▽ stock exhaustion



TURNING

THREADING

GROOVING

MILLING

DRILLING

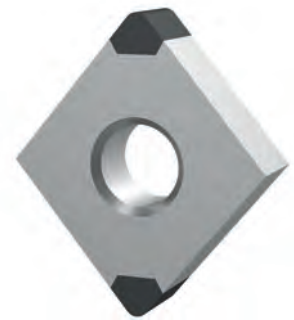
ACCESSORIES

WN	CARBIDE Negative				ISO513	HC-CVD								HC-PVD	HW	HT	
	Size	IC	S	D1		JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JW6020	JW4015
<p>6 edges</p>					P			200 380	180 360	140 300	100 240						200 380
	0604 □□	9.525	4.76	3.81	M						150 280	120 240	100 220	80 200			160 280
	0804 □□	12.70	4.76	5.16	K	180 380	150 300										200 400
					N											500 1500	
					S												
					H												
GRADE APPLICATION AREA	Stable machining, continuous cut				+												
■ main application	General machining, light interruption				-												
■ applicable	Unstable machining, interrupted cut				+												

ROUGHING	NRK K	WNMG	060408-NRK	RE 0.8	a _p ▶ f _n ▶	1.00	2.00	3.00	●	●											
						0.15	0.25	0.35													
	WNMG	080408-NRK	RE 0.8	a _p ▶ f _n ▶	1.50	4.00	6.50	●	●												
					0.20	0.30	0.40														
					1.50	4.00	6.50	●	●												
	WNMA	080408	RE 0.8	a _p ▶ f _n ▶	2.00	4.00	6.00	●	○												
					0.25	0.35	0.45														
					2.00	4.00	6.00	●	○												
	WNMA	080412	RE 1.2	a _p ▶ f _n ▶	2.00	4.00	6.00	●	○												
					0.35	0.45	0.55														
					2.00	4.00	6.00	●	○												
	WNMA	080416	RE 1.6	a _p ▶ f _n ▶	2.00	4.00	6.00	●	○												
					0.45	0.55	0.65														
					2.00	4.00	6.00	●	○												

● stock standard, ○ non-standard stock





TURNING PCBN

	MATERIAL	OPERATION	CONDITION	EDGE PREP.	GRADE	Vc (m/min)	fn (mm/rev)	COOLANT
TURNING	Hardened steel	finishing ap < 0.5 mm		SE	NBL050C	140 190 240	0.06 0.14 0.22	
				UE	NBL150C tool life	120 170 220	0.06 0.15 0.24	
					NBL250C reliability	100 150 200		
THREADING	Bearing steel	finishing ap < 0.5 mm		SE	NBL050C	120 170 220	0.05 0.10 0.15	
				UE	NBL150C tool life	100 150 200	0.06 0.13 0.20	
					NBL250C reliability	80 130 180		
			RE	NBL350C	80 120 160	0.06 0.16 0.26		
			UE	NBH900U	100 140 180	0.15 0.30 0.45		
	NBH950U	80 120 160		0.10 0.25 0.40				
GROOVING	Tool steel	finishing ap < 0.5 mm		SE	NBL150C	100 140 180	0.04 0.09 0.14	
				UE	NBL250C	80 120 160	0.05 0.12 0.19	
				RE	NBL350C	60 100 140	0.06 0.13 0.20	
			UE	NBH900U	60 100 140	0.10 0.30 0.50		
			UE	NBH950U	40 80 120	0.10 0.25 0.40		
MILLING	High speed steel	finishing ap < 0.5 mm		UE	NBL150C	100 120 140	0.05 0.08 0.11	
				UE	NBH500C	60 120 180	0.10 0.30 0.50	
	White cast iron	finishing ap < 0.5 mm		UE	NBH900U	40 80 120	0.10 0.25 0.40	
				UE	NBH500C	60 90 120	0.20 0.40 0.60	
				UE	NBH950U	40 60 80	0.20 0.35 0.50	
DRILLING	Gray cast iron	finishing ap < 0.5 mm		UE	NBH450C	400 800 1200	0.10 0.25 0.40	
				UE	NBH500C	600 1000 1400	0.10 0.20 0.30	
		roughing ap > 0.5 mm SOLID PCBN		UE	NBH500C	600 1000 1400	0.20 0.40 0.60	
				UE	NBH900U tool life	400 800 1200	0.20 0.35 0.50	
	NBH950U reliability	400 700 1000						
ACCESSORIES	ADI cast iron	finishing ap < 0.5 mm		UE	NBL150C	500 600 700	0.05 0.15 0.25	
				UE	NBL250C	400 500 600	0.05 0.15 0.25	
		roughing ap > 0.5 mm SOLID PCBN		UE	NBH500C	300 400 500	0.10 0.25 0.40	
	UE		NBH900U tool life	200 250 300	0.10 0.25 0.40			
		NBH950U reliability	180 230 280					
P	Sintered powder metal, high alloyed	finishing ap < 0.5 mm		UE	NBL150C	80 160 240	0.05 0.10 0.15	
	Sintered powder metal, low alloyed	finishing ap < 0.5 mm		UE	NBH450C	140 220 300	0.10 0.20 0.30	

Stable machining, continuous cut
 General machining, light interruption
 Unstable machining, interrupted cut

CC	PCBN Positive					ISO513	BL				BH																					
	Size	IC	S	D1	AN		P	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U	◀ SINTERED POWDER METAL																
<p>2 edges</p>	MICRO CC	3.50	1.40	1.90	7°	M	80	240			140	300																				
	0602□□	6.35	2.38	2.80	7°	K					400	300	200	180																		
	09T3□□	9.525	3.97	4.40	7°	N					1200	1400	1200	1000																		
						S																										
						H	120	240	100	220	80	200	60	160	60	160	60	180	40	180	40	160										
GRADE APPLICATION AREA	Stable machining, continuous cut																															
main application	General machining, light interruption																															
applicable	Unstable machining, interrupted cut																															

SHARP	SE H	MICROBORING, full face	MICRO	CC.R02S-SE-FF	RE 0.2	a_p	0.05	0.10	0.15													
						f_n	0.04	0.06	0.08													
				CC.R04S-SE-FF	RE 0.4	a_p	0.05	0.10	0.15													
						f_n	0.04	0.08	0.12													
SHARP	SE H		CCGW	060202S-SE-2S	RE 0.2	a_p	0.05	0.10	0.15	○	●											
								f_n	0.04	0.06	0.08											
				060204S-SE-2S	RE 0.4	a_p	0.05	0.10	0.15	●	●											
								f_n	0.04	0.08	0.12											
				060208S-SE-2S	RE 0.8	a_p	0.05	0.10	0.15		○											
								f_n	0.05	0.10	0.15											
UNIVERSAL	UE H		CCGW	060202S-UE-2S	RE 0.2	a_p	0.06	0.13	0.20	○	●											
								f_n	0.05	0.10	0.15											
				060204S-UE-2S	RE 0.4	a_p	0.06	0.13	0.20	●	●	●										
								f_n	0.06	0.12	0.18											
				060208S-UE-2S	RE 0.8	a_p	0.06	0.13	0.20		○	○										
								f_n	0.06	0.13	0.20											
UNIVERSAL	UE KH	tip with carbide backed	CCGW	060204S-UE-2C	RE 0.4	a_p	0.06	0.13	0.20			●										
								f_n	0.06	0.12	0.18											
				060208S-UE-2C	RE 0.8	a_p	0.06	0.13	0.20			○										
								f_n	0.06	0.13	0.20											
				09T304S-UE-2C	RE 0.4	a_p	0.06	0.13	0.20			●										
								f_n	0.06	0.12	0.18											
REINFORCED	RE H		CCGW	060204S-RE-2S	RE 0.4	a_p	0.08	0.16	0.25			●										
								f_n	0.06	0.13	0.20											
				060208S-RE-2S	RE 0.8	a_p	0.08	0.16	0.25			○										
								f_n	0.06	0.14	0.22											
				09T304S-RE-2S	RE 0.4	a_p	0.08	0.16	0.25			●										
								f_n	0.06	0.13	0.20											
WIPER	WE H		CCGW	09T304S-WE-2S	RE 0.4	a_p	0.06	0.13	0.20	●	●											
								f_n	0.10	0.15	0.20											
				09T308S-WE-2S	RE 0.8	a_p	0.06	0.13	0.20	●	●											
								f_n	0.10	0.18	0.26											

● stock standard, ○ non-standard stock, ▲ upcoming introduction



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

CN	PCBN Negative				ISO513	BL				BH				
	Size	IC	S	D1		P	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
							80				140			
	MICRO CN	7.50	3.18	3.60	P	240								
	0903□	9.525	3.18	-	M					400	300	200	180	
	1204□	12.70	4.76	(5.16)	K					1200	1400	1200	1000	
	1207□	12.70	7.94	-	N									
					S									
GRADE APPLICATION AREA						H	120	100	80	60	60	60	40	40
							240	220	200	160	180	180	160	
Stable machining, continuous cut					+									
General machining, light interruption					-									
Unstable machining, interrupted cut					+									

SHARP		MICRONEGA, vertical		SE H		vertical		UNIVERSAL		MICRONEGA, vertical		vertical		UNIVERSAL		solid		UNIVERSAL		solid, without hole	
MICRO	CN.R02S-SE-4V	RE 0.2	$a_p \triangleright$ 0.06 $f_n \triangleright$ 0.05	0.13	0.20																
	CN.R04S-SE-4V	RE 0.4	$a_p \triangleright$ 0.06 $f_n \triangleright$ 0.06	0.13	0.20																
	CN.R08S-SE-4V	RE 0.8	$a_p \triangleright$ 0.06 $f_n \triangleright$ 0.06	0.13	0.20																
CNGA	120404S-SE-4V	RE 0.4	$a_p \triangleright$ 0.06 $f_n \triangleright$ 0.06	0.13	0.20	○	○														
	120408S-SE-4V	RE 0.8	$a_p \triangleright$ 0.06 $f_n \triangleright$ 0.06	0.13	0.20	●	●														
	120412S-SE-4V	RE 1.2	$a_p \triangleright$ 0.06 $f_n \triangleright$ 0.06	0.13	0.20	○	○														
MICRO	CN.R02S-UE-4V	RE 0.2	$a_p \triangleright$ 0.07 $f_n \triangleright$ 0.06	0.16	0.25					▲		▲									
	CN.R04S-UE-4V	RE 0.4	$a_p \triangleright$ 0.07 $f_n \triangleright$ 0.08	0.16	0.25					▲		▲									
	CN.R08S-UE-4V	RE 0.8	$a_p \triangleright$ 0.07 $f_n \triangleright$ 0.08	0.16	0.25					▲		▲									
CNGA	120404S-UE-4V	RE 0.4	$a_p \triangleright$ 0.07 $f_n \triangleright$ 0.08	0.16	0.25	●	●	●													
	120408S-UE-4V	RE 0.8	$a_p \triangleright$ 0.07 $f_n \triangleright$ 0.08	0.16	0.25	●	●	●				●									
	120412S-UE-4V	RE 1.2	$a_p \triangleright$ 0.07 $f_n \triangleright$ 0.08	0.16	0.25	●	●	●				●									
CNGA	120408S-UE	RE 0.8	$a_p \triangleright$ 1.00 $f_n \triangleright$ 0.10	2.00	3.00							○									
	120412S-UE	RE 1.2	$a_p \triangleright$ 1.00 $f_n \triangleright$ 0.10	2.00	3.00							●									
CNGN	090308S-UE	RE 0.8	$a_p \triangleright$ 0.50 $f_n \triangleright$ 0.10	1.50	2.50								●								
	090312S-UE	RE 1.2	$a_p \triangleright$ 0.50 $f_n \triangleright$ 0.10	1.50	2.50								●								
	090316S-UE	RE 1.6	$a_p \triangleright$ 0.50 $f_n \triangleright$ 0.10	1.50	2.50								○								
CNGN	120408S-UE	RE 0.8	$a_p \triangleright$ 1.00 $f_n \triangleright$ 0.10	2.00	3.00								●								
	120412S-UE	RE 1.2	$a_p \triangleright$ 1.00 $f_n \triangleright$ 0.10	2.00	3.00								●								
	120416S-UE	RE 1.6	$a_p \triangleright$ 1.00 $f_n \triangleright$ 0.10	2.00	3.00								○								

● stock standard, ○ non-standard stock, ▲ upcoming introduction



CN	PCBN Negative				ISO513	BL				BH																										
	Size	IC	S	D1		P	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U	◀ SINTERED POWDER METAL																					
	MICRO CN	7.50	3.18	3.60		M																														
<p>4 edges</p>	0903 □	9.525	3.18	-	K					400	300	200	180																							
	1204 □	12.70	4.76	(5.16)	N																															
	1207 □	12.70	7.94	-	S																															
						H	120	100	80	60	60	60	40	40																						
GRADE APPLICATION AREA		Stable machining, continuous cut			+																															
main application		General machining, light interruption			-																															
applicable		Unstable machining, interrupted cut			+																															
UNIVERSAL	UE K H	CNGX	120712S-UE	RE 1.2	$a_{p\rightarrow}$ 1.00	2.00	3.00																													
			120716S-UE	RE 1.6	$a_{p\rightarrow}$ 1.00	2.00	3.00																													
	solid, with dimple					$f_{n\rightarrow}$ 0.10	0.22	0.35																												
REINFORCED	RE K H	CNGA	120404S-RE-4V	RE 0.4	$a_{p\rightarrow}$ 0.08	0.17	0.26																													
	vertical		120408S-RE-4V	RE 0.8	$a_{p\rightarrow}$ 0.08	0.17	0.26																													
			120412S-RE-4V	RE 1.2	$a_{p\rightarrow}$ 0.08	0.17	0.26																													
					$f_{n\rightarrow}$ 0.08	0.17	0.26																													
WIPER	WE H	CNGA	120404S-WE-4V	RE 0.4	$a_{p\rightarrow}$ 0.07	0.16	0.25																													
	vertical		120408S-WE-4V	RE 0.8	$a_{p\rightarrow}$ 0.07	0.16	0.25																													
			120412S-WE-4V	RE 1.2	$a_{p\rightarrow}$ 0.07	0.16	0.25																													
					$f_{n\rightarrow}$ 0.10	0.17	0.24																													

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

DC	PCBN Positive					ISO513	BL				BH				◀ SINTERED POWDER METAL	
	Size	IC	S	D1	AN		NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U		
	0702□□	6.35	2.38	2.80	7°		P	80 240				140 300				
<p>2 edges</p>	11T3□□	9.525	3.97	4.40	7°	M					400 1200	300 1400	200 1200	180 1000		
						K										
						N										
						S										
						H	120 240	100 220	80 200	60 160	60 160	60 180	40 180	40 160		
GRADE APPLICATION AREA		Stable machining, continuous cut				+										
■ main application		General machining, light interruption				-										
■ applicable		Unstable machining, interrupted cut				+										

	SE	DCGW	070202S-SE-2S	RE 0.2	a _p ▶ f _n ▶	0.05 0.04	0.10 0.06	0.15 0.08	○ ●											
																			070204S-SE-2S	RE 0.4
SHARP		DCGW	070208S-SE-2S	RE 0.8	a _p ▶ f _n ▶	0.05 0.05	0.10 0.10	0.15 0.15	○											
			DCGW	11T302S-SE-2S	RE 0.2	a _p ▶ f _n ▶	0.05 0.04	0.10 0.06	0.15 0.08	○ ●										
				11T304S-SE-2S	RE 0.4	a _p ▶ f _n ▶	0.05 0.04	0.10 0.08	0.15 0.12	● ●										
	11T308S-SE-2S	RE 0.8		a _p ▶ f _n ▶	0.05 0.05	0.10 0.10	0.15 0.15	●												
	UNIVERSAL		DCGW	070202S-UE-2S	RE 0.2	a _p ▶ f _n ▶	0.06 0.05	0.13 0.10	0.20 0.15	○ ●										
				070204S-UE-2S	RE 0.4	a _p ▶ f _n ▶	0.06 0.06	0.13 0.12	0.20 0.18	● ● ●										
				070208S-UE-2S	RE 0.8	a _p ▶ f _n ▶	0.06 0.06	0.13 0.13	0.20 0.20	○ ○										
		DCGW	11T302S-UE-2S	RE 0.2	a _p ▶ f _n ▶	0.06 0.05	0.13 0.10	0.20 0.15	○ ●											
			11T304S-UE-2S	RE 0.4	a _p ▶ f _n ▶	0.06 0.06	0.13 0.12	0.20 0.18	● ● ●											
11T308S-UE-2S			RE 0.8	a _p ▶ f _n ▶	0.06 0.06	0.13 0.13	0.20 0.20	● ●												
UNIVERSAL	<p>tip with carbide backed</p>	DCGW	11T304S-UE-2C	RE 0.4	a _p ▶ f _n ▶	0.06 0.06	0.13 0.12	0.20 0.18				●								
			11T308S-UE-2C	RE 0.8	a _p ▶ f _n ▶	0.06 0.06	0.13 0.13	0.20 0.20				●								
REINFORCED		DCGW	070204S-RE-2S	RE 0.4	a _p ▶ f _n ▶	0.08 0.06	0.16 0.13	0.25 0.20				○								
			070208S-RE-2S	RE 0.8	a _p ▶ f _n ▶	0.08 0.06	0.16 0.14	0.25 0.22				○								
		DCGW	11T304S-RE-2S	RE 0.4	a _p ▶ f _n ▶	0.08 0.06	0.16 0.13	0.25 0.20				●								
			11T308S-RE-2S	RE 0.8	a _p ▶ f _n ▶	0.08 0.06	0.16 0.14	0.25 0.22				●								

● stock standard, ○ non-standard stock



<h1>DN</h1>	<h2>PCBN Negative</h2>				ISO513 P M K N S H	BL				BH																			
	Size	IC	S	D1		NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U	◀ SINTERED POWDER METAL															
	MICRO DN	7.00	3.18	3.60		80 240					140 300																		
1504□	12.70	4.76	5.16						400 1200	300 1400	200 1200	180 1000																	
1506□	12.70	6.35	5.16																										
					120 240	100 220	80 200	60 160	60 160	60 180	40 180	40 160																	
GRADE APPLICATION AREA					Stable machining, continuous cut	+ Hardness		- Toughness																					
main application					General machining, light interruption																								
applicable					Unstable machining, interrupted cut																								

	SE	SHARP	MICRONEGA, vertical	MICRO	DN.R02S-SE-4V	RE 0.2	a _p ▶ f _n ▶	0.06 0.10	0.20 0.15	▲																			
											0.06 0.12	0.18																	
					DN.R04S-SE-4V	RE 0.4	a _p ▶ f _n ▶	0.06 0.12	0.20 0.18	▲																			
					DN.R08S-SE-4V	RE 0.8	a _p ▶ f _n ▶	0.06 0.13	0.20 0.20	▲																			

	UE	UNIVERSAL	MICRONEGA, vertical	MICRO	DN.R02S-UE-4V	RE 0.2	a _p ▶ f _n ▶	0.07 0.12	0.25 0.18	▲	▲																	
												0.08 0.14	0.20															
					DN.R04S-UE-4V	RE 0.4	a _p ▶ f _n ▶	0.07 0.14	0.25 0.20	▲	▲																	
					DN.R08S-UE-4V	RE 0.8	a _p ▶ f _n ▶	0.07 0.15	0.25 0.22	▲	▲																	

	UE	UNIVERSAL	MICRONEGA, vertical	DNGA	150604S-UE-4S	RE 0.4	a _p ▶ f _n ▶	0.07 0.14	0.25 0.20	○	●																	

	UE	UNIVERSAL	MICRONEGA, vertical	DNGA	150608S-UE-4S	RE 0.8	a _p ▶ f _n ▶	0.07 0.15	0.25 0.22	○	●																	

	UE	UNIVERSAL	MICRONEGA, vertical	DNGA	150612S-UE-4S	RE 1.2	a _p ▶ f _n ▶	0.07 0.16	0.25 0.24	○	○	○																

● stock standard, ○ non-standard stock, ▲ upcoming introduction

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TURNING

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ACCESSORIES

DN	PCBN Negative				ISO513	BL				BH																																
	Size	IC	S	D1		P	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U	◀ SINTERED POWDER METAL																											
	MICRO DN	7.00	3.18	3.60		M	80	240				140	300																													
<p>4 edges</p>	1504□	12.70	4.76	5.16	K					400	300	200	180																													
	1506□	12.70	6.35	5.16	N					1200	1400	1200	1000																													
						S																																				
						H	120	240	100	220	80	200	60	160	60	160	60	180	40	180	40	160																				
	GRADE APPLICATION AREA		Stable machining, continuous cut				+	○	+	○																																
		General machining, light interruption				-	○	+	○																																	
		Unstable machining, interrupted cut				-	○	+	○																																	
REINFORCED	RE	DNGA	150604S-RE-4S	RE 0.4	a _p ▶ 0.08 f _n ▶ 0.08	0.17 0.26 0.14 0.20																																				
			150608S-RE-4S	RE 0.8	a _p ▶ 0.08 f _n ▶ 0.08	0.17 0.26 0.16 0.24																																				
			150612S-RE-4S	RE 1.2	a _p ▶ 0.08 f _n ▶ 0.08	0.17 0.26 0.17 0.26																																				

○ non-standard stock



RN		PCBN Negative				ISO513	BL				BH								
		Size	IC	S			NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U					
						P	80 240			140 300				◀ SINTERED POWDER METAL					
	0603□□	6.35	3.18			M													
	0903□□	9.525	3.18			K				400 1200	300 1400	200 1200	180 1000						
	1203□□	12.70	3.18			N													
	1204□□	12.70	4.76			S													
						H	120 240	100 220	80 200	60 160	60 160	60 180	40 180	40 160					
GRADE APPLICATION AREA		Stable machining, continuous cut			+ Hardness - Toughness +	○													
■ main application	General machining, light interruption			○															
■ applicable	Unstable machining, interrupted cut			○															
SHARP SE K H solid	RNGN	090300T-SE	-	a_p ▶ 0.20 f_n ▶ 0.10	1.50 0.20	2.80 0.40						●							
	UNIVERSAL UE K H solid	RNGN	060300S-UE	-	a_p ▶ 0.50 f_n ▶ 0.10	1.50 0.20	2.50 0.30						●						
RNGN		090300S-UE	-	a_p ▶ 0.50 f_n ▶ 0.10	2.00 0.30	3.50 0.50						●	●	●					
RNGN		120300S-UE	-	a_p ▶ 0.50 f_n ▶ 0.10	2.50 0.40	4.50 0.70						●	●						
RNGN		120400S-UE	-	a_p ▶ 0.50 f_n ▶ 0.10	2.50 0.40	4.50 0.70						●	●	●					
REINFORCED RE K H solid	RNGN	120400S-RE	-	a_p ▶ 1.00 f_n ▶ 0.10	3.00 0.45	5.00 0.80						●	○						

● stock standard, ○ non-standard stock

- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

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MILLING

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SN	PCBN Negative				ISO513	BL				BH				◀ SINTERED POWDER METAL
	Size	IC	S	D1		NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U	
<p>8 edges</p>					P	80				140				
	0903 □	9.525	3.18	-	M	240								
	1204 □	12.70	4.76	(5.16)	K					400	300	200	180	
	1207 □	12.70	7.94	-	N					1200	1400	1200	1000	
					S									
					H	120 240	100 220	80 200	60 160	60 160	60 180	40 180	40 160	
GRADE APPLICATION AREA	Stable machining, continuous cut													
main application	General machining, light interruption													
applicable	Unstable machining, interrupted cut													

UNIVERSAL	UE K H	SNGA	Size	RE	a _p ▶ f _n ▶	Vmax Vmin	ISO513	BL				BH			
								NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U
vertical		SNGA	120404S-UE-8V	RE 0.4	a _p ▶ 0.07 f _n ▶ 0.08	0.16 0.14	0.25 0.20							●	
			120408S-UE-8V	RE 0.8	a _p ▶ 0.07 f _n ▶ 0.08	0.16 0.15	0.25 0.22	○	○					●	
			120412S-UE-8V	RE 1.2	a _p ▶ 0.07 f _n ▶ 0.08	0.16 0.16	0.25 0.24								●
solid		SNGA	120412S-UE	RE 1.2	a _p ▶ 1.00 f _n ▶ 0.10	2.00 0.22	3.00 0.35							●	
solid, without hole		SNGN	090308S-UE	RE 0.8	a _p ▶ 0.50 f _n ▶ 0.10	1.50 0.20	2.50 0.30							●	
			090312S-UE	RE 1.2	a _p ▶ 0.50 f _n ▶ 0.10	1.50 0.22	2.50 0.35							●	
			090316S-UE	RE 1.6	a _p ▶ 0.50 f _n ▶ 0.10	1.50 0.25	2.50 0.40							●	
		SNGN	120408S-UE	RE 0.8	a _p ▶ 1.00 f _n ▶ 0.10	2.00 0.20	3.00 0.30								●
			120412S-UE	RE 1.2	a _p ▶ 1.00 f _n ▶ 0.10	2.00 0.22	3.00 0.35								●
			120416S-UE	RE 1.6	a _p ▶ 1.00 f _n ▶ 0.10	2.00 0.25	3.00 0.40							○	
solid, with dimple		SNGX	120712S-UE	RE 1.2	a _p ▶ 1.00 f _n ▶ 0.10	2.00 0.22	3.00 0.35					○			
			120716S-UE	RE 1.6	a _p ▶ 1.00 f _n ▶ 0.10	2.00 0.25	3.00 0.40						○		

● stock standard, ○ non-standard stock



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TN	PCBN Negative				ISO513	BL				BH				◀ SINTERED POWDER METAL
	Size	IC	S	D1		NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U	
<p>6 edges</p>	1604□□	9.525	4.76	(3.81)	P	80 240				140 300				
					M									
					K					400 1200	300 1400	200 1200	180 1000	
					N									
					S									
				H		120 240	100 220	80 200	60 160	60 160	60 180	40 180	40 160	
GRADE APPLICATION AREA	Stable machining, continuous cut				+									
main application	General machining, light interruption				-									
applicable	Unstable machining, interrupted cut													

SHARP vertical	SE [H]	TNGA	160404S-SE-6V	RE 0.4	a _p ▶ 0.06 f _n ▶ 0.06	0.13 0.12	0.20 0.18	BL				BH			
								NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U
			160408S-SE-6V	RE 0.8	a _p ▶ 0.06 f _n ▶ 0.06	0.13 0.13	0.20 0.20	○	○						
			160412S-SE-6V	RE 1.2	a _p ▶ 0.06 f _n ▶ 0.06	0.13 0.14	0.20 0.22	○	○						

UNIVERSAL vertical	UE [K H]	TNGA	160404S-UE-6V	RE 0.4	a _p ▶ 0.07 f _n ▶ 0.08	0.16 0.14	0.25 0.20	BL				BH			
								NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U
			160408S-UE-6V	RE 0.8	a _p ▶ 0.07 f _n ▶ 0.08	0.16 0.15	0.25 0.22	●	●	●		●	●		
			160412S-UE-6V	RE 1.2	a _p ▶ 0.07 f _n ▶ 0.08	0.16 0.16	0.25 0.24	○	○	○		○	●		

UNIVERSAL solid, without hole	UE [K H]	TNGN	160408S-UE	RE 0.8	a _p ▶ 1.00 f _n ▶ 0.10	2.00 0.20	3.00 0.30	BL				BH			
								NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U
													●		

REINFORCED vertical	RE [H]	TNGA	160404S-RE-6V	RE 0.4	a _p ▶ 0.08 f _n ▶ 0.08	0.17 0.14	0.26 0.20	BL				BH			
								NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U
			160408S-RE-6V	RE 0.8	a _p ▶ 0.08 f _n ▶ 0.08	0.17 0.16	0.26 0.24				○				
			160412S-RE-6V	RE 1.2	a _p ▶ 0.08 f _n ▶ 0.08	0.17 0.17	0.26 0.26				○				

● stock standard, ○ non-standard stock



TP		PCBN Positive					ISO513	BL				BH																																						
		Size	IC	S	D1	AN		P				M				K				N				S				H																						
								80 240								140 300								400 1200				300 1400				200 1200				180 1000														
		0902□	5.56	2.38	3.00	11°	P				M				K				N				S				H				◀ SINTERED POWDER METAL																			
		1103□	6.35	3.18	3.30	11°	M				K				N				S				H																											
							N				S				H																																			
GRADE APPLICATION AREA		Stable machining, continuous cut					+		-		○		●																																					
● main application		General machining, light interruption					-		+		○		●																																					
● applicable		Unstable machining, interrupted cut					+		-		○		●																																					
SHARP	SE	TPGW	110304S-SE-3S	RE 0.4	a_p ▶ 0.05 f_n ▶ 0.04	0.10 0.08	0.15 0.12	○																																										
			110308S-SE-3S	RE 0.8	a_p ▶ 0.05 f_n ▶ 0.05	0.10 0.10	0.15 0.15	○																																										
UNIVERSAL	UE	TPGW	090204S-UE-3S	RE 0.4	a_p ▶ 0.06 f_n ▶ 0.06	0.13 0.12	0.20 0.18	●																																										
			110302S-UE-3S	RE 0.2	a_p ▶ 0.06 f_n ▶ 0.05	0.13 0.10	0.20 0.15	○																																										
			110304S-UE-3S	RE 0.4	a_p ▶ 0.06 f_n ▶ 0.06	0.13 0.12	0.20 0.18	●																																										
			110308S-UE-3S	RE 0.8	a_p ▶ 0.06 f_n ▶ 0.06	0.13 0.13	0.20 0.20	●																																										

● stock standard, ○ non-standard stock

TURNING

THREADING

GROOVING

MILLING

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ACCESSORIES

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ACCESSORIES

VB	PCBN Positive					ISO513	BL				BH				◀ SINTERED POWDER METAL		
	Size	IC	S	D1	AN		NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U			
	1103□□	6.35	3.18	2.80	5°	P	80 240			140 300							
	1604□□	9.525	4.76	4.40	5°	M											
						K				400 1200	300 1400	200 1200	180 1000				
						N											
						S											
						H	120 240	100 220	80 200	60 160	60 180	40 180	40 160				
GRADE APPLICATION AREA		Stable machining, continuous cut					+										
■ main application		General machining, light interruption					Hardness										
■ applicable		Unstable machining, interrupted cut					Toughness										

SE H	VBGW	110302S-SE-2S	RE 0.2	a _p ▶ f _n ▶	0.05 0.04	0.10 0.06	0.15 0.08													
SHARP		110304S-SE-2S	RE 0.4	a _p ▶ f _n ▶	0.05 0.04	0.10 0.08	0.15 0.12	●	●											
		160402S-SE-2S	RE 0.2	a _p ▶ f _n ▶	0.05 0.04	0.10 0.06	0.15 0.08	●												
		160404S-SE-2S	RE 0.4	a _p ▶ f _n ▶	0.05 0.04	0.10 0.08	0.15 0.12	●	●											
		160408S-SE-2S	RE 0.8	a _p ▶ f _n ▶	0.05 0.05	0.10 0.10	0.15 0.15	●	●											
		110302S-UE-2S	RE 0.2	a _p ▶ f _n ▶	0.06 0.05	0.13 0.10	0.20 0.15		○											
UNIVERSAL		110304S-UE-2S	RE 0.4	a _p ▶ f _n ▶	0.06 0.06	0.13 0.12	0.20 0.18	●	●	●										
		160402S-UE-2S	RE 0.2	a _p ▶ f _n ▶	0.06 0.05	0.13 0.10	0.20 0.15		●											
		160404S-UE-2S	RE 0.4	a _p ▶ f _n ▶	0.06 0.06	0.13 0.12	0.20 0.18	●	●	●										
		160408S-UE-2S	RE 0.8	a _p ▶ f _n ▶	0.06 0.06	0.13 0.13	0.20 0.20	●	●	●										
		160404S-UE-2C	RE 0.4	a _p ▶ f _n ▶	0.06 0.06	0.13 0.12	0.20 0.18					○								
REINFORCED		160408S-UE-2C	RE 0.8	a _p ▶ f _n ▶	0.06 0.06	0.13 0.13	0.20 0.20					○								
		160404S-RE-2S	RE 0.4	a _p ▶ f _n ▶	0.08 0.06	0.16 0.13	0.25 0.20					○								
		160408S-RE-2S	RE 0.8	a _p ▶ f _n ▶	0.08 0.06	0.16 0.14	0.25 0.22					○								
		160404S-RE-2C	RE 0.4	a _p ▶ f _n ▶	0.08 0.06	0.16 0.13	0.25 0.20					○*								
	160408S-RE-2C	RE 0.8	a _p ▶ f _n ▶	0.08 0.06	0.16 0.14	0.25 0.22					○*									

● stock standard, ○ non-standard stock

* uncoated (NBH450U)



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VC		PCBN Positive					ISO513	BL				BH																													
		Size	IC	S	D1	AN		NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U	◀ SINTERED POWDER METAL																									
	1103□□	6.35	3.18	2.80	7°	P	80	240			140	300																													
	1604□□	9.525	4.76	4.40	7°	M																																			
						K					400	300	200	180																											
						N																																			
						S																																			
GRADE APPLICATION AREA		Stable machining, continuous cut					H	120	240	100	220	80	200	60	160	60	160	60	180	40	180	40	160																		
<div style="display: flex; justify-content: space-between;"> ■ main application Hardness + </div>		General machining, light interruption																																							
<div style="display: flex; justify-content: space-between;"> ■ applicable Toughness - </div>		Unstable machining, interrupted cut																																							
SHARP		SE	VCGW 110304S-SE-2S	RE 0.4	a _p ▶ 0.05 f _n ▶ 0.04	0.10 0.15 0.08 0.12	●																																		
			VCGW 160404S-SE-2S	RE 0.4	a _p ▶ 0.05 f _n ▶ 0.04	0.10 0.15 0.08 0.12	●																																		
			VCGW 160408S-SE-2S	RE 0.8	a _p ▶ 0.05 f _n ▶ 0.05	0.10 0.15 0.10 0.15	●																																		
UNIVERSAL		UE	VCGW 110304S-UE-2S	RE 0.4	a _p ▶ 0.06 f _n ▶ 0.06	0.13 0.20 0.12 0.18		●																																	
			VCGW 160404S-UE-2S	RE 0.4	a _p ▶ 0.06 f _n ▶ 0.06	0.13 0.20 0.12 0.18		●																																	
			VCGW 160408S-UE-2S	RE 0.8	a _p ▶ 0.06 f _n ▶ 0.06	0.13 0.20 0.13 0.20		●																																	

● stock standard, ○ non-standard stock



TURNING

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GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

VN	PCBN Negative				ISO513	BL				BH												
	Size	IC	S	D1		NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U	◀ SINTERED POWDER METAL								
	1604□	9.525	4.76	3.81	P	80	240			140	300											
					M																	
					K					400	300	200	180									
					N					1200	1400	1200	1000									
					S																	
				H					120	240	100	220	80	200	60	160	60	180	40	180	40	160
GRADE APPLICATION AREA	Stable machining, continuous cut				+																	
main application	General machining, light interruption				-																	
applicable	Unstable machining, interrupted cut				+																	

THREADING

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SHARP vertical	SE H	VNGA	160404S-SE-4V	RE 0.4	a_p	f_n	0.13	0.20	○													
					▶	▶																
			160408S-SE-4V	RE 0.8	a_p ▶	f_n ▶	0.13	0.20	○													
			160404S-UE-4V	RE 0.4	a_p ▶	f_n ▶	0.16	0.25	○													
			160408S-UE-4V	RE 0.8	a_p ▶	f_n ▶	0.16	0.25	○													
							0.14	0.20														
							0.15	0.22														

● stock standard, ○ non-standard stock

MILLING

DRILLING

ACCESSORIES



WN	PCBN Negative				ISO513	BL				BH				SINTERED POWDER METAL
	Size	IC	S	D1		NB1050C	NB1150C	NB1250C	NB1350C	NBH450C	NBH500C	NBH900U	NBH950U	
<p>6 edges</p>	0804□□	12.70	4.76	5.16	P	80 240				140 300				
					M									
					K					400 1200	300 1400	200 1200	180 1000	
					N									
					S									
					H		120 240	100 220	80 200	60 160	60 160	60 180	40 180	40 160
GRADE APPLICATION AREA	Stable machining, continuous cut													
main application	General machining, light interruption													
applicable	Unstable machining, interrupted cut													

SHARP vertical	SE	WNGA	080404S-SE-6V	RE 0.4	a_p	f_n	0.13	0.20	○												
					0.06	0.06													0.12	0.18	
UNIVERSAL vertical <td rowspan="3">UE</td> <td rowspan="3">WNGA</td> <td rowspan="3">080404S-UE-6V</td> <td rowspan="3">RE 0.4</td> <td>a_p</td> <td>f_n</td> <td rowspan="3">0.16</td> <td rowspan="3">0.25</td> <td rowspan="3">○</td> <td rowspan="3"></td> <td rowspan="3">○</td> <td rowspan="3"></td> <td rowspan="3"></td> <td rowspan="3"></td> <td rowspan="3"></td> <td rowspan="3"></td> <td rowspan="3"></td> <td rowspan="3"></td> <td rowspan="3">●</td>	UE	WNGA	080404S-UE-6V	RE 0.4	a_p	f_n	0.16	0.25	○		○								●		
					0.07	0.08														0.14	0.20
					a_p	f_n														0.16	0.25
0.07	0.08	0.15	0.22																		
a_p	f_n	0.16	0.25	○																	
0.07	0.08																			0.16	0.24
a_p	f_n																			0.16	0.24
0.08	0.08	0.14	0.20																		
a_p	f_n	0.17	0.26	○																	
0.08	0.08																			0.16	0.24
a_p	f_n																			0.17	0.26
0.08	0.08	0.17	0.26																		
a_p	f_n	0.17	0.26																		
0.08	0.08																			0.16	0.24
a_p	f_n																			0.17	0.26
0.08	0.08	0.17	0.26																		

● stock standard, ○ non-standard stock





TURNING Ceramic

TURNING

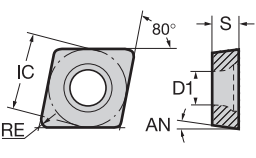



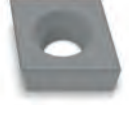




THREADING

GROOVING

MILLING

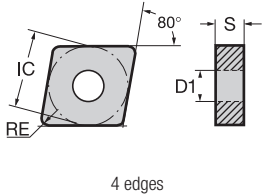






DRILLING

ACCESSORIES

CC	CERAMIC Positive					ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC		
	Size	IC	S	D1	AN		MAC150	MAC200	MAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750	
 <p>2 edges</p>	09T3□	9.525	3.93	4.40	7°	P												
	1204□	12.70	4.76	5.50	7°	M												
						K	300 600		500 1000	400 1000	400 800							
						N												
						S						150 350	150 300	150 400	200 500	200 400		
					H		80 200	60 180	50 150									
GRADE APPLICATION AREA	Stable machining, continuous cut																	
 main application	General machining, light interruption																	
 applicable	Unstable machining, interrupted cut																	
UNIVERSAL T02020  	CCGW 09T308-GP		a _p ▶	1.00	2.50	4.00												
			RE 0.8	f _n ▶	0.12	0.23	0.34											
	09T312-GP		a _p ▶	1.00	2.50	4.00												
			RE 1.2	f _n ▶	0.13	0.26	0.36											
	CCGW 120408-GP		a _p ▶	1.00	2.50	4.00												
RE 0.8			f _n ▶	0.14	0.28	0.42												
120412-GP		a _p ▶	1.00	2.50	4.00													
			RE 1.2	f _n ▶	0.16	0.31	0.46											

● stock standard



CN	CERAMIC Negative				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC					
	Size	IC	S	D1		NAC150	NAC200	NAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750				
 <p>4 edges</p>					P															
	1204□	12.70	4.76	(5.16)	M															
	1207□	12.70	7.94	-	K	300 600		500 1000	400 1000	400 800										
	1606□	15.87	6.35	6.35	N															
						S						150 350	150 300	150 400	200 500	200 400				
					H	80 200	60 180	50 150												
GRADE APPLICATION AREA	Stable machining, continuous cut																			
 main application	General machining, light interruption																			
 applicable	Unstable machining, interrupted cut																			
SHARP  NAC150 coated	CNGA	120404-CC	H	a _p ▶ 0.20 RE 0.4 f _n ▶ 0.04	0.70 1.20 0.08 0.12	●	●													
		120408-CC	H	a _p ▶ 0.20 RE 0.8 f _n ▶ 0.05	0.70 1.20 0.10 0.15	●	●													
		120412-CC	H	a _p ▶ 0.20 RE 1.2 f _n ▶ 0.06	0.70 1.20 0.13 0.20	●	●													
	UNIVERSAL 	CNGA	120404-GP	H	a _p ▶ 0.40 RE 0.4 f _n ▶ 0.06	1.20 2.00 0.14 0.22	●													
				K	a _p ▶ 1.00 RE 0.4 f _n ▶ 0.10	2.50 4.00 0.19 0.28			○											
				S	a _p ▶ 0.40 RE 0.8 f _n ▶ 0.10	1.20 2.00 0.20 0.30	●	●												
			120408-GP	S	a _p ▶ 1.00 RE 0.8 f _n ▶ 0.14	2.50 4.00 0.27 0.40							▽		▲					
				H	a _p ▶ 0.40 RE 1.2 f _n ▶ 0.12	1.20 2.00 0.23 0.34	●	●												
				S	a _p ▶ 1.00 RE 1.2 f _n ▶ 0.20	2.50 4.00 0.35 0.50							▽		▲					
CNGA		160612-GP	H	a _p ▶ 1.00 RE 1.2 f _n ▶ 0.14	2.50 4.00 0.27 0.40	●														
		160616-GP	H	a _p ▶ 1.00 RE 1.6 f _n ▶ 0.15	2.50 4.00 0.30 0.45		○													
CNMA		120408-GP	K	a _p ▶ 1.00 RE 0.8 f _n ▶ 0.14	2.50 4.00 0.27 0.40				○	●	○									
			K	a _p ▶ 1.00 RE 1.2 f _n ▶ 0.20	2.50 4.00 0.35 0.50	●	●	●												
		120416-GP	K	a _p ▶ 1.00 RE 1.6 f _n ▶ 0.20	2.50 4.00 0.36 0.52				○	●	○									
			K	a _p ▶ 2.00 RE 1.2 f _n ▶ 0.22	4.50 7.00 0.39 0.56					●										
CNMA	160612-GP	K	a _p ▶ 2.00 RE 1.6 f _n ▶ 0.24	4.50 7.00 0.43 0.62					●											
	160616-GP	K	a _p ▶ 2.00 RE 1.6 f _n ▶ 0.24	4.50 7.00 0.43 0.62					●											
S01525 H  coated	CNGA	120404-GS	H	a _p ▶ 0.40 RE 0.4 f _n ▶ 0.06	1.20 2.00 0.14 0.22	●														
		120408-GS	H	a _p ▶ 0.40 RE 0.8 f _n ▶ 0.10	1.20 2.00 0.20 0.30	●														
		120412-GS	H	a _p ▶ 0.40 RE 1.2 f _n ▶ 0.12	1.20 2.00 0.23 0.34	●														
S02020 H 	CNGA	120404-GS	H	a _p ▶ 0.40 RE 0.4 f _n ▶ 0.06	1.20 2.00 0.14 0.22															
		120408-GS	H	a _p ▶ 0.40 RE 0.8 f _n ▶ 0.10	1.20 2.00 0.20 0.30															
		120412-GS	H	a _p ▶ 0.40 RE 1.2 f _n ▶ 0.12	1.20 2.00 0.23 0.34															

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



TURNING

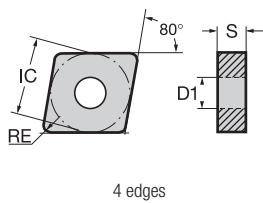
THREADING


GROOVING

MILLING

DRILLING

ACCESSORIES

<h1>CN</h1> 	<h2>CERAMIC</h2> <p>Negative</p>				ISO513 P M K N S H	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC				
						MAC150	MAC200	MAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750			
	1204 □	12.70	4.76	(5.16)															
	1207 □	12.70	7.94	-				300 600		500 1000	400 1000	400 800							
	1606 □	15.87	6.35	6.35															
GRADE APPLICATION AREA					Stable machining, continuous cut					+ Hardness					- Toughness				
main application					General machining, light interruption					+ Hardness					- Toughness				
applicable					Unstable machining, interrupted cut					+ Hardness					- Toughness				

UNIVERSAL  without hole	T02020 K S H	CNGN 120708-GP	H a _p ▶ 0.40 1.20 2.00 RE 0.8 f _n ▶ 0.10 0.20 0.30	○														
			K S a _p ▶ 1.00 2.50 4.00 RE 0.8 f _n ▶ 0.14 0.27 0.40															
		CNGN 120712-GP	H a _p ▶ 0.40 1.20 2.00 RE 1.2 f _n ▶ 0.12 0.23 0.34	○														
			K S a _p ▶ 1.00 2.50 4.00 RE 1.2 f _n ▶ 0.20 0.35 0.50			▽	○		▽	▽		○*	○*					
		CNGN 120716-GP	H a _p ▶ 0.40 1.20 2.00 RE 1.6 f _n ▶ 0.14 0.26 0.38	○														
			K S a _p ▶ 1.00 2.50 4.00 RE 1.6 f _n ▶ 0.20 0.36 0.52									○*	○*					
	CNMN	120412-GP	K a _p ▶ 1.00 2.50 4.00 RE 1.2 f _n ▶ 0.20 0.35 0.50							○								
			K a _p ▶ 1.00 2.50 4.00 RE 1.6 f _n ▶ 0.20 0.36 0.52							○								
		120416-GP	K a _p ▶ 1.00 2.50 4.00 RE 1.6 f _n ▶ 0.20 0.36 0.52							○								
			K a _p ▶ 1.00 2.50 4.00 RE 1.6 f _n ▶ 0.20 0.36 0.52							○								
with dimple	CNGX 120708-GP	H a _p ▶ 0.40 1.20 2.00 RE 0.8 f _n ▶ 0.10 0.20 0.30	○															
		H a _p ▶ 0.40 1.20 2.00 RE 1.2 f _n ▶ 0.12 0.23 0.34	○															
	CNMX 120712-GP	K S a _p ▶ 1.00 2.50 4.00 RE 1.2 f _n ▶ 0.20 0.35 0.50				○	●	○	▽		▲							
		K S a _p ▶ 1.00 2.50 4.00 RE 1.6 f _n ▶ 0.20 0.36 0.52				●	●	●			▲							
REINFORCED without hole	CNGN	120712-HI	H a _p ▶ 0.40 1.20 2.00 RE 1.2 f _n ▶ 0.14 0.26 0.38	○														
		120716-HI	H a _p ▶ 0.40 1.20 2.00 RE 1.6 f _n ▶ 0.18 0.31 0.44	○														
WIPER	CNGA	120410-WK	H a _p ▶ 1.00 2.50 4.00 RE 1.0 f _n ▶ 0.20 0.35 0.50						●									
		120410-WH	H a _p ▶ 0.40 1.20 2.00 RE 1.0 f _n ▶ 0.12 0.26 0.40	●														

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

* T01520



DN	CERAMIC Negative				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC			
	Size	IC	S	D1		NAC150	NAC200	NAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750		
					P													
	1506□	12.70	6.35	5.16	M													
	1507□	12.70	7.94	-	K	300 600		500 1000	400 1000	400 800								
					N													
					S						150 350	150 300	150 400	200 500	200 400			
				H	80 200	60 180	50 150											
GRADE APPLICATION AREA		Stable machining, continuous cut																
main application		General machining, light interruption			+													
applicable		Unstable machining, interrupted cut			-													
SHARP	 NAC150 coated	DNGA	150604-CC	H	a _p ▶ 0.20 RE 0.4	f _n ▶ 0.04	0.70 0.08	1.20 0.12	●	●								
			150608-CC	H	a _p ▶ 0.20 RE 0.8	f _n ▶ 0.05	0.70 0.10	1.20 0.15	●	●								
			150612-CC	H	a _p ▶ 0.20 RE 1.2	f _n ▶ 0.06	0.70 0.13	1.20 0.20		●								
UNIVERSAL	 coated	DNGA	150604-GP	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22		●								
			150608-GP	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30		●	●							
				K	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.27	4.00 0.40				●						
			150616-GP	H	a _p ▶ 0.40 RE 1.6	f _n ▶ 0.14	1.20 0.26	2.00 0.38		○								
			150612-GP	K	a _p ▶ 1.00 RE 1.2	f _n ▶ 0.20	2.50 0.35	4.00 0.50				●						
UNIVERSAL	 without hole	DNGA	150604-GS	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22	●									
			150608-GS	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30	●									
				H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34		○								
UNIVERSAL	 without hole	DNGN	150708-GP	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30		○								
			150712-GP	H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34		○								
			150716-GP	H	a _p ▶ 0.40 RE 1.6	f _n ▶ 0.14	1.20 0.26	2.00 0.38		○								

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

RC		CERAMIC Positive				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC		
		Size	IC	S	D1		MAC150	MAC200	MAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750	
		0606□□	6.35	6.35	-	P												
		0907□□	9.525	7.94	-	M												
		1207□□	12.70	7.94	-	K		300 600		500 1000	400 1000	400 800						
		1510□□	15.87	10.0	-	N												
		1910□□	19.05	10.0	-	S							150 350	150 300	150 400	200 500	200 400	
							H	80 200	60 180	50 150								
GRADE APPLICATION AREA		Stable machining, continuous cut																
■ main application		General machining, light interruption																
■ applicable		Unstable machining, interrupted cut																
SHARP		T01020 S	RCGX 060600-CC	S	a _p ▶ 1.00 f _n ▶ 0.15	1.50 0.30	2.00 0.45											
			RCGX 090700-CC	S	a _p ▶ 1.00 f _n ▶ 0.20	2.00 0.38	3.00 0.56											
			RCGX 120700-CC	S	a _p ▶ 1.00 f _n ▶ 0.22	2.50 0.40	4.00 0.58											
UNIVERSAL		T02020 S H	RCGX 090700-GP	H	a _p ▶ 0.60 f _n ▶ 0.12	1.80 0.26	3.00 0.40	●	●	○								
		S		a _p ▶ 1.00 f _n ▶ 0.22	2.00 0.35	3.00 0.58					▽			○*	○*			
			RCGX 120700-GP	H	a _p ▶ 0.60 f _n ▶ 0.13	1.80 0.28	3.00 0.43	○	○	○								
		S		a _p ▶ 1.00 f _n ▶ 0.24	2.00 0.42	3.00 0.60					▽	▽			○*	○*		
		S02020 H	RCGX 060600-GS	H	a _p ▶ 0.40 f _n ▶ 0.10	1.20 0.24	2.00 0.38		○									
			RCGX 060700-GS	H	a _p ▶ 0.40 f _n ▶ 0.10	1.20 0.24	2.00 0.38		●									
REINFORCED		P15015 H	RCGX 090700-HI	H	a _p ▶ 0.60 f _n ▶ 0.15	1.80 0.30	3.00 0.45	●	●	●								
			RCGX 120700-HI	H	a _p ▶ 0.60 f _n ▶ 0.18	1.80 0.34	3.00 0.50	●	●	●								
			RCGX 151000-HI	H	a _p ▶ 1.00 f _n ▶ 0.20	2.50 0.40	4.00 0.60		○	●								
	RCGX 191000-HI	H		a _p ▶ 1.00 f _n ▶ 0.20	2.50 0.45	4.00 0.70		○	○									

● stock standard, ○ non-standard stock, ▽ stock exhaustion

* T01520

RN		CERAMIC Negative				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC								
		Size	IC	S	D1		MAC150	MAC200	MAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750							
						P																		
		1204□□	12.70	4.76	-	M																		
		1207□□	12.70	7.94	-	K		300 600		500 1000	400 1000	400 800												
		1907□□	19.05	7.94	-	N																		
						S							150 350	150 300	150 400	200 500	200 400							
						H	80 200	60 180	50 150															
GRADE APPLICATION AREA		Stable machining, continuous cut																						
■ main application		General machining, light interruption																						
■ applicable		Unstable machining, interrupted cut																						
SHARP		RNGN	120400-CC	S	a _p ▶ 1.00 f _n ▶ 0.22	2.50 0.40	4.00 0.58																	
		RNGN	120700-CC	S	a _p ▶ 1.00 f _n ▶ 0.22	2.50 0.40	4.00 0.58																	
UNIVERSAL		RNGN	120400-GP	H	a _p ▶ 0.60 f _n ▶ 0.13	1.80 0.28	3.00 0.43																	
				S	a _p ▶ 1.00 f _n ▶ 0.24	2.00 0.42	3.00 0.60																	
		RNGN	120700-GP	H	a _p ▶ 0.60 f _n ▶ 0.13	1.80 0.28	3.00 0.43																	
				S	a _p ▶ 1.00 f _n ▶ 0.24	2.00 0.42	3.00 0.60																	
	RNGN	190700-GP	S	a _p ▶ 1.00 f _n ▶ 0.30	2.50 0.55	4.00 0.80																		
REINFORCED		RNGN	120700-T20015	H	a _p ▶ 0.60 f _n ▶ 0.18	1.80 0.34	3.00 0.50																	
		RNGN	120700-HT	H	a _p ▶ 0.60 f _n ▶ 0.18	1.80 0.34	3.00 0.50																	
		RNGN	120700-HI	H	a _p ▶ 0.60 f _n ▶ 0.18	1.80 0.34	3.00 0.50																	

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

* T01520

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

SC	CERAMIC Positive					ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC	
	Size	IC	S	D1	AN		MAC150	MAC200	MAC250	NSM350	NSM400	NSM450	NSA600	NSA650	NSA6000	NWR700	NWR750
<p>4 edges</p>	09T3□	9.525	3.93	4.40	7°	P											
	1204□	12.70	4.76	5.50	7°	M											
						K	300 600		500 1000	400 1000	400 800						
						N											
						S						150 350	150 300	150 400	200 500	200 400	
					H	80 200	60 180	50 150									
GRADE APPLICATION AREA		Stable machining, continuous cut				+ Hardness - Toughness + Toughness + Hardness											
main application		General machining, light interruption															
applicable		Unstable machining, interrupted cut															
UNIVERSAL	T02020 K 		SCGW	09T308-GP	K RE 0.8 a _p 1.00 f _r 0.12	2.50 4.00 0.23 0.34					●						
	SCGW	120408-GP	K RE 0.8 a _p 1.00 f _r 0.14	2.50 4.00 0.28 0.42													

● stock standard

HOLDERS EXTERNAL



p. 127

HOLDERS INTERNAL



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SN		CERAMIC Negative				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC		
		Size	IC	S	D1		MAC150	MAC200	MAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750	
<p>8 edges</p>					P													
	0904 □	9.525	4.76	-	M													
	1204 □	12.70	4.76	(5.16)	K	300 600		500 1000	400 1000	400 800								
	1207 □	12.70	7.94	-	N													
					S							150 350	150 300	150 400	200 500	200 400		
				H	80 200	60 180	50 150											
GRADE APPLICATION AREA		Stable machining, continuous cut				+												
■ main application		General machining, light interruption				-												
■ applicable		Unstable machining, interrupted cut				+												
SHARP	T01020 H	SNGA	120404-CC	H	a _p ▶ 0.20 RE 0.4	f _n ▶ 0.04	0.70 0.08	1.20 0.12	●									
	120408-CC		H	a _p ▶ 0.20 RE 0.8	f _n ▶ 0.05	0.70 0.10	1.20 0.15	●										
	120412-CC		H	a _p ▶ 0.20 RE 1.2	f _n ▶ 0.06	0.70 0.13	1.20 0.20	●										
	T01020 S	SNGN	120708-CC	S	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.28	4.00 0.42					○					
	120712-CC		S	a _p ▶ 1.00 RE 1.2	f _n ▶ 0.20	2.50 0.35	4.00 0.50					●						
UNIVERSAL	T02020 K H	SNGA	120404-GP	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22	●									
			120408-GP	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30	●									
			120412-GP	H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34	●									
		SNMA	120408-GP	K	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.27	4.00 0.40		●								
			120412-GP	K	a _p ▶ 1.00 RE 1.2	f _n ▶ 0.20	2.50 0.35	4.00 0.50		●								
			120416-GP	K	a _p ▶ 1.00 RE 1.6	f _n ▶ 0.20	2.50 0.36	4.00 0.52		○								
	T02020 K H	SNGN	090404-GP	K	a _p ▶ 1.00 RE 0.4	f _n ▶ 0.12	2.50 0.25	4.00 0.38				▽						
			090408-GP	K	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.28	4.00 0.42				▽						
		SNGN	120404-GP	K	a _p ▶ 1.00 RE 0.4	f _n ▶ 0.12	2.50 0.25	4.00 0.38				▽						
			120408-GP	K	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.28	4.00 0.42				●						
			120412-GP	K	a _p ▶ 1.00 RE 1.2	f _n ▶ 0.20	2.50 0.35	4.00 0.50				●	●			▽*		
		SNGN	120708-GP	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30	●	●								
120712-GP	H		a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34		●										
120716-GP	H		a _p ▶ 0.40 RE 1.6	f _n ▶ 0.14	1.20 0.27	2.00 0.40		○										
NAC150 coated without hole	SNMN	120416-GP	K	a _p ▶ 1.00 RE 1.6	f _n ▶ 0.20	2.50 0.36	4.00 0.52				●							
T02020 K S H	SNGX	120712-GP	H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34	●										
		120716-GP	H	a _p ▶ 0.40 RE 1.6	f _n ▶ 0.14	1.20 0.27	2.00 0.40	●										
	SNMX	120712-GP	K S	a _p ▶ 1.00 RE 1.2	f _n ▶ 0.20	2.50 0.35	4.00 0.50		○	●	○			▲				
		120716-GP	K S	a _p ▶ 1.00 RE 1.6	f _n ▶ 0.20	2.50 0.36	4.00 0.52		○	●	○	▽		▲				

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

*T01520



TURNING

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ACCESSORIES

SN	CERAMIC Negative				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC		
	Size	IC	S	D1		MAC150	MAC200	MAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750	
<p>8 edges</p>	0904□□	9.525	4.76	-	P												
	1204□□	12.70	4.76	(5.16)	M												
	1207□□	12.70	7.94	-	K		300 600		500 1000	400 1000	400 800						
					N												
					S							150 350	150 300	150 400	200 500	200 400	
					H		80 200	60 180	50 150								
GRADE APPLICATION AREA		Stable machining, continuous cut			+ - + - +												
main application		General machining, light interruption															
applicable		Unstable machining, interrupted cut															
REINFORCED	P20015 H 	SNGN	120716-HI	 RE 1.6	a _p ▶ 1.00 f _n ▶ 0.18	2.50 0.30	4.00 0.42										
			120720-HI	 RE 2.0	a _p ▶ 1.00 f _n ▶ 0.20	2.50 0.32	4.00 0.44										
			120724-HI	 RE 2.4	a _p ▶ 1.00 f _n ▶ 0.22	2.50 0.35	4.00 0.48										

○ non-standard stock

<h1>TN</h1> <p>6 edges</p>		CERAMIC Negative				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC				
		Size	IC	S	D1		P	NAC150	NAC200	NAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750		
<p>6 edges</p>		1604□	9.525	4.76	(3.81)	M														
		1607□	12.70	7.94	-	K	300 600			500 1000	400 1000	400 800								
						N														
						S								150 350	150 300	150 400	200 500	200 400		
						H	80 200	60 180	50 150											
GRADE APPLICATION AREA		Stable machining, continuous cut				+														
■ main application		General machining, light interruption				-														
■ applicable		Unstable machining, interrupted cut				+														
SHARP	<p>T01020 H</p> <p>NAC150 coated</p>	TNGA	160404-CC	H	a _p ▶ 0.20 RE 0.4	f _n ▶ 0.04	0.70 0.08	1.20 0.12	●	●										
			160408-CC	H	a _p ▶ 0.20 RE 0.8	f _n ▶ 0.05	0.70 0.10	1.20 0.15	●	●										
			160412-CC	H	a _p ▶ 0.20 RE 1.2	f _n ▶ 0.06	0.70 0.13	1.20 0.20	●											
UNIVERSAL	<p>T02020 K H</p>	TNGA	160404-GP	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22		●										
			160408-GP	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30		●	●									
			160412-GP	K	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.27	4.00 0.40				●								
	<p>T02020 K H</p> <p>without hole</p>	TNGN	160408-GP	K	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.27	4.00 0.40				●								
			160708-GP	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30		○										
			160712-GP	K	a _p ▶ 1.00 RE 1.2	f _n ▶ 0.12	2.50 0.23	4.00 0.34				○								
<p>S01525 H</p> <p>coated</p>	TNGA	160404-GS	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22	●												
		160408-GS	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30	●												
		160412-GS	H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34	●												
<p>S02020 H</p>	TNGA	160404-GS	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22		●											
		160408-GS	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30		●											
		160412-GS	H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34		○											

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

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ACCESSORIES

TP	CERAMIC Positive				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC				
	Size	IC	S	AN		NAC150	NAC200	NAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750			
	1103□	6.35	3.18	11°		P													
	1603□	9.525	3.18	11°	M														
					K	300 600		500 1000	400 1000	400 800									
					N														
					S						150 350	150 300	150 400	200 500	200 400				
					H	80 200	60 180	50 150											
GRADE APPLICATION AREA		Stable machining, continuous cut																	
main application		General machining, light interruption																	
applicable		Unstable machining, interrupted cut																	
SHARP	 NAC150 coated	TPGN	110302-CC	H	a _p ▶ 0.20 RE 0.2 f _n ▶ 0.04	0.60 0.06	1.00 0.08	●	●										
			110304-CC	H	a _p ▶ 0.20 RE 0.4 f _n ▶ 0.04	0.60 0.08	1.00 0.12	●	●										
		110308-CC	H	a _p ▶ 0.20 RE 0.8 f _n ▶ 0.05	0.60 0.10	1.00 0.15	●	●											
		TPGN	160304-CC	H	a _p ▶ 0.20 RE 0.4 f _n ▶ 0.04	0.70 0.08	1.20 0.12	●	●										
			160308-CC	H	a _p ▶ 0.20 RE 0.8 f _n ▶ 0.05	0.70 0.10	1.20 0.15	●	●										
		160312-CC	H	a _p ▶ 0.20 RE 1.2 f _n ▶ 0.06	0.70 0.13	1.20 0.20		●											
	UNIVERSAL		TPGN	110302-GP	H	a _p ▶ 0.40 RE 0.2 f _n ▶ 0.05	1.20 0.10	2.00 0.15		●									
				110304-GP	H	a _p ▶ 0.40 RE 0.4 f _n ▶ 0.07	1.20 0.15	2.00 0.23		●									
			110308-GP	H	a _p ▶ 0.40 RE 0.8 f _n ▶ 0.08	1.20 0.17	2.00 0.26		●										
				K	a _p ▶ 1.00 RE 0.8 f _n ▶ 0.12	2.00 0.23	3.00 0.34				●								
TPGN			160304-GP	H	a _p ▶ 0.50 RE 0.4 f _n ▶ 0.08	1.50 0.16	2.50 0.24		●										
			K	a _p ▶ 1.00 RE 0.4 f _n ▶ 0.12	2.50 0.23	4.00 0.34				●									
160308-GP			H	a _p ▶ 0.50 RE 0.8 f _n ▶ 0.10	1.50 0.20	2.50 0.30		●											
			K	a _p ▶ 1.00 RE 0.8 f _n ▶ 0.14	2.50 0.28	4.00 0.42				●									
160312-GP			K	a _p ▶ 1.00 RE 1.2 f _n ▶ 0.16	2.50 0.31	4.00 0.46				●									
 coated			TPGN	110302-GS	H	a _p ▶ 0.40 RE 0.2 f _n ▶ 0.05	1.20 0.10	2.00 0.15	○										
	110304-GS	H		a _p ▶ 0.40 RE 0.4 f _n ▶ 0.07	1.20 0.15	2.00 0.23		●											
	110308-GS	H		a _p ▶ 0.40 RE 0.8 f _n ▶ 0.08	1.20 0.17	2.00 0.26		○											
	TPGN	160304-GS	H	a _p ▶ 0.50 RE 0.4 f _n ▶ 0.08	1.50 0.16	2.50 0.24		●											
		160308-GS	H	a _p ▶ 0.50 RE 0.8 f _n ▶ 0.10	1.50 0.20	2.50 0.30		●											

● stock standard, ○ non-standard stock

VN	CERAMIC Negative				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC				
	Size	IC	S	D1		NAC150	NAC200	NAC250	NSM350	NSM400	NSM450	NSA600	NSA650	NSA6000	NWR700	NWR750			
					P														
	1604□□	9.525	4.76	3.81	M														
					K		300 600		500 1000	400 1000	400 800								
					N														
					S							150 350	150 300	150 400	200 500	200 400			
					H		80 200	60 180	50 150										
GRADE APPLICATION AREA	Stable machining, continuous cut																		
main application	General machining, light interruption																		
applicable	Unstable machining, interrupted cut																		
SHARP	T01020 H NAC150 coated	VNGA	160404-CC	H	a _p ▶ 0.20 RE 0.4	f _n ▶ 0.04	0.70 0.08	1.20 0.12	●	●									
			160408-CC	H	a _p ▶ 0.20 RE 0.8	f _n ▶ 0.05	0.70 0.10	1.20 0.15	●	●									
			160412-CC	H	a _p ▶ 0.20 RE 1.2	f _n ▶ 0.06	0.70 0.13	1.20 0.20	○	○									
	T02020 KH 	VNGA	160404-GP	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22		●									
				K	a _p ▶ 1.00 RE 0.4	f _n ▶ 0.10	2.50 0.19	4.00 0.28			○								
			160408-GP	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30		●	○								
				K	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.27	4.00 0.40			●								
			160412-GP	H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34		○	○								
				K	a _p ▶ 1.00 RE 1.2	f _n ▶ 0.20	2.50 0.35	4.00 0.50			○								
UNIVERSAL	S01525 H coated	VNGA	160404-GS	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22	●										
			160408-GS	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30	●										
			160412-GS	H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34	○										
S02020 H 	VNGA	160404-GS	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22		●										
		160408-GS	H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30		●										
		160412-GS	H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34		○										

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

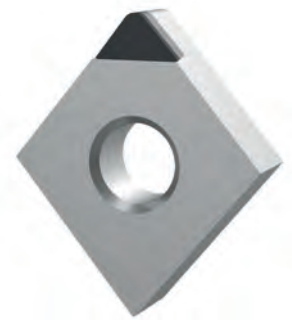
DRILLING

ACCESSORIES

WN		CERAMIC Negative				ISO513	Al ₂ O ₃ +TiCN			Si ₃ N ₄			SiAlON			Al ₂ O ₃ +SiC	
		Size	IC	S	D1		MAC150	MAC200	MAC250	NSM350	NSM400	NSM450	NSAG00	NSAG50	NSAG000	NWR700	NWR750
<p>6 edges</p>		0804 □□	12.70	4.76	5.16	P											
						M											
						K		300		500	400	400					
						N		600		1000	1000	800					
						S							150	150	150	200	200
						H	80	60	50								
							200	180	150								
GRADE APPLICATION AREA		Stable machining, continuous cut				+											
main application		General machining, light interruption				-											
applicable		Unstable machining, interrupted cut				+											
SHARP		WNGA	080404-CC	H	a _p ▶ 0.20 RE 0.4	f _n ▶ 0.04	0.70 0.08	1.20 0.12	●								
			080408-CC	H	a _p ▶ 0.20 RE 0.8	f _n ▶ 0.05	0.70 0.10	1.20 0.15	●								
			080412-CC	H	a _p ▶ 0.20 RE 1.2	f _n ▶ 0.06	0.70 0.13	1.20 0.20	●								
UNIVERSAL		WNGA	080404-GP	H	a _p ▶ 0.40 RE 0.4	f _n ▶ 0.06	1.20 0.14	2.00 0.22	●								
				H	a _p ▶ 0.40 RE 0.8	f _n ▶ 0.10	1.20 0.20	2.00 0.30	●								
			080408-GP	K	a _p ▶ 1.00 RE 0.8	f _n ▶ 0.14	2.50 0.27	4.00 0.40		●							
				H	a _p ▶ 0.40 RE 1.2	f _n ▶ 0.12	1.20 0.23	2.00 0.34	●								
			080412-GP	K	a _p ▶ 1.00 RE 1.2	f _n ▶ 0.20	2.50 0.35	4.00 0.50		●							

● stock standard





TURNING Diamond

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

CC	DIAMOND Positive					ISO513	DP (PCD)						PD	DM
	Size	IC	S	D1	AN		P	M	K	N	S	H		
	MICRO CC	3.50	1.40	1.90	7°		ND050	ND100	ND120	ND150	ND190	ND6300		
	0602□	6.35	2.38	2.80	7°									
	09T3□	9.525	3.97	4.40	7°	500 1500	500 2000	500 2000	500 2500	500 2500	1000 3000	1000 3000		
	1204□	12.70	4.76	5.50	7°	50 100								
GRADE APPLICATION AREA						Stable machining, continuous cut								
main application						General machining, light interruption								
applicable						Unstable machining, interrupted cut								
						Hardness: + (circle), - (square) Toughness: - (circle), + (square)								
												← HARD METAL (Co ≤ 16%)		

STANDARD N	CCGT	060202	RE 0.2	$a_{p\triangleright}$ 0.40	1.00	1.60													
			LE 2.8	$f_n\triangleright$ 0.05	0.10	0.15													
	CCGT	060204	RE 0.4	$a_{p\triangleright}$ 0.40	1.00	1.60		○	●		○								
			LE 2.8	$f_n\triangleright$ 0.10	0.15	0.20													
			RE 0.8	$a_{p\triangleright}$ 0.40	1.00	1.60		●											
LARGE N	CCGT	060204-LRG	RE 0.4	$a_{p\triangleright}$ 0.40	1.20	2.00			○										
			LE 3.2	$f_n\triangleright$ 0.10	0.15	0.20													
			RE 0.8	$a_{p\triangleright}$ 0.40	1.50	2.60		●											
STANDARD N	CCGT	09T302	RE 0.2	$a_{p\triangleright}$ 0.40	1.00	1.60			●										
			LE 2.8	$f_n\triangleright$ 0.05	0.10	0.15													
			RE 0.4	$a_{p\triangleright}$ 0.40	1.00	1.60		●	●		●	○	○						
LARGE N	CCGT	09T304-LRG	RE 0.4	$a_{p\triangleright}$ 0.40	1.50	2.60				●									
			LE 4.3	$f_n\triangleright$ 0.10	0.15	0.20													
			RE 0.8	$a_{p\triangleright}$ 0.40	1.50	2.60		●											
STANDARD N	MICRO	CC.R02	RE 0.2	$a_{p\triangleright}$ 0.20	0.60	1.00		●		●		●							
			LE 1.5	$f_n\triangleright$ 0.05	0.10	0.15													
			RE 0.4	$a_{p\triangleright}$ 0.20	0.60	1.00		●		●		●							
LARGE N	MICROBORING	CC.R04	RE 0.4	$a_{p\triangleright}$ 0.20	0.60	1.00		●		●		●							
			LE 1.5	$f_n\triangleright$ 0.10	0.15	0.20													
			RE 0.8	$a_{p\triangleright}$ 0.40	1.00	1.60		●	●		●	○	○						
STANDARD N	CCGW	060202	RE 0.2	$a_{p\triangleright}$ 0.40	1.00	1.60		○	●		○								
			LE 2.8	$f_n\triangleright$ 0.05	0.10	0.15													
			RE 0.4	$a_{p\triangleright}$ 0.40	1.00	1.60		●	●		●								
LARGE N	CCGW	060204	RE 0.2	$a_{p\triangleright}$ 0.40	1.00	1.60													
			LE 2.8	$f_n\triangleright$ 0.10	0.15	0.20													
			RE 0.8	$a_{p\triangleright}$ 0.40	1.00	1.60		●	●		●								
STANDARD N	CCGW	09T302	RE 0.2	$a_{p\triangleright}$ 0.40	1.00	1.60			●										
			LE 2.8	$f_n\triangleright$ 0.05	0.10	0.15													
			RE 0.4	$a_{p\triangleright}$ 0.40	1.00	1.60		●	●		●	○	○						
LARGE N	CCGW	09T304-LRG	RE 0.4	$a_{p\triangleright}$ 0.40	1.50	2.60				●									
			LE 4.3	$f_n\triangleright$ 0.10	0.15	0.20													
			RE 0.8	$a_{p\triangleright}$ 0.40	1.50	2.60		●	●		●	○	○						
STANDARD N	CCGW	120404	RE 0.4	$a_{p\triangleright}$ 0.40	1.00	1.60		○	●		○								
			LE 2.8	$f_n\triangleright$ 0.10	0.15	0.20													
			RE 0.8	$a_{p\triangleright}$ 0.40	1.00	1.60		○	●		○								
LARGE N	CCGW	120408-LRG	RE 0.8	$a_{p\triangleright}$ 0.40	1.50	2.60				○									
			LE 4.2	$f_n\triangleright$ 0.15	0.20	0.25													
			RE 0.8	$a_{p\triangleright}$ 0.40	1.50	2.60		○	●		○								

● stock standard, ○ non-standard stock



CC	DIAMOND Positive					ISO513	DP (PCD)					PD	DM									
	Size	IC	S	D1	AN		P	ND050	ND100	ND120	ND150			ND190	ND6300	NDM500						
	MICRO CC	3.50	1.40	1.90	7°	P																
	0602□□	6.35	2.38	2.80	7°	M																
	09T3□□	9.525	3.97	4.40	7°	K																
	1204□□	12.70	4.76	5.50	7°	N	500	500	500	500	500	1000	1000									
						S	1500	2000	2000	2500	2500	3000	3000									
					H	50					10	30	← HARD METAL (Co ≤ 16%)									
GRADE APPLICATION AREA		Stable machining, continuous cut				+ Hardness - Toughness																
main application		General machining, light interruption																				
applicable		Unstable machining, interrupted cut																				
FLAT TIP		LARGE N	CCGW 060204-LRG	RE 0.4	a _p ▶ 0.40	1.20	2.00		●													
				LE 3.2	f _n ▶ 0.10	0.15	0.20															
			CCGW 09T304-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60		●													
				LE 4.3	f _n ▶ 0.10	0.15	0.20															
			CCGW 120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60		●													
			LE 4.2	f _n ▶ 0.15	0.20	0.25																
CHIPBREAKER		finishing	CCGX 060202-CBF	RE 0.2	a _p ▶ 0.20	0.60	1.00		●													
				LE 3.3	f _n ▶ 0.04	0.08	0.12															
			CCGX 060204-CBF	RE 0.4	a _p ▶ 0.20	0.60	1.00		●													
				LE 3.3	f _n ▶ 0.05	0.10	0.15															
	CCGX 09T302-CBF	RE 0.2	a _p ▶ 0.20	0.60	1.00		●															
			LE 4.3	f _n ▶ 0.04	0.08	0.12																
	CCGX 09T304-CBF	RE 0.4	a _p ▶ 0.20	0.60	1.00		●															
			LE 4.3	f _n ▶ 0.15	0.10	0.15																
FULL EDGE		roughing	CCGX 060204-CBG	RE 0.4	a _p ▶ 0.40	1.20	2.00		●													
				LE 3.3	f _n ▶ 0.10	0.15	0.20															
			CCGX 09T304-CBG	RE 0.4	a _p ▶ 0.50	1.50	2.50		●													
			LE 4.3	f _n ▶ 0.10	0.15	0.20																
	CCGX 09T308-CBG	RE 0.8	a _p ▶ 0.50	1.50	2.50		●															
			LE 4.2	f _n ▶ 0.15	0.20	0.25																
FULL EDGE		flat tip, picture: right-hand	CCGX 060204 [®] /L-1S	RE 0.4	a _p ▶ 0.50	2.00	3.50		●													
				LE 6.5	f _n ▶ 0.10	0.15	0.20															
	CCGX 09T304 [®] /L-1S	RE 0.4	a _p ▶ 0.50	3.00	5.50		●															
			LE 9.7	f _n ▶ 0.10	0.15	0.20																

● stock standard

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TURNING

THREADING

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ACCESSORIES

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CN	DIAMOND Negative				ISO513	DP (PCD)						PD	DM		
	Size	IC	S	D1		P	ND050	ND100	ND120	ND150	ND190			ND6300	NDM500
		MICRO CN	7.50	3.18		3.60	P								
	1204□	12.70	4.76	5.16	M										
					K										
					N	500	500	500	500	500	1000	1000			
					S	1500	2000	2000	2500	2500	3000	3000			
					H	50									
						100				10	30				
	← HARD METAL (Co ≤ 16%)														
GRADE APPLICATION AREA	Stable machining, continuous cut				+										
main application	General machining, light interruption				-										
applicable	Unstable machining, interrupted cut				+										

SLANT TIP	STANDARD N	CNGM	120404	RE 0.4	a _p ▶ 0.40	1.00	1.60	●						
				LE 2.8	f _n ▶ 0.10	0.15	0.20							
			120408	RE 0.8	a _p ▶ 0.40	1.00	1.60	●						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.20	2.00	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.20	2.00	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.20	2.00	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.20	2.00	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120408-LRG	RE 0.8	a _p ▶ 0.40	1.50	2.60	○						
			120404-LRG	RE 0.4	a _p ▶ 0.40	1.50								

TURNING

DC	DIAMOND Positive					ISO513	DP (PCD)					PD	DM										
	Size	IC	S	D1	AN		ND050	ND100	ND120	ND150	ND190			ND6300	NDM500								
							0702□□	6.35	2.38	2.80	7°	P											
	11T3□□	9.525	3.97	4.40	7°	M																	
						K																	
						N	500	500	500	500	500	1000	1000										
						S	1500	2000	2000	2500	2500	3000	3000										
						H	50																
							100																
											10	30	← HARD METAL (Co ≤ 16%)										
	GRADE APPLICATION AREA	Stable machining, continuous cut																					
	main application	General machining, light interruption				+																	
	applicable	Unstable machining, interrupted cut				-																	

THREADING

GROOVING

CHIPBREAKER	CBG N		DCGX	070204-CBG		RE 0.4	a _p ▶	0.40	1.20	2.00											
								LE 2.9	f _n ▶	0.10	0.15	0.20	○								
				DCGX	11T304-CBG		RE 0.4	a _p ▶	0.50	1.50	2.50										
						LE 3.9	f _n ▶	0.10	0.15	0.20	●										
				DCGX	11T308-CBG		RE 0.8	a _p ▶	0.50	1.50	2.50										
						LE 3.5	f _n ▶	0.15	0.20	0.25	●										
FULL EDGE	1S N		DCGX	070204#/L-1S		RE 0.4	a _p ▶	0.50	2.00	3.50											
						LE 7.8	f _n ▶	0.10	0.15	0.20	●										
				DCGX	11T304#/L-1S		RE 0.4	a _p ▶	0.50	3.00	5.50										
						LE 11.6	f _n ▶	0.10	0.15	0.20	●										

● stock standard, ○ non-standard stock

MILLING

DRILLING

ACCESSORIES



DN	DIAMOND Negative				ISO513	DP (PCD)						PD	DM												
	Size	IC	S	D1		P	ND050	ND100	ND120	ND150	ND190			ND6300	NDM500										
							500 1500	500 2000	500 2000	500 2500	500 2500			1000 3000	1000 3000										
	MICRO DN	7.00	3.18	3.60	P																				
	1506□	12.70	6.35	5.16	M																				
					K																				
					N	500 1500	500 2000	500 2000	500 2500	500 2500	1000 3000	1000 3000													
					S	50 100																			
				H						10 30		← HARD METAL (Co ≤ 16%)													
GRADE APPLICATION AREA		Stable machining, continuous cut				+ Hardness - Toughness 																			
main application		General machining, light interruption																							
applicable		Unstable machining, interrupted cut																							

SLANT TIP	STANDARD N	DNGM	150604	RE 0.4	a _p ▶	0.40	1.00	1.60											
				LE 2.4	f _n ▶	0.10	0.15	0.20											
tip angle: 7°			150608	RE 0.8	a _p ▶	0.40	1.00	1.60											
				LE 2.0	f _n ▶	0.15	0.20	0.25											
tip angle: 7°	LARGE N	DNGM	150604-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60											
				LE 3.9	f _n ▶	0.10	0.15	0.20											
			150608-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60											
				LE 3.5	f _n ▶	0.15	0.20	0.25											
LARGE N		MICRO	DN.R02-LRG	RE 0.2	a _p ▶	0.40	1.20	2.00											
				LE 3.1	f _n ▶	0.05	0.10	0.15											
				DN.R04-LRG	RE 0.4	a _p ▶	0.40	1.20	2.00										
MICRONEGA			DN.R08-LRG	RE 0.8	a _p ▶	0.40	1.20	2.00											
				LE 2.5	f _n ▶	0.15	0.20	0.25											
FLAT TIP	STANDARD N	DNGA	150604	RE 0.4	a _p ▶	0.40	1.00	1.60											
				LE 2.4	f _n ▶	0.10	0.15	0.20											
				150608	RE 0.8	a _p ▶	0.40	1.00	1.60										
			150608	LE 2.0	f _n ▶	0.15	0.20	0.25											
				LARGE N	DNGA	150604-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60								
			150608-LRG	LE 3.9			f _n ▶	0.10	0.15	0.20									
						150608-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60								
			150608-LRG				LE 3.5	f _n ▶	0.15	0.20	0.25								
				CHIPBREAKER	CBF N	MICRO	DN.R02-CBF	RE 0.2	a _p ▶	0.20	0.60	1.00							
LE 3.1	f _n ▶	0.04	0.08					0.12											
			DN.R04-CBF		RE 0.4	a _p ▶	0.20	0.60	1.00										
					LE 2.9	f _n ▶	0.05	0.10	0.15										
MICRONEGA, finishing			DN.R04-CBG	RE 0.4	a _p ▶	0.40	1.20	2.00											
				LE 2.9	f _n ▶	0.10	0.15	0.20											
CBG N		MICRO	DN.R08-CBG	RE 0.8	a _p ▶	0.40	1.20	2.00											
				LE 2.5	f _n ▶	0.15	0.20	0.25											
MICRONEGA, roughing			DN.R08-CBG	RE 0.8	a _p ▶	0.40	1.20	2.00											
				LE 2.5	f _n ▶	0.15	0.20	0.25											

● stock standard, ○ non-standard stock



TURNING
THREADING
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MILLING
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ACCESSORIES

TURNING

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ACCESSORIES

TC	DIAMOND Positive					ISO513	DP (PCD)						PD	DM		
	Size	IC	S	D1	AN		P	ND050	ND100	ND120	ND150	ND190			ND6300	NDM500
								500 1500	500 2000	500 2000	500 2500	500 2500			1000 3000	1000 3000
	0902□	5.56	2.38	2.50	7°	P										
	1102□	6.35	2.38	2.80	7°	M										
	16T3□	9.525	3.97	4.40	7°	K										
							N	500 1500	500 2000	500 2000	500 2500	500 2500	1000 3000	1000 3000		
						S	50 100									
						H				10 30			◀ HARD METAL (Co ≤ 16%)			
GRADE APPLICATION AREA	Stable machining, continuous cut					+										
main application	General machining, light interruption					-										
applicable	Unstable machining, interrupted cut					+										

SLANT TIP	STANDARD N	TCGT	090202	RE 0.2	a _p ▶	0.40	1.00	1.60	○												
				LE 2.6	f _n ▶	0.05	0.10	0.15													
	090204	TCGT	110202	RE 0.4	a _p ▶	0.40	1.00	1.60	○												
				LE 2.5	f _n ▶	0.10	0.15	0.20													
	110204	TCGT	110208	RE 0.4	a _p ▶	0.40	1.00	1.60	●												
				LE 2.5	f _n ▶	0.10	0.15	0.20													
	110208	TCGT	16T304	RE 0.8	a _p ▶	0.40	1.00	1.60	○												
				LE 2.2	f _n ▶	0.15	0.20	0.25													
16T308	TCGT	16T308	RE 0.8	a _p ▶	0.40	1.00	1.60	○													
			LE 2.2	f _n ▶	0.15	0.20	0.25														
	LARGE N	TCGT	110204-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60	○												
				LE 4.0	f _n ▶	0.10	0.15	0.20													
	110208-LRG	TCGT	16T304-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60	○												
				LE 3.7	f _n ▶	0.15	0.20	0.25													
	16T308-LRG	TCGT	16T308-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60	○												
				LE 3.7	f _n ▶	0.15	0.20	0.25													
	STANDARD N	TCGW	090202	RE 0.2	a _p ▶	0.40	1.00	1.60	○												
				LE 2.6	f _n ▶	0.05	0.10	0.15													
	090204	TCGW	110202	RE 0.4	a _p ▶	0.40	1.00	1.60	●												
				LE 2.5	f _n ▶	0.10	0.15	0.20													
	110204	TCGW	110208	RE 0.4	a _p ▶	0.40	1.00	1.60	●	●	●										
				LE 2.5	f _n ▶	0.10	0.15	0.20													
	110208	TCGW	16T304	RE 0.8	a _p ▶	0.40	1.00	1.60	●	○	○										
				LE 2.2	f _n ▶	0.15	0.20	0.25													
	16T308	TCGW	16T308	RE 0.8	a _p ▶	0.40	1.00	1.60	●	●	●										
				LE 2.2	f _n ▶	0.15	0.20	0.25													
		LARGE N	TCGW	110204-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60	○											
					LE 4.0	f _n ▶	0.10	0.15	0.20												
110208-LRG		TCGW	16T304-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60	●												
				LE 3.7	f _n ▶	0.15	0.20	0.25													
16T308-LRG		TCGW	16T308-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60	●												
				LE 3.7	f _n ▶	0.15	0.20	0.25													
	CBF N	TCGX	090202-CBF	RE 0.2	a _p ▶	0.20	0.60	1.00	●												
				LE 3.6	f _n ▶	0.04	0.08	0.12													
	090204-CBF	TCGX	110202-CBF	RE 0.4	a _p ▶	0.20	0.60	1.00	●												
				LE 3.5	f _n ▶	0.05	0.10	0.15													
	110204-CBF	TCGX	110204-CBF	RE 0.4	a _p ▶	0.20	0.60	1.00	●												
				LE 4.0	f _n ▶	0.05	0.10	0.15													
16T304-CBF	TCGX	16T304-CBF	RE 0.4	a _p ▶	0.20	0.60	1.00	●													
			LE 4.0	f _n ▶	0.05	0.10	0.15														

● stock standard, ○ non-standard stock



TC	DIAMOND Positive					ISO513	DP (PCD)					PD	DM													
	Size	IC	S	D1	AN		P	ND050	ND100	ND120	ND150			ND190	ND6300	NDM500										
								500	500	500	500			500	1000	1000										
								1500	2000	2000	2500			2500	3000	3000										
	0902□	5.56	2.38	2.50	7°	M																				
	1102□	6.35	2.38	2.80	7°	K																				
	16T3□	9.525	3.97	4.40	7°	N	500	500	500	500	500	1000	1000													
						S	50																			
						H	100				10	30	← HARD METAL (Co ≤ 16%)													
GRADE APPLICATION AREA	Stable machining, continuous cut																									
main application	General machining, light interruption																									
applicable	Unstable machining, interrupted cut																									
CHIPBREAKER		TCGX	090204-CBG	RE 0.4 LE 3.5	a _p ▶ 0.50 f _n ▶ 0.10	1.50 2.50 0.15 0.20																				
			110204-CBG	RE 0.4 LE 4.0	a _p ▶ 0.50 f _n ▶ 0.10	1.50 2.50 0.15 0.20																				
			110208-CBG	RE 0.8 LE 3.7	a _p ▶ 0.50 f _n ▶ 0.15	1.50 2.50 0.20 0.25																				
			16T304-CBG	RE 0.4 LE 4.0	a _p ▶ 0.50 f _n ▶ 0.10	1.50 2.50 0.15 0.20																				
			16T308-CBG	RE 0.8 LE 3.7	a _p ▶ 0.50 f _n ▶ 0.15	1.50 2.50 0.20 0.25																				
			roughing																							
FULL EDGE		TCGX	090204-1S	RE 0.4 LE 9.6	a _p ▶ 0.50 f _n ▶ 0.10	1.50 2.50 0.15 0.20																				
			110204-1S	RE 0.4 LE 11.0	a _p ▶ 0.50 f _n ▶ 0.10	2.00 3.50 0.15 0.20																				
			16T304-1S	RE 0.4 LE 16.5	a _p ▶ 0.50 f _n ▶ 0.10	3.00 5.50 0.15 0.20																				

● stock standard, ○ non-standard stock



- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TN	DIAMOND Negative					ISO513	DP (PCD)					PD	DM													
	Size	IC	S	D1	AN		P	ND050	ND100	ND120	ND150			ND190	ND6300	NDM500										
	1604□□	9.525	4.76	3.81				P																		
						M																				
						K																				
						N	500	500	500	500	500	1000	1000													
						S	1500	2000	2000	2500	2500	3000	3000													
						H	50																			
										10			← HARD METAL (Co ≤ 16%)													
GRADE APPLICATION AREA	Stable machining, continuous cut					+																				
main application	General machining, light interruption					-																				
applicable	Unstable machining, interrupted cut					+																				

SLANT TIP	STANDARD N	TNGM	160404	RE 0.4	a _p ▶	0.40	1.00	1.60	●										
				LE 2.5	f _n ▶	0.10	0.15	0.20											
			160408	RE 0.8	a _p ▶	0.40	1.00	1.60	●										
			160408	LE 2.0	f _n ▶	0.15	0.20	0.25											
LARGE N	TNGM	160404-LRG	160404-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60	○										
				LE 4.0	f _n ▶	0.10	0.15	0.20											
			160408-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60	○										
			160408-LRG	LE 3.7	f _n ▶	0.15	0.20	0.25											
FLAT TIP	STANDARD N	TNGA	160404	RE 0.4	a _p ▶	0.40	1.00	1.60	○										
				LE 2.5	f _n ▶	0.10	0.15	0.20											
			160408	RE 0.8	a _p ▶	0.40	1.00	1.60	○										
			160408	LE 2.0	f _n ▶	0.15	0.20	0.25											
LARGE N	TNGA	160404-LRG	160404-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60	○										
				LE 4.0	f _n ▶	0.10	0.15	0.20											
			160408-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60	○										
			160408-LRG	LE 3.7	f _n ▶	0.15	0.20	0.25											

● stock standard, ○ non-standard stock



TP	DIAMOND Positive					ISO513	DP (PCD)						PD	DM		
	Size	IC	S	D1	AN		P	ND050	ND100	ND120	ND150	ND190			ND6300	NDM500
								500 1500	500 2000	500 2000	500 2500	500 2500			1000 3000	1000 3000
	0802□□	4.76	2.38	2.30	11°	M										
	0902□□	5.56	2.38	3.00	11°	K										
	1103□□	6.35	3.18	3.30	11°	N	500 1500	500 2000	500 2000	500 2500	500 2500	1000 3000	1000 3000			
						S	50 100									
						H				10 30		← HARD METAL (Co ≤ 16%)				
GRADE APPLICATION AREA	Stable machining, continuous cut					+										
main application	General machining, light interruption					-										
applicable	Unstable machining, interrupted cut					+										
SLANT TIP	STANDARD N	TPGT	080202	RE 0.2 LE 2.6	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15	○	○						
			080204	RE 0.4 LE 2.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20	●							
		TPGT	090202	RE 0.2 LE 2.6	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15	○							
			090204	RE 0.4 LE 2.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20	○							
		TPGT	110302	RE 0.2 LE 2.6	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15	●							
			110304	RE 0.4 LE 2.2	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20	●							
FLAT TIP	STANDARD N	TPGW	080202	RE 0.2 LE 2.6	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15	○							
			080204	RE 0.4 LE 2.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20	○							
		TPGW	090202	RE 0.2 LE 2.6	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15	○							
			090204	RE 0.4 LE 2.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20	●							
		TPGW	110302	RE 0.2 LE 2.6	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15	○							
			110304	RE 0.4 LE 2.2	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20	○							
CHIPBREAKER	CBF N	TPGX	090202-CBF	RE 0.2 LE 3.2	$a_p \triangleright$ $f_n \triangleright$	0.20 0.05	0.60 0.10	1.00 0.15		●						
			090204-CBF	RE 0.4 LE 3.1	$a_p \triangleright$ $f_n \triangleright$	0.20 0.10	0.60 0.15	1.00 0.20		●						
		TPGX	110302-CBF	RE 0.2 LE 4.1	$a_p \triangleright$ $f_n \triangleright$	0.20 0.05	0.60 0.10	1.00 0.15		●						
			110304-CBF	RE 0.4 LE 4.0	$a_p \triangleright$ $f_n \triangleright$	0.20 0.10	0.60 0.15	1.00 0.20		●						
	CBG N	TPGX	090204-CBG	RE 0.4 LE 3.1	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.20 0.15	2.00 0.20		●						
			110304-CBG	RE 0.4 LE 4.0	$a_p \triangleright$ $f_n \triangleright$	0.50 0.10	1.50 0.15	2.50 0.20		●						

● stock standard, ○ non-standard stock

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

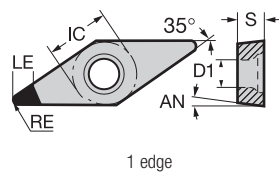
GROOVING

MILLING

DRILLING

ACCESSORIES

VB	DIAMOND Positive					ISO513	DP (PCD)						PD	DM		
	Size	IC	S	D1	AN		P	ND050	ND100	ND120	ND150	ND190			ND6300	NDM500
	1103□	6.35	3.18	2.80	5°		M									
1604□	9.525	4.76	4.40	5°	K											
						N	500	500	500	500	500	1000	1000			
						S	1500	2000	2000	2500	2500	3000	3000			
						H	50									
							100				10	30				
													← HARD METAL (Co ≤ 16%)			
GRADE APPLICATION AREA	Stable machining, continuous cut					+										
main application	General machining, light interruption					-										
applicable	Unstable machining, interrupted cut					+										



SLANT TIP	STANDARD N	VBGT	110302	RE 0.2	a _p ▶	0.40	1.00	1.60											
				LE 3.0	f _n ▶	0.05	0.10	0.15											
			110304	RE 0.4	a _p ▶	0.40	1.00	1.60											
			160404	RE 0.4	a _p ▶	0.40	1.00	1.60	●	●		○	○						
			160408	RE 0.8	a _p ▶	0.40	1.00	1.60	●	●		○	○						
			160408	LE 2.2	f _n ▶	0.15	0.20	0.25											
			160404-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60		●									
			160408-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60		●									
			160408-LRG	LE 3.7	f _n ▶	0.15	0.20	0.25											
			110302	RE 0.2	a _p ▶	0.40	1.00	1.60	●	●		○							
			110304	RE 0.4	a _p ▶	0.40	1.00	1.60	○	●		○							
			160404	RE 0.4	a _p ▶	0.40	1.00	1.60	○	●		○	○	○	○				
			160408	RE 0.8	a _p ▶	0.40	1.00	1.60	○	○		○	○	○	○				
			160408	LE 2.2	f _n ▶	0.15	0.20	0.25											
			160404-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60		●									
			160408-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60		●									
			160408-LRG	LE 3.7	f _n ▶	0.15	0.20	0.25											
			110302-CBF	RE 0.2	a _p ▶	0.20	0.60	1.00				●							
			110304-CBF	RE 0.4	a _p ▶	0.20	0.60	1.00				●							
			160404-CBF	RE 0.4	a _p ▶	0.20	0.60	1.00				●							
			160404-CBF	LE 4.5	f _n ▶	0.05	0.10	0.15											
			110304-CBG	RE 0.4	a _p ▶	0.50	1.50	2.50				●							
			160404-CBG	RE 0.4	a _p ▶	0.50	1.50	2.50				●							
			160404-CBG	LE 4.5	f _n ▶	0.10	0.15	0.20											
			160408-CBG	RE 0.8	a _p ▶	0.50	1.50	2.50				●							
			160408-CBG	LE 3.7	f _n ▶	0.15	0.20	0.25											

● stock standard, ○ non-standard stock



VC	DIAMOND Positive					ISO513	DP (PCD)						PD	DM								
	Size	IC	S	D1	AN		P	ND050	ND100	ND120	ND150	ND190			ND6300	NDM500						
							M	K	N	S	H	← HARD METAL (Co ≤ 16%)										
GRADE APPLICATION AREA						Stable machining, continuous cut	+															
<div style="display: flex; align-items: center;"> main application </div>						General machining, light interruption	Hardness	-	+													
<div style="display: flex; align-items: center;"> applicable </div>						Unstable machining, interrupted cut	Toughness	-	+													
SLANT TIP	STANDARD N			VCGT 110302	RE 0.2 LE 3.0	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15	●	●											
				VCGT 110304	RE 0.4 LE 2.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20		●											
				VCGT 160402	RE 0.2 LE 3.0	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15		●			○								
	tip angle: 7°			VCGT 160404	RE 0.4 LE 2.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20	●	●		●	○	○							
				VCGT 160408	RE 0.8 LE 2.2	$a_p \triangleright$ $f_n \triangleright$	0.40 0.15	1.00 0.20	1.60 0.25	●	●		●	○	○							
				VCGT 160404-LRG	RE 0.4 LE 4.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.50 0.15	2.60 0.20		●											
		VCGT 160408-LRG	RE 0.8 LE 3.7	$a_p \triangleright$ $f_n \triangleright$	0.40 0.15	1.50 0.20	2.60 0.25		●													
FLAT TIP	STANDARD N			VCGW 110302	RE 0.2 LE 3.0	$a_p \triangleright$ $f_n \triangleright$	0.40 0.05	1.00 0.10	1.60 0.15	●	●											
				VCGW 110304	RE 0.4 LE 2.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20		●											
				VCGW 160404	RE 0.4 LE 2.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.00 0.15	1.60 0.20	●	●		●	○	○	○						
				VCGW 160408	RE 0.8 LE 2.2	$a_p \triangleright$ $f_n \triangleright$	0.40 0.15	1.00 0.20	1.60 0.25	●	●		●	○	○	○						
	LARGE N			VCGW 110304-LRG	RE 0.4 LE 4.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.50 0.15	2.60 0.20		●											
				VCGW 160404-LRG	RE 0.4 LE 4.5	$a_p \triangleright$ $f_n \triangleright$	0.40 0.10	1.50 0.15	2.60 0.20		●											
		VCGW 160408-LRG	RE 0.8 LE 3.7	$a_p \triangleright$ $f_n \triangleright$	0.40 0.15	1.50 0.20	2.60 0.25		●													
		VCGW 160412-LRG	RE 1.2 LE 3.3	$a_p \triangleright$ $f_n \triangleright$	0.40 0.20	1.50 0.25	2.60 0.30		○													
CHIPBREAKER	CBF N			VCGX 110302-CBF	RE 0.2 LE 5.0	$a_p \triangleright$ $f_n \triangleright$	0.20 0.04	0.60 0.08	1.00 0.12			●										
	finishing			VCGX 110304-CBF	RE 0.4 LE 4.5	$a_p \triangleright$ $f_n \triangleright$	0.20 0.05	0.60 0.10	1.00 0.15			●										
			VCGX 160404-CBF	RE 0.4 LE 4.5	$a_p \triangleright$ $f_n \triangleright$	0.20 0.05	0.60 0.10	1.00 0.15			●											
	CBG N			VCGX 110304-CBG	RE 0.4 LE 4.5	$a_p \triangleright$ $f_n \triangleright$	0.50 0.10	1.50 0.15	2.50 0.20			●										
	roughing			VCGX 160404-CBG	RE 0.4 LE 4.5	$a_p \triangleright$ $f_n \triangleright$	0.50 0.10	1.50 0.15	2.50 0.20			●										
			VCGX 160408-CBG	RE 0.8 LE 3.7	$a_p \triangleright$ $f_n \triangleright$	0.50 0.15	1.50 0.20	2.50 0.25			●											

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

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ACCESSORIES

VC	DIAMOND Positive					ISO513	DP (PCD)					PD	DM													
	Size	IC	S	D1	AN		P	ND050	ND100	ND120	ND150			ND190	ND6300	NDM500										
	<p>1 edge</p>	1103□□	6.35	3.18	2.80		7°	M																		
1604□□	9.525	4.76	4.40	7°	K																					
						N	500	500	500	500	500	1000	1000													
						S	1500	2000	2000	2500	2500	3000	3000													
						H	50																			
							100							← HARD METAL (Co ≤ 16%)												
GRADE APPLICATION AREA	Stable machining, continuous cut																									
main application	General machining, light interruption																									
applicable	Unstable machining, interrupted cut																									
FULL EDGE	1S	VCGX	110304 [®] /L-1S	RE 0.4 LE 11.2	a _p ▶ 0.50 f _n ▶ 0.10	2.00 3.50 0.15 0.20																				
	<p>flat tip, picture: right-hand</p>		160404 [®] /L-1S	RE 0.4 LE 16.6	a _p ▶ 0.50 f _n ▶ 0.10	3.00 5.50 0.15 0.20																				

● stock standard



WN	DIAMOND Negative				ISO513	DP (PCD)					PD	DM										
	Size	IC	S	D1		P	ND050	ND100	ND120	ND150			ND190	ND6300	NDM500							
<p>1 edge</p>	0804□□	12.70	4.76	5.16	P																	
					M																	
					K																	
					N	500	500	500	500	500	1000	1000										
					S	1500	2000	2000	2500	2500	3000	3000										
				H	50					10	30	← HARD METAL (Co ≤ 16%)										
GRADE APPLICATION AREA	Stable machining, continuous cut				+																	
main application	General machining, light interruption				-																	
applicable	Unstable machining, interrupted cut				+																	

SLANT TIP	STANDARD N	WNGM	080404	RE 0.4	a _p ▶	0.40	1.00	1.60	●										
				LE 2.8	f _n ▶	0.10	0.15	0.20											
			080408	RE 0.8	a _p ▶	0.40	1.00	1.60	●										
			080408-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60	○										
			080408-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60	○										
			080404	RE 0.4	a _p ▶	0.40	1.00	1.60	●										
			080408	RE 0.8	a _p ▶	0.40	1.00	1.60	○										
			080404-LRG	RE 0.4	a _p ▶	0.40	1.50	2.60	○										
			080408-LRG	RE 0.8	a _p ▶	0.40	1.50	2.60	○										

● stock standard, ○ non-standard stock



TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



TURNING Holders

TURNING

CC

EXTERNAL

Right-hand shown

WF, LF, B, H, KAPR

THREADING

SCAC
External turning (KAPR 90°)

	R	L	H	B	WF	LF	KG	MIID		
--	---	---	---	---	----	----	----	------	--	--

06	NT-SCAC%/0808K06	○	○	8	8	8	125		CC□□0602		
	NT-SCAC%/1010K06	●	●	10	10	10	125				
	NT-SCAC%/1212K06	●	●	12	12	12	125				
09	NT-SCAC%/1212K09	●	●	12	12	12	125		CC□□09T3		
	NT-SCAC%/1616K09	●	●	16	16	16	125				

● stock standard, ○ non-standard stock

GROOVING

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-SCAC%/0808K06	NT-ST010	NT-FT07
NT-SCAC%/1010K06		
NT-SCAC%/1212K06		
NT-SCAC%/1212K09	NT-ST030	NT-FT15
NT-SCAC%/1616K09		

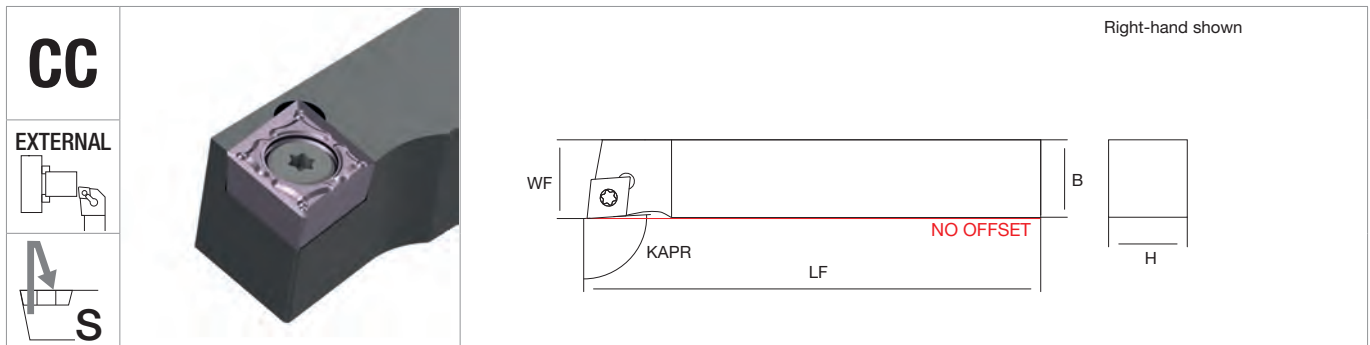
MILLING

Inserts

	CARBIDE	PCBN	CERAMIC	DIAMOND
CC□□0602	page 8	page 39	page 56	page 70
CC□□09T3	page 8	page 39	page 56	page 70

DRILLING

ACCESSORIES







CC EXTERNAL  		SCLC N External turning (KAPR 95°)		H	B	WF	LF	KG	MIID		
				R	L						

06	NT-SCLC%/L0808K06N	○	○	8	8	8	125		CC□□0602		
	NT-SCLC%/L1010K06N	●	●	10	10	10	125				
09	NT-SCLC%/L1212K09N	●	●	12	12	12	125		CC□□09T3		
	NT-SCLC%/L1616K09N	●	●	16	16	16	125				

● stock standard, ○ non-standard stock

Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-SCLC%/L0808K06N	NT-ST010	NT-FT07
NT-SCLC%/L1010K06N		
NT-SCLC%/L1212K09N	NT-ST030	NT-FT15
NT-SCLC%/L1616K09N		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
				

CC□□0602	page 8	page 39	page 56	page 70
CC□□09T3	page 8	page 39	page 56	page 70

TURNING

THREADING

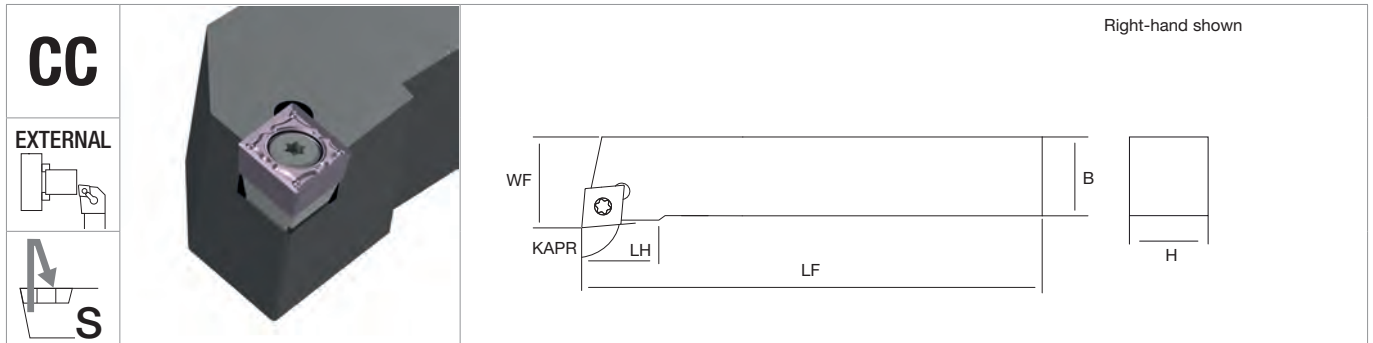
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



CC

EXTERNAL



SCLC

External turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID
09	NT-SCLC%/2020K09S	●	●	20	20	25	125	22		CC□□09T3
	NT-SCLC%/2525M09S	●	●	25	25	32	150	25		
12	NT-SCLC%/2020K12S	●	●	20	20	25	125	22		CC□□1204
	NT-SCLC%/2525M12S	●	●	25	25	32	150	25		

● stock standard

GROOVING



NT-SCLC%/2020K09S	NT-SH011	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SCLC%/2525M09S					
NT-SCLC%/2020K12S	NT-SH001	NT-SR001	NT-WR040	NT-ST007	NT-FT15
NT-SCLC%/2525M12S					

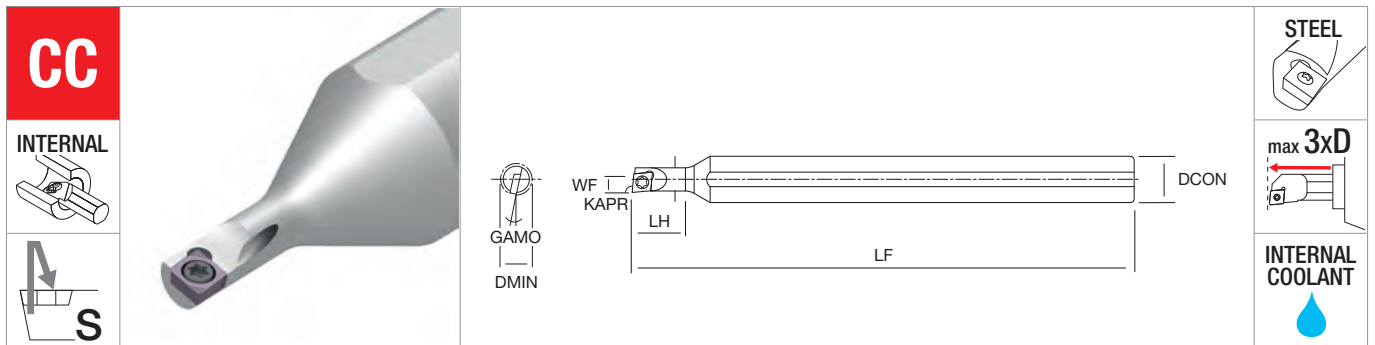
MILLING



CC□□09T3	page 8	page 39	page 56	page 70
CC□□1204	page 8	-	page 56	page 70

DRILLING

ACCESSORIES



CC	INTERNAL 	S 	A MICRO Internal turning (KAPR 95°)	R	DMIN	DCON	WF	LF	LH	GAMO	 KG	MIID

MICRO	NT-A12H-MICRO-CC-RH	●	5	12	2.5	100	8	15°		
	NT-A16H-MICRO-CC-RH	●	5	16	2.5	100	12	15°		MICRO CC

● stock standard

Spare Parts	INSERT SCREW 	INSERT WRENCH 

NT-A12H-MICRO-CC-RH	NT-ST002	NT-FT06
NT-A16H-MICRO-CC-RH		

Inserts	CARBIDE 	PCBN 	CERAMIC 	DIAMOND 

MICRO CC	page 8	page 39	-	page 70
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TURNING

THREADING

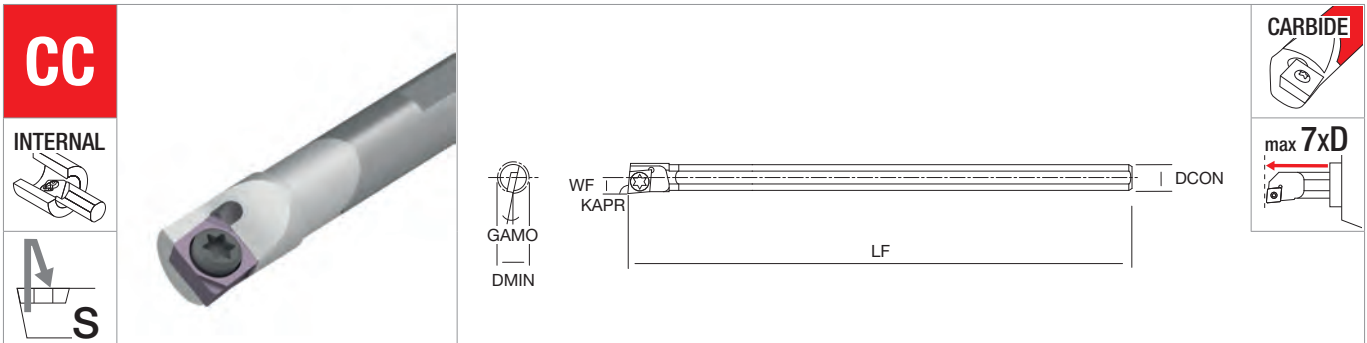
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



C MICRO Internal turning (KAPR 95°)		DMIN	DCON	WF	LF	GAMO	KG	MIID
	R							

MICRO	NT-C04G-MICRO-CC-RH	●	5	4	2.5	90	15°		
	NT-C05H-MICRO-CC-RH	●	6	5	3	100	13°		MICRO CC

● stock standard

THREADING



NT-C04G-MICRO-CC-RH	NT-ST002	NT-FT06
NT-C05H-MICRO-CC-RH		

GROOVING



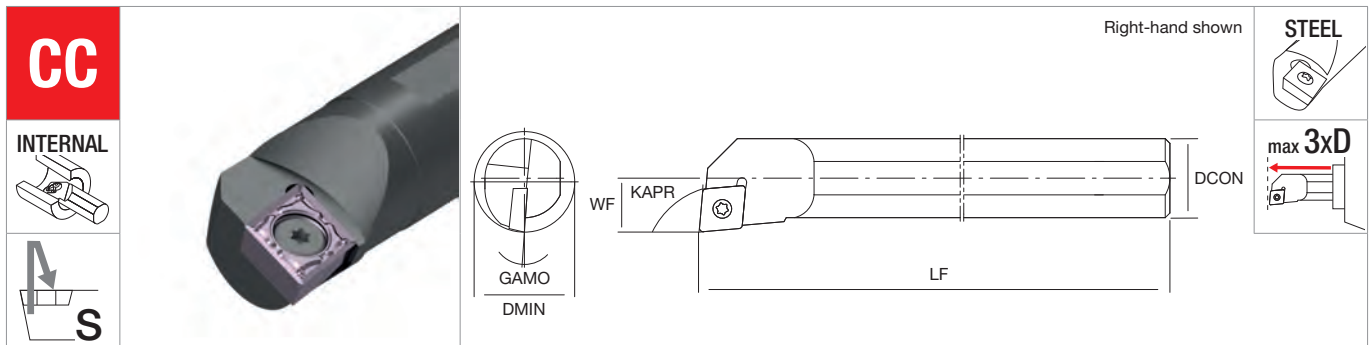
MICRO CC	page 8	page 39	-	page 70
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MILLING

DRILLING

ACCESSORIES





S SCLC Internal turning (KAPR 95°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

06	NT-S08H-SCLC%/06	●	●	10	8	5	100	13°	CC□□0602
	NT-S10K-SCLC%/06	●	●	12	10	6	125	12°	
	NT-S12M-SCLC%/06	●	●	14	12	7	150	9°	
	NT-S16Q-SCLC%/06	●	●	18	16	9	180	7°	
09	NT-S12M-SCLC%/09	●	●	14	12	7	150	13°	CC□□09T3
	NT-S16Q-SCLC%/09	●	●	18	16	9	180	9°	
	NT-S20R-SCLC%/09	●	●	22	20	11	200	5°	
12	NT-S20R-SCLC%/12	●	●	25	20	13	200	8°	CC□□1204
	NT-S25R-SCLC%/12	●	●	32	25	17	200	8°	
	NT-S32S-SCLC%/12S	●	●	40	32	22	250	6°	CC□□1204
	NT-S40T-SCLC%/12S	●	●	50	40	27	300	4°	

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

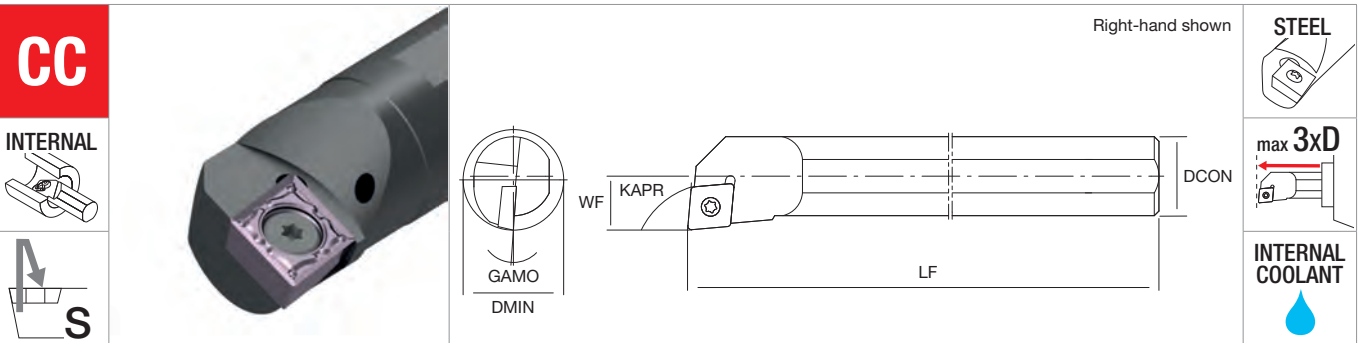
NT-S08H-SCLC%/06				NT-ST006	NT-FT07
NT-S10K-SCLC%/06	-	-	-	NT-ST010	
NT-S12M-SCLC%/06					
NT-S16Q-SCLC%/06					
NT-S12M-SCLC%/09				NT-ST025	NT-FT15
NT-S16Q-SCLC%/09	-	-	-	NT-ST030	
NT-S20R-SCLC%/09					
NT-S20R-SCLC%/12				NT-ST050	NT-FT15
NT-S25R-SCLC%/12					
NT-S32S-SCLC%/12S	NT-SH001	NT-SR001	NT-WR040	NT-ST007	NT-FT15
NT-S40T-SCLC%/12S					

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

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CC□□09T3	page 8	page 39	page 56	page 70
CC□□1204	page 8	-	page 56	page 70

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

TURNING



CC		INTERNAL		DMIN	DCON	WF	LF	GAMO	KG	MIID	STEEL	INTERNAL COOLANT
		A SCLC										
		Internal turning (KAPR 95°)										
		R	L									

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
06	NT-A08H-SCLC%/06	●	●	10	8	5	100	13°		CC□0602	
	NT-A10K-SCLC%/06	●	●	12	10	6	125	12°			
	NT-A12M-SCLC%/06	●	●	14	12	7	150	9°			
	NT-A16Q-SCLC%/06	●	●	18	16	9	180	7°			
09	NT-A12M-SCLC%/09	●	●	14	12	7	150	13°		CC□09T3	
	NT-A16Q-SCLC%/09	●	●	18	16	9	180	9°			
	NT-A20R-SCLC%/09	●	●	22	20	11	200	5°			

● stock standard

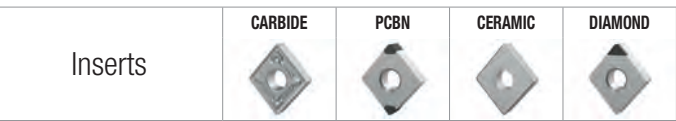
THREADING

GROOVING



NT-A08H-SCLC%/06	NT-ST006	NT-FT07
NT-A10K-SCLC%/06	NT-ST010	
NT-A12M-SCLC%/06		
NT-A16Q-SCLC%/06		
NT-A12M-SCLC%/09	NT-ST025	NT-FT15
NT-A16Q-SCLC%/09	NT-ST030	
NT-A20R-SCLC%/09		

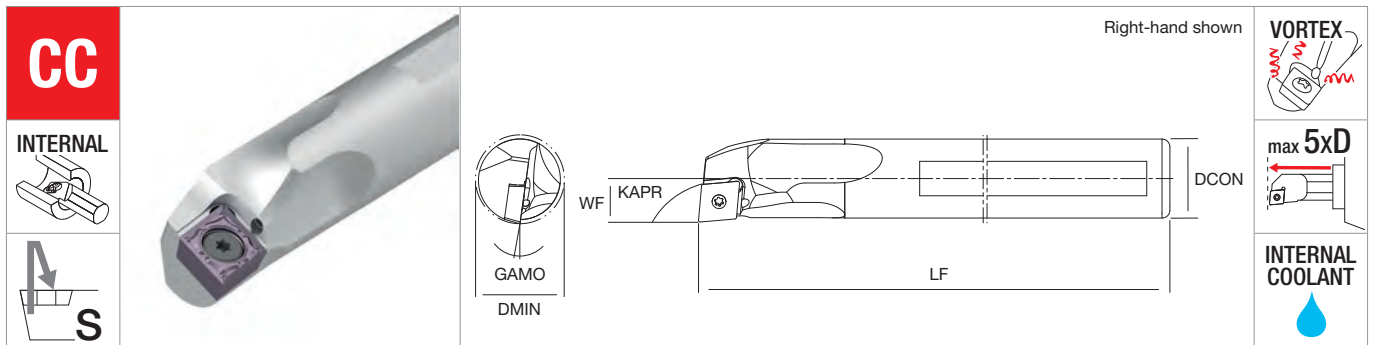
MILLING



CC□0602	page 8	page 39	-	page 70
CC□09T3	page 8	page 39	page 56	page 70

DRILLING

ACCESSORIES



V SCLC Internal turning (KAPR 95°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID
06	NT-V08H-SCLC%/06-10	●	●	10	8	5	100	14°		CC□0602
	NT-V10K-SCLC%/06-12	●	●	12	10	6	125	12°		
	NT-V12M-SCLC%/06-14	●	●	14	12	7	150	10°		
09	NT-V12M-SCLC%/09-14	●	●	14	12	7	150	12°		CC□09T3
	NT-V16Q-SCLC%/09-18	●	●	18	16	9	180	10°		
	NT-V20R-SCLC%/09-22	●	●	22	20	11	200	8°		
	NT-V25S-SCLC%/09-27	●	●	27	25	13.5	250	6°		
12	NT-V20R-SCLC%/12-25	●	●	25	20	13	200	7°		CC□1204
	NT-V25S-SCLC%/12-32	●	●	32	25	17	250	5°		

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-V08H-SCLC%/06-10	NT-ST006	NT-FT07
NT-V10K-SCLC%/06-12	NT-ST010	
NT-V12M-SCLC%/06-14	NT-ST010	
NT-V12M-SCLC%/09-14	NT-ST025	NT-FT15
NT-V16Q-SCLC%/09-18	NT-ST025	
NT-V20R-SCLC%/09-22	NT-ST030	
NT-V25S-SCLC%/09-27	NT-ST030	
NT-V20R-SCLC%/12-25	NT-ST050	NT-FT15
NT-V25S-SCLC%/12-32	NT-ST050	

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

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CC□09T3	page 8	page 39	page 56	page 70
CC□1204	page 8	-	page 56	page 70

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

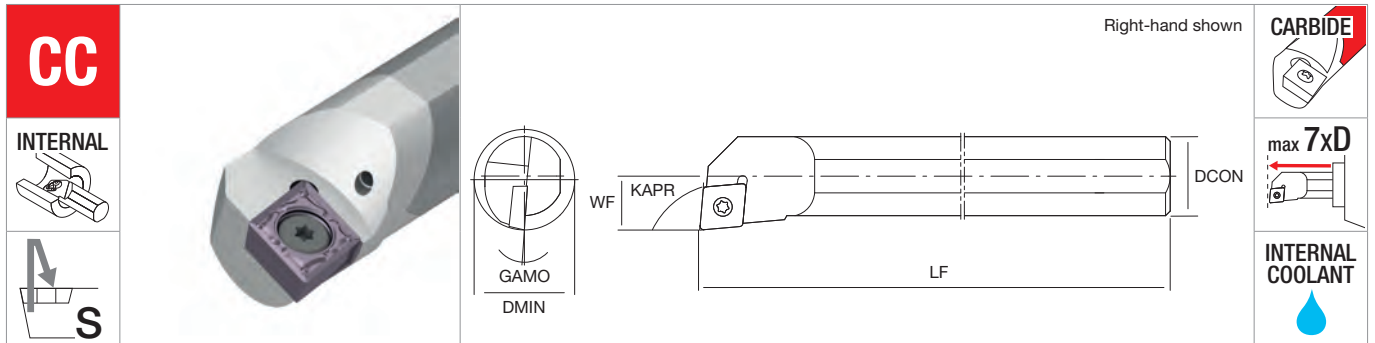
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



E SCLC Internal turning (KAPR 95°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

06	NT-E08K-SCLC%/06	●	●	10	8	5	125	9°	CC□0602
	NT-E10K-SCLC%/06	●	●	12	10	6	125	7°	
	NT-E12M-SCLC%/06	●	●	14	12	7	150	6°	
09	NT-E12M-SCLC%/09	●	●	14	12	7	150	6°	CC□09T3
	NT-E16R-SCLC%/09	●	●	18	16	9	200	7°	
	NT-E20R-SCLC%/09	●	●	22	20	11	200	5°	

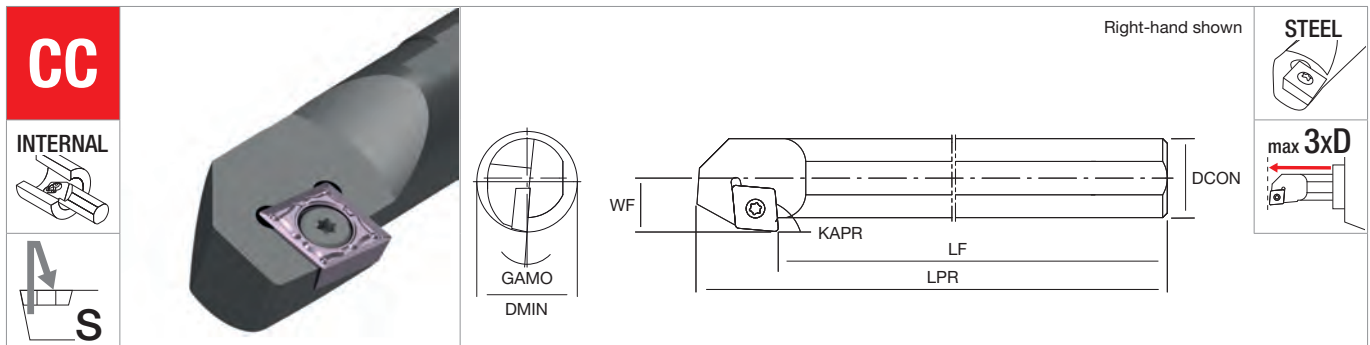
● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-E08K-SCLC%/06	NT-ST006	NT-FT07
NT-E10K-SCLC%/06	NT-ST010	
NT-E12M-SCLC%/06		
NT-E12M-SCLC%/09	NT-ST025	NT-FT15
NT-E16R-SCLC%/09	NT-ST030	
NT-E20R-SCLC%/09		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

CC□0602	page 8	page 39	-	page 70
CC□09T3	page 8	page 39	page 56	page 70



S SCZC Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	LPR	GAMO		MIID

06	NT-S08H-SCZC%/06	●	●	12	8	6.5	100	110	13°	CC□0602
	NT-S10K-SCZC%/06	●	●	14	10	7.5	125	135	12°	
	NT-S12M-SCZC%/06	●	●	16	12	8.5	150	160	10°	
09	NT-S16Q-SCZC%/09	●	●	21	16	11.5	180	196	10°	CC□09T3
	NT-S20R-SCZC%/09	●	●	25	20	13.5	200	218	8°	
	NT-S25R-SCZC%/09	●	●	32	25	16	200	218	8°	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-S08H-SCZC%/06	NT-ST006	NT-FT07
NT-S10K-SCZC%/06	NT-ST010	
NT-S12M-SCZC%/06		
NT-S16Q-SCZC%/09	NT-ST030	NT-FT15
NT-S20R-SCZC%/09		
NT-S25R-SCZC%/09		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

CC□0602	page 8	page 39	-	page 70
CC□09T3	page 8	page 39	page 56	page 70

TURNING

THREADING

GROOVING

MILLING

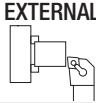
DRILLING

ACCESSORIES


TURNING

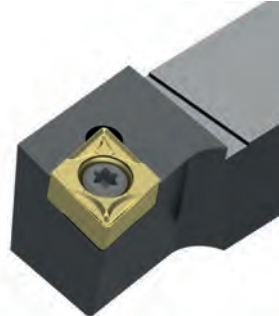
CN

EXTERNAL

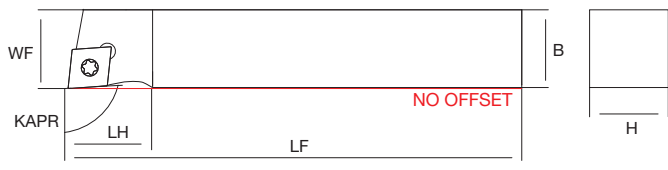


MICRONEGA





Right-hand shown




THREADING

<p>MICRO CN</p> <p>External Turning (KAPR 95°)</p>	R	L	H	B	WF	LF	LH		MIID	
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MICRO	NT-EX10H-MICRO-CN ^{RH/LH}	●	●	10	10	10	100	15	MICRO CN	
	NT-EX12H-MICRO-CN ^{RH/LH}	●	●	12	12	12	100	15		
	NT-EX16K-MICRO-CN ^{RH/LH}	●	●	16	16	16	120	15		
	NT-EX20K-MICRO-CN ^{RH/LH}	●	●	20	20	20	120	15		
	NT-EX25M-MICRO-CN ^{RH/LH}	●	●	25	25	25	150	15		





● stock standard

GROOVING

Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-EX10H-MICRO-CN ^{RH/LH}	NT-ST400	NT-FT10
NT-EX12H-MICRO-CN ^{RH/LH}		
NT-EX16K-MICRO-CN ^{RH/LH}		
NT-EX20K-MICRO-CN ^{RH/LH}		
NT-EX25M-MICRO-CN ^{RH/LH}		

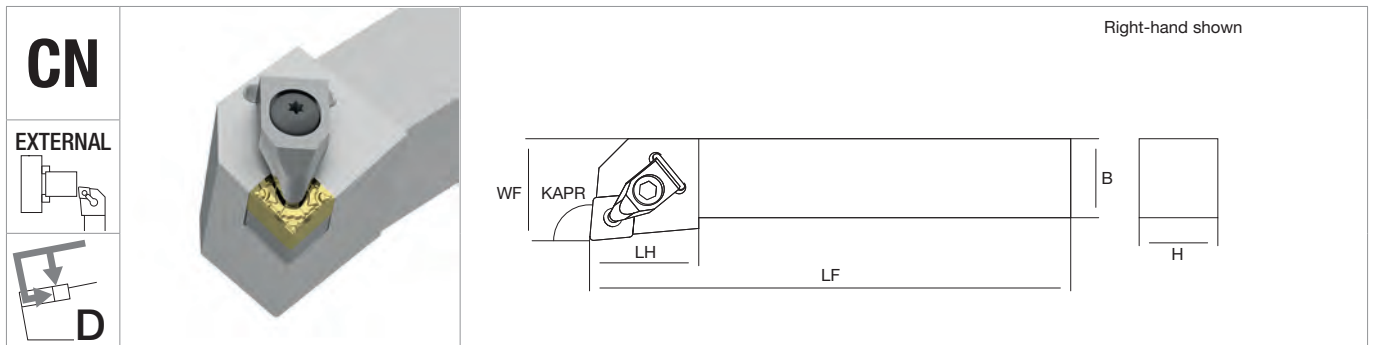
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
				

MICRO CN	page 10	page 40	-	page 72
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DRILLING

ACCESSORIES



CN	EXTERNAL					Right-hand shown			

DCLN				H	B	WF	LF	LH		MIID
External Turning (KAPR 95°)		R	L							
09	NT-DCLN [®] /1616H09X	●	●	16	16	20	100	33		CN□□0903
	NT-DCLN [®] /2020K09X	●	●	20	20	25	125	30		
	NT-DCLN [®] /2525M09X	●	●	25	25	32	150	30		
12	NT-DCLN [®] /2020K12X	●	●	20	20	25	125	40		CN□□1204
	NT-DCLN [®] /2525M12X	●	●	25	25	32	150	36		
	NT-DCLN [®] /3225P12X	●	●	32	25	32	170	36		

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-DCLN [®] /1616H09X	NT-SH012	NT-ST031	NT-WR020	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DCLN [®] /2020K09X							
NT-DCLN [®] /2525M09X							
NT-DCLN [®] /2020K12X	NT-SH030	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-DCLN [®] /2525M12X							
NT-DCLN [®] /3225P12X							

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
CN□□0903	page 10	-	-	-
CN□□1204	page 10	page 40	page 57	page 72

TURNING

THREADING

GROOVING

MILLING

DRILLING

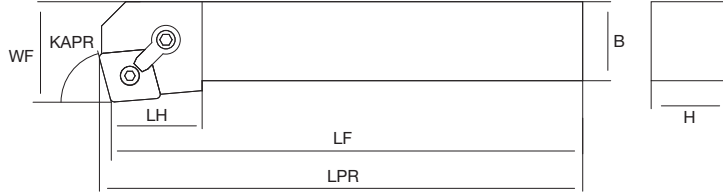
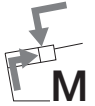
ACCESSORIES

TURNING

Right-hand shown

CN

EXTERNAL



THREADING

MCKN

External turning (KAPR 75°)

R L

H B WF LF LH LPR MIID

		R	L	H	B	WF	LF	LH	LPR		MIID
12	NT-MCKN®/L2020K12	●	●	20	20	25	122	37	125		CN□□1204
	NT-MCKN®/L2525M12	●	●	25	25	32	147	34	150		
	NT-MCKN®/L3232P12	●	●	32	32	40	167	40	170		
16	NT-MCKN®/L3232P16	○	○	32	32	40	167	40	170		CN□□1606

● stock standard, ○ non-standard stock

GROOVING

Spare Parts



	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-MCKN®/L2020K12	NT-SH030	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MCKN®/L2525M12					
NT-MCKN®/L3232P12					
NT-MCKN®/L3232P16	NT-SH055	NT-SP040	NT-CS010	NT-SC010	NT-WR030

MILLING

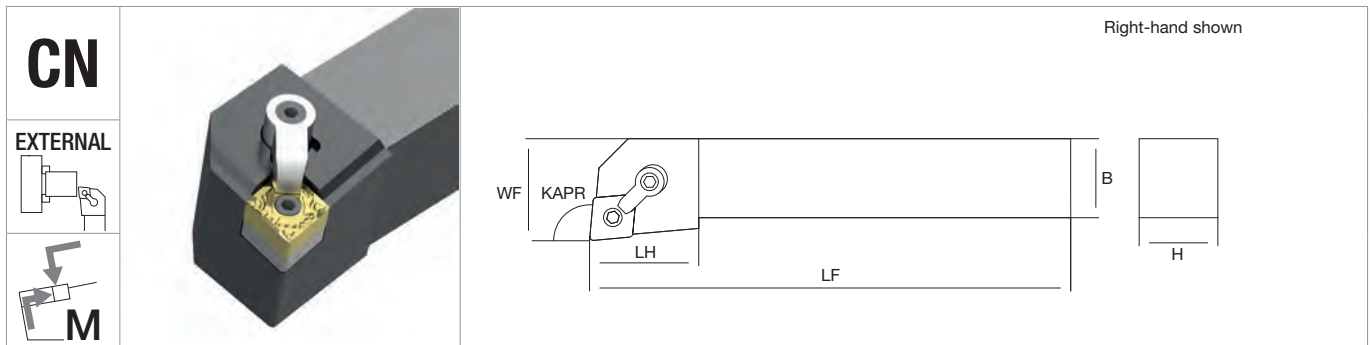
Inserts



	CARBIDE	PCBN	CERAMIC	DIAMOND
CN□□1204	page 10	page 40	page 57	page 72
CN□□1606	page 10	-	page 57	-

DRILLING

ACCESSORIES



MCLN External turning (KAPR 95°)			H	B	WF	LF	LH	KG	MIID	R	L

12	NT-MCLN [®] /2020K12	● ●	20	20	25	125	33	CN□□1204
	NT-MCLN [®] /2525M12	● ●	25	25	32	150	33	
	NT-MCLN [®] /3232P12	● ●	32	32	40	170	33	
16	NT-MCLN [®] /2525M16	● ●	25	25	32	150	33	CN□□1606
	NT-MCLN [®] /3232P16	● ●	32	32	40	170	33	
19	NT-MCLN [®] /3232P19	○ ○	32	32	40	170	38	CN□□1906
	NT-MCLN [®] /4040S19	○ ○	40	40	50	250	38	

● stock standard, ○ non-standard stock



NT-MCLN [®] /2020K12	NT-SH030	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MCLN [®] /2525M12					
NT-MCLN [®] /3232P12					
NT-MCLN [®] /2525M16	NT-SH055	NT-SP040	NT-CS010	NT-SC010	NT-WR030
NT-MCLN [®] /3232P16					
NT-MCLN [®] /3232P19	NT-SH080	NT-SP050	NT-CS015	NT-SC070	NT-WR040
NT-MCLN [®] /4040S19					



CN□□1204	page 10	page 40	page 57	page 72
CN□□1606	page 10	-	page 57	-
CN□□1906	page 11	-	-	-

TURNING

THREADING

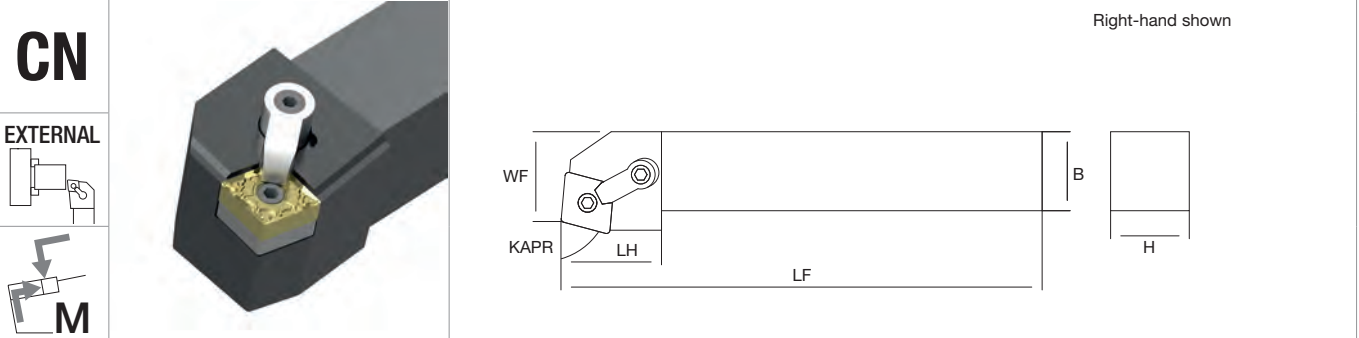
GROOVING

MILLING

DRILLING

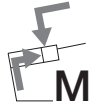
ACCESSORIES

TURNING



CN

EXTERNAL



MCRN

External turning (KAPR 75°)

R L

H B WF LF LH KG MIID

		R	L	H	B	WF	LF	LH	KG	MIID
12	NT-MCRN®/.2020K12	●	●	20	20	22	125	37		CN□1204
	NT-MCRN®/.2525M12	●	●	25	25	27	150	34		
	NT-MCRN®/.3232P12	●	●	32	32	35	170	40		
16	NT-MCRN®/.3232P16	○	○	32	32	35	170	40		CN□1606

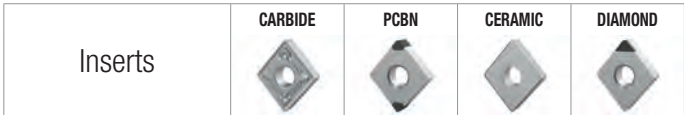
● stock standard, ○ non-standard stock

GROOVING



	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-MCRN®/.2020K12	NT-SH030	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MCRN®/.2525M12					
NT-MCRN®/.3232P12					
NT-MCRN®/.3232P16	NT-SH055	NT-SP040	NT-CS010	NT-SC010	NT-WR030

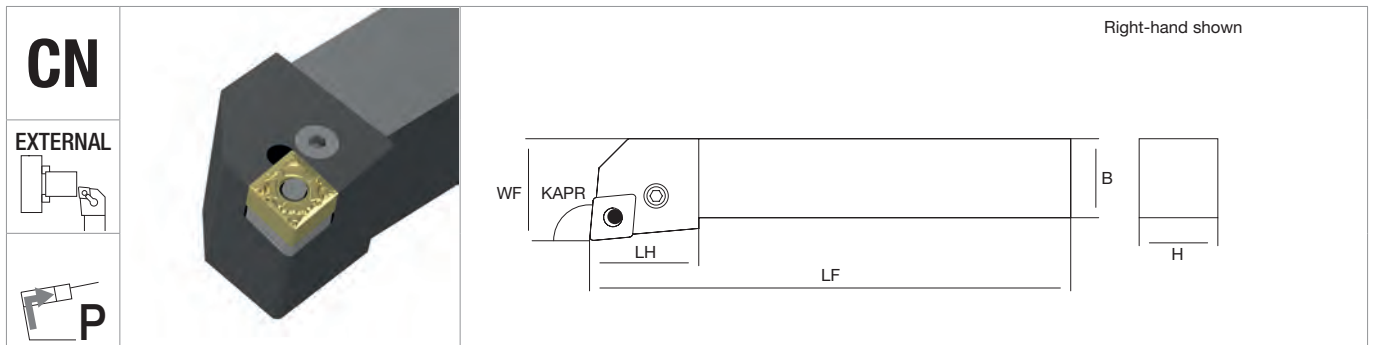
MILLING



	CARBIDE	PCBN	CERAMIC	DIAMOND
CN□1204	page 10	page 40	page 57	page 72
CN□1606	page 10	-	page 57	-

DRILLING

ACCESSORIES



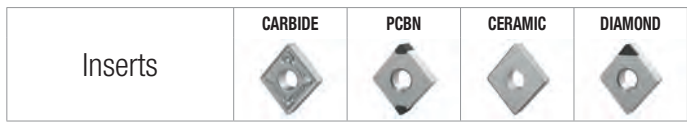
CN	EXTERNAL			Right-hand shown						
PCLN				H	B	WF	LF	LH		MIID
External turning (KAPR 95°)										
		R	L							

09	NT-PCLN®/L1616H09	●	●	16	16	20	100	20		CN□□0903
	NT-PCLN®/L2020K09	●	●	20	20	25	125	20		
	NT-PCLN®/L2525M09	●	●	25	25	32	150	23		
12	NT-PCLN®/L2020K12	●	●	20	20	25	125	26		CN□□1204
	NT-PCLN®/L2525M12	●	●	25	25	32	150	26		

● stock standard



NT-PCLN®/L1616H09	NT-SH012	NT-SR012	NT-LL012	NT-SC015	NT-WR025
NT-PCLN®/L2020K09					
NT-PCLN®/L2525M09					
NT-PCLN®/L2020K12	NT-SH035	NT-SR020	NT-LL020	NT-SC025	NT-WR030
NT-PCLN®/L2525M12					



CN□□0903	page 10	-	-	-
CN□□1204	page 10	page 40	page 57	page 72

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

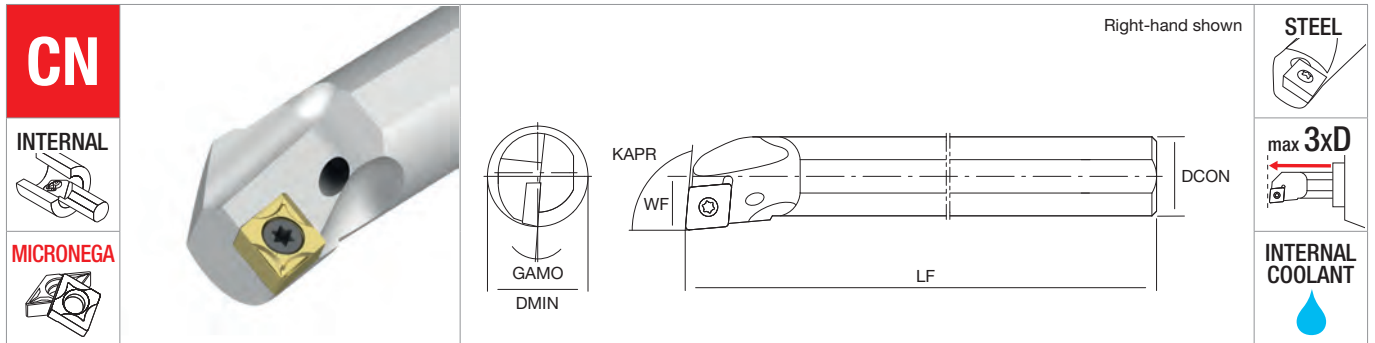
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



A MICRO CN Internal turning (KAPR 95°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

MICRO			DMIN	DCON	WF	LF	GAMO	KG	MIID
	R	L							
	●	●	10	8	5.5	125	21°		MICRO CN
	●	●	12	10	6	125	21°		
	●	●	14	12	7	150	19°		
	●	●	20	16	10	200	16°		
	●	●	24	20	12.5	200	16°		

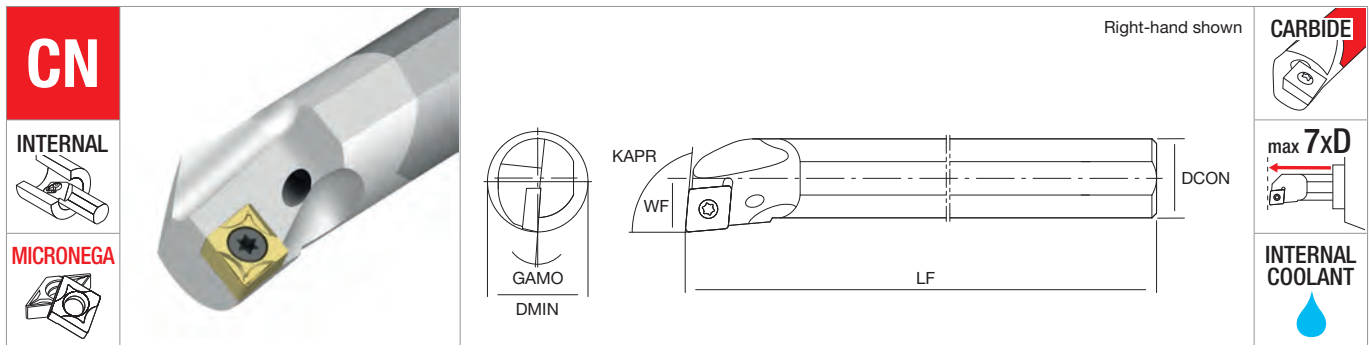
● stock standard



NT-A08K-MICRO-CN ^{RH/LH}	NT-ST400	NT-FT10
NT-A10K-MICRO-CN ^{RH/LH}		
NT-A12M-MICRO-CN ^{RH/LH}		
NT-A16R-MICRO-CN ^{RH/LH}		
NT-A20R-MICRO-CN ^{RH/LH}		



MICRO CN	page 10	page 40	-	page 72
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E MICRO CN Internal turning (KAPR 95°)		DMIN	DCON	WF	LF	GAMO	KG	MIID
	R L							

MICRO	NT-E08K-MICRO-CN ^{RH/LH}	● ●	10	8	5.5	125	21°	MICRO CN
	NT-E10K-MICRO-CN ^{RH/LH}	○ ●	12	10	6	125	21°	
	NT-E12M-MICRO-CN ^{RH/LH}	● ●	14	12	7	150	19°	
	NT-E16R-MICRO-CN ^{RH/LH}	● ●	20	16	10	200	16°	
	NT-E20R-MICRO-CN ^{RH/LH}	● ●	24	20	12.5	200	16°	

● stock standard

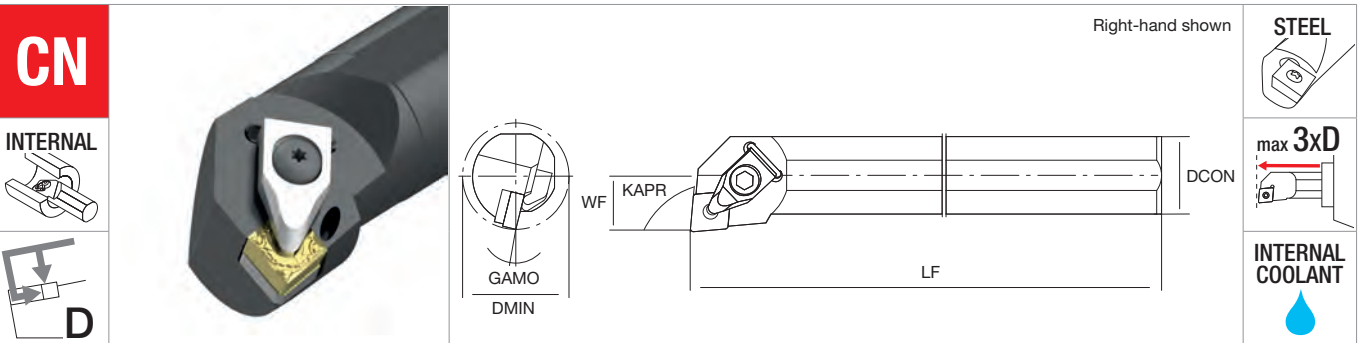
Spare Parts	INSERT SCREW	INSERT WRENCH

NT-E08K-MICRO-CN ^{RH/LH}	NT-ST400	NT-FT10
NT-E10K-MICRO-CN ^{RH/LH}		
NT-E12M-MICRO-CN ^{RH/LH}		
NT-E16R-MICRO-CN ^{RH/LH}		
NT-E20R-MICRO-CN ^{RH/LH}		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO CN	page 10	page 40	-	page 72

- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING



A DCLN Internal turning (KAPR 95°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

12	NT-A25R-DCLN [®] /L12	●	●	32	25	17	200	14°		
	NT-A32S-DCLN [®] /L12	●	●	40	32	22	250	14°		CN□□1204
	NT-A40T-DCLN [®] /L12	●	●	50	40	27	300	12°		

● stock standard

GROOVING

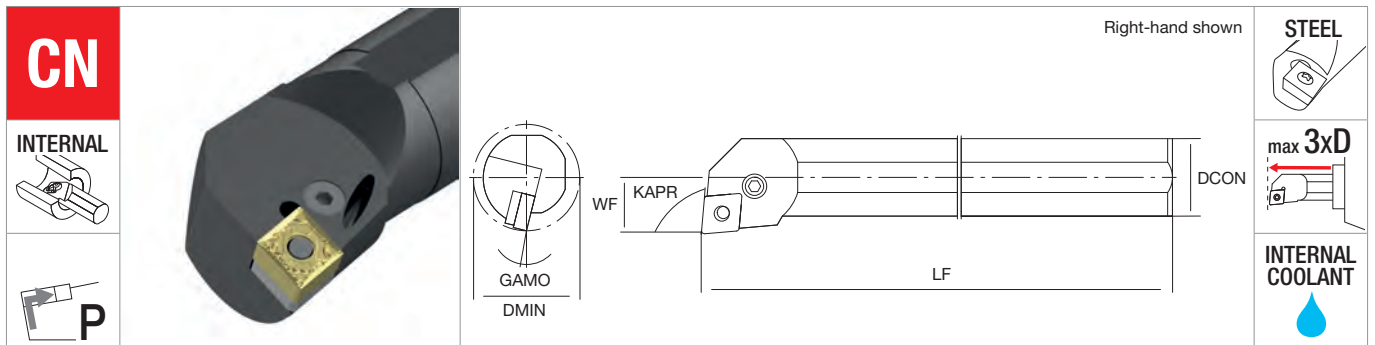
Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-A25R-DCLN [®] /L12	NT-SH035	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-A32S-DCLN [®] /L12							
NT-A40T-DCLN [®] /L12							

MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
CN□□1204	page 10	page 40	page 57	page 72

DRILLING

ACCESSORIES



CN	INTERNAL	P	A PCLN					KG	MIID
			Internal turning (KAPR 95°)						
			DMIN	DCON	WF	LF	GAMO		
			R	L					

12	NT-A25R-PCLN [®] /L12	● ●	32	25	17	200	11°	CN□□1204
	NT-A32S-PCLN [®] /L12	● ●	40	32	22	250	11°	
	NT-A40T-PCLN [®] /L12	● ●	50	40	27	300	10°	

● stock standard

Spare Parts	SHIM	PLUG	LEVER	LEVER SCREW	WRENCH

NT-A25R-PCLN [®] /L12	-	NT-SR015	NT-LL015	NT-SC015	NT-WR025
NT-A32S-PCLN [®] /L12	NT-SH035	NT-SR020	NT-LL020	NT-SC025	NT-WR030
NT-A40T-PCLN [®] /L12					

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

CN□□1204	page 10	page 40	page 57	page 72
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TURNING

THREADING

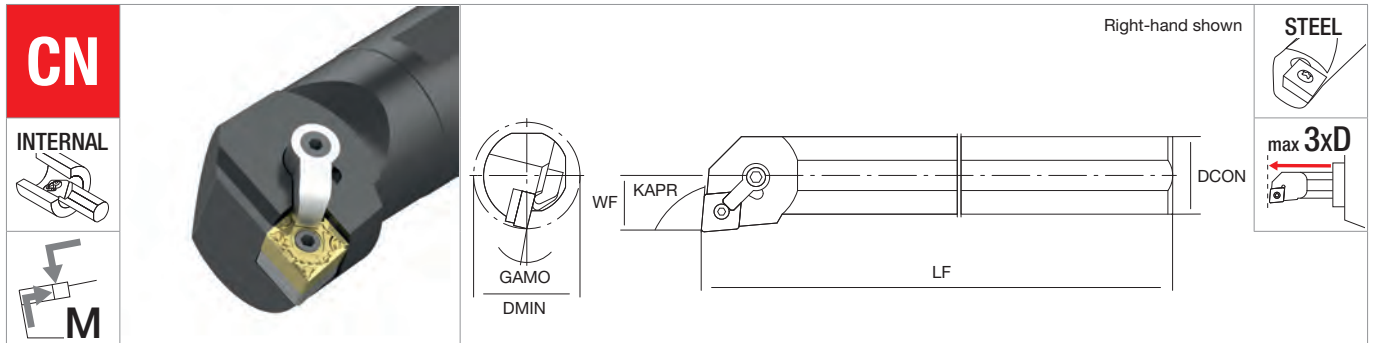
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



THREADING

CN	INTERNAL	S MCLN Internal turning (KAPR 95°)	DMIN	DCON	WF	LF	GAMO	KG	MIID
	M		R	L					

GROOVING

12	NT-S20R-MCLN [®] /L12	●	●	25	20	13	200	17°	CN□1204
	NT-S25R-MCLN [®] /L12	●	●	32	25	17	200	14°	
	NT-S32S-MCLN [®] /L12	●	●	40	32	22	250	14°	
	NT-S40T-MCLN [®] /L12	●	●	50	40	27	300	12°	
	NT-S50U-MCLN [®] /L12	●	●	63	50	35	350	12°	
16	NT-S40T-MCLN [®] /L16	●	●	50	40	27	300	11°	CN□1606
	NT-S50U-MCLN [®] /L16	●	●	63	50	35	350	12°	
19	NT-S50U-MCLN [®] /L19	●	●	63	50	35	350	12°	CN□1906

● stock standard, ○ non-standard stock

MILLING

Spare Parts	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH

NT-S20R-MCLN [®] /L12	-	NT-SP035	NT-WR025	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MCLN [®] /L12				NT-SC008		
NT-S32S-MCLN [®] /L12	NT-SH030	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S40T-MCLN [®] /L12						
NT-S50U-MCLN [®] /L12						
NT-S40T-MCLN [®] /L16	NT-SH055	NT-SP040	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S50U-MCLN [®] /L16						
NT-S50U-MCLN [®] /L19	NT-SH080	NT-SP050	NT-WR030	NT-CS015	NT-SC070	NT-WR040

DRILLING



Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

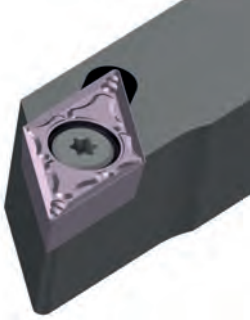
CN□1204	page 10	page 40	page 57	page 72
CN□1606	page 10	-	page 57	-
CN□1906	page 11	-	-	-

ACCESSORIES


DC

EXTERNAL



Right-hand shown



<p>SDAC External turning (KAPR 90°)</p>	R	L	H	B	WF	LF		MIID		
--	---	---	---	---	----	----	---	------	--	--

07	NT-SDAC%/0808K07	○	○	8	8	8	125	DC□□0702		
	NT-SDAC%/1010K07	●	●	10	10	10	125			
	NT-SDAC%/1212K07	●	●	12	12	12	125			
11	NT-SDAC%/1212K11	●	●	12	12	12	125	DC□□11T3		
	NT-SDAC%/1616K11	●	●	16	16	16	125			

● stock standard, ○ non-standard stock

Spare Parts	<p>INSERT SCREW</p> 	<p>INSERT WRENCH</p> 
-------------	---	---

NT-SDAC%/0808K07	NT-ST010	NT-FT07
NT-SDAC%/1010K07		
NT-SDAC%/1212K07		
NT-SDAC%/1212K11	NT-ST035	NT-FT15
NT-SDAC%/1616K11		

Inserts	<p>CARBIDE</p> 	<p>PCBN</p> 	<p>CERAMIC</p> 	<p>DIAMOND</p> 
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DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

TURNING

THREADING

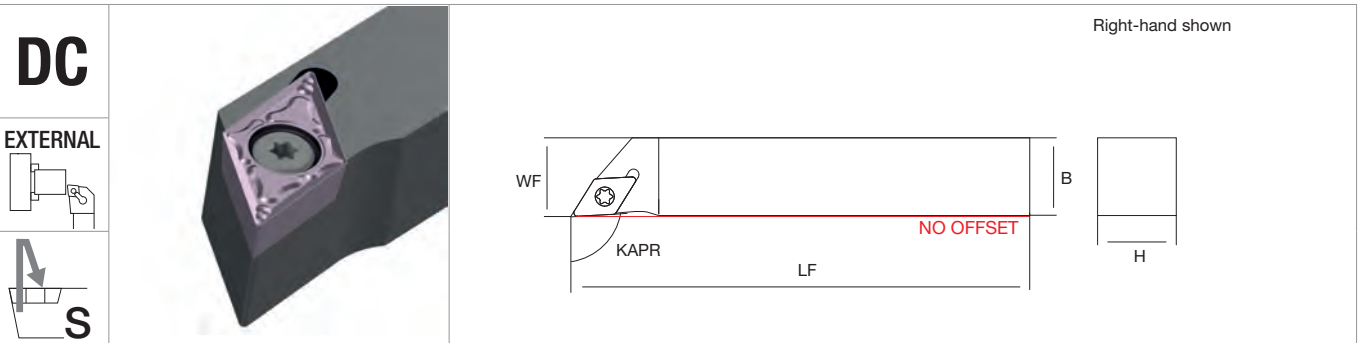
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



DC			Right-hand shown						
EXTERNAL									
SDJC N									
External turning (KAPR 93°)			H	B	WF	LF	KG	MIID	
	R	L							

THREADING

07	NT-SDJC%/L0808K07N	○	○	8	8	8	125	DC□□0702	
	NT-SDJC%/L1010K07N	●	●	10	10	10	125		
	NT-SDJC%/L1212K07N	●	●	12	12	12	125		
11	NT-SDJC%/L1212K11N	●	●	12	12	12	125	DC□□11T3	
	NT-SDJC%/L1616K11N	●	●	16	16	16	125		

● stock standard, ○ non-standard stock

GROOVING

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-SDJC%/L0808K07N	NT-ST010	NT-FT07
NT-SDJC%/L1010K07N		
NT-SDJC%/L1212K07N		
NT-SDJC%/L1212K11N	NT-ST035	NT-FT15
NT-SDJC%/L1616K11N		

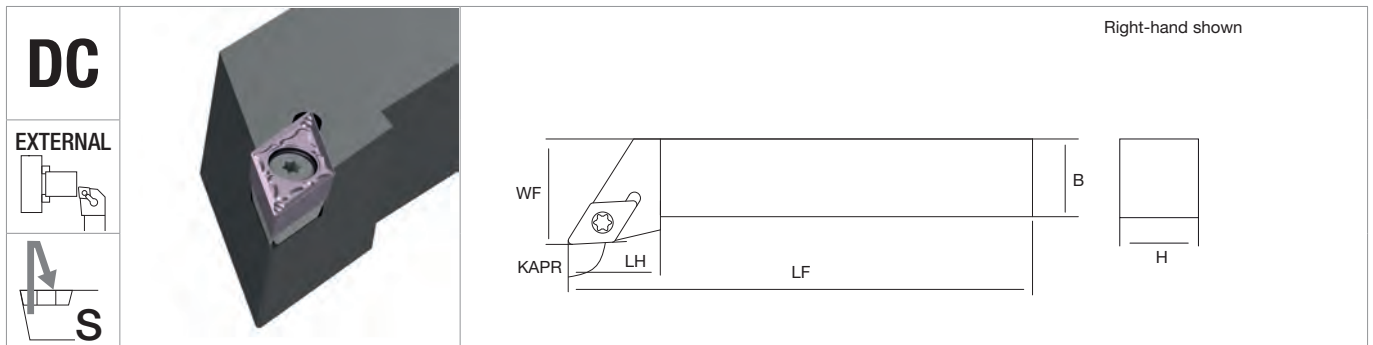
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

DRILLING

ACCESSORIES



<p>SDJC External turning (KAPR 93°)</p>		R	L	H	B	WF	LF	LH	KG	MIID	

NT	NT-SDJC%/1616H11	●	●	16	16	20	100	18			
	NT-SDJC%/2020K11	●	●	20	20	25	125	23		DC□□11T3	
	NT-SDJC%/2525M11	●	●	25	25	32	150	27			
	NT-SDJC%/2020K11S	●	●	20	20	25	125	22		DC□□11T3	
	NT-SDJC%/2525M11S	●	●	25	25	32	150	25			

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

NT-SDJC%/1616H11					
NT-SDJC%/2020K11	-	-	-	NT-ST035	NT-FT15
NT-SDJC%/2525M11					
NT-SDJC%/2020K11S	NT-SH007	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SDJC%/2525M11S					

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

DC□□11T3	page 14	page 42	-	page 73
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TURNING

THREADING

GROOVING

MILLING

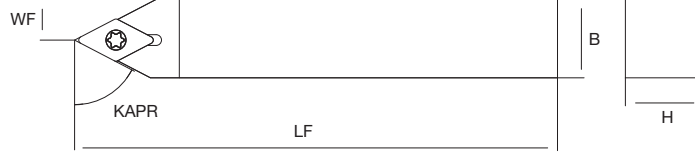
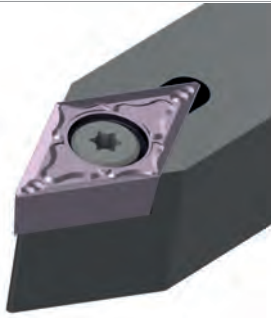
DRILLING

ACCESSORIES

TURNING

DC

EXTERNAL



SDNCN

External turning (KAPR 62.5°)

H	B	WF	LF	KG	MIID
---	---	----	----	----	------

07	NT-SDNCN0808H07	○	8	8	4	100		DC□□0702
	NT-SDNCN1010H07	○	10	10	5	100		
11	NT-SDNCN1212H11	●	12	12	6	100		DC□□11T3
	NT-SDNCN1616H11	●	16	16	8	100		
	NT-SDNCN2020K11	●	20	20	10	125		
	NT-SDNCN2525M11	●	25	25	12.5	150		
	NT-SDNCN2020K11S	○	20	20	10	125		DC□□11T3
	NT-SDNCN2525M11S	○	25	25	12.5	150		

● stock standard, ○ non-standard stock

THREADING

GROOVING

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

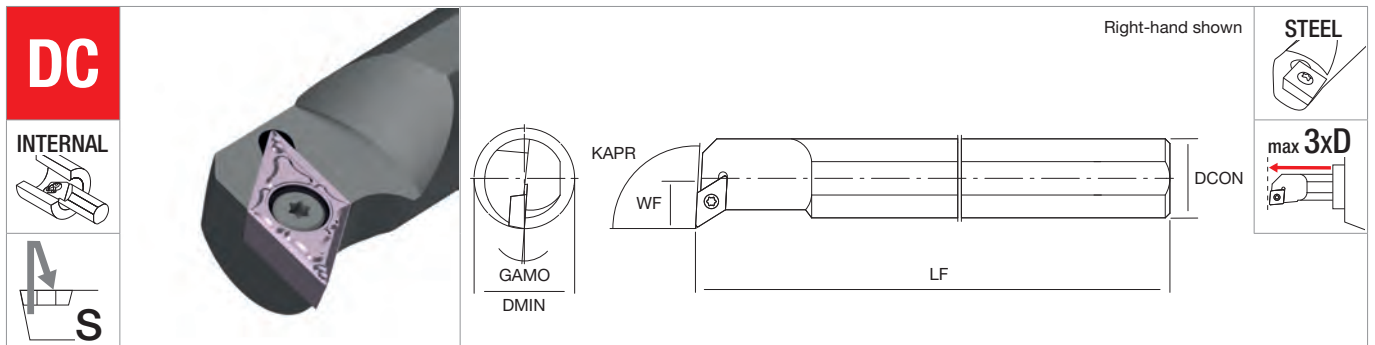
MILLING

NT-SDNCN0808H07	-	-	-	NT-ST010	NT-FT07
NT-SDNCN1010H07	-	-	-		
NT-SDNCN1212H11	-	-	-		
NT-SDNCN1616H11	-	-	-	NT-ST035	NT-FT15
NT-SDNCN2020K11	-	-	-		
NT-SDNCN2525M11	-	-	-		
NT-SDNCN2020K11S	NT-SH007	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SDNCN2525M11S					

DRILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

ACCESSORIES



S SDUC Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

07	NT-S10M-SDUC%/07	●	●	13	10	7	150	10°	DC□□0702
	NT-S12M-SDUC%/07	●	●	16	12	9	150	8°	
	NT-S16Q-SDUC%/07	●	●	20	16	11	180	6°	
	NT-S20R-SDUC%/07	●	●	25	20	13	200	5°	
11	NT-S16Q-SDUC%/11	●	●	20	16	11	180	7°	DC□□11T3
	NT-S20R-SDUC%/11	●	●	25	20	13	200	8°	
	NT-S25R-SDUC%/11	●	●	32	25	17	200	4°	
	NT-S32S-SDUC%/11	●	●	39	32	22	250	4°	
	NT-S40T-SDUC%/11	●	●	50	40	24	300	2°	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-S10M-SDUC%/07	NT-ST010	NT-FT07
NT-S12M-SDUC%/07		
NT-S16Q-SDUC%/07		
NT-S20R-SDUC%/07		
NT-S16Q-SDUC%/11	NT-ST035	NT-FT15
NT-S20R-SDUC%/11		
NT-S25R-SDUC%/11		
NT-S32S-SDUC%/11		
NT-S40T-SDUC%/11		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

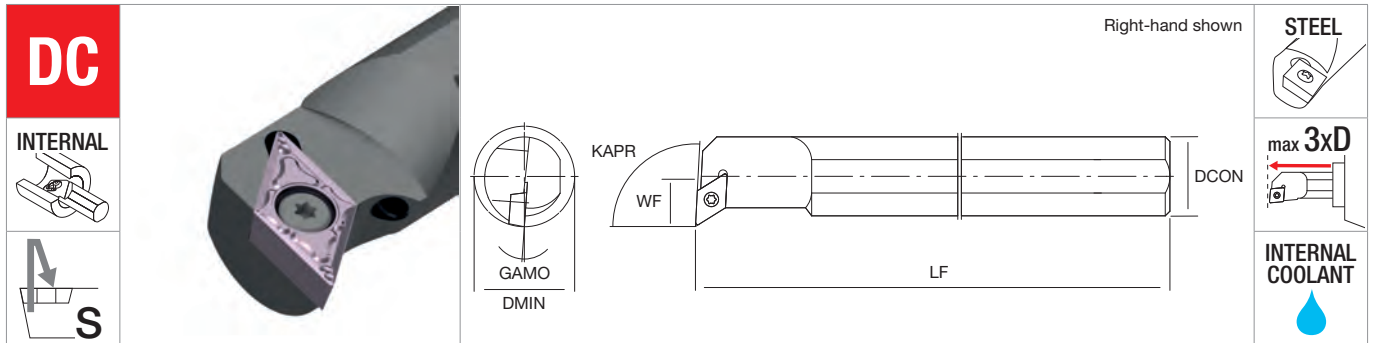
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



DC		INTERNAL							Right-hand shown		STEEL	
		S							max 3xD		INTERNAL COOLANT	
A SDUC Internal turning (KAPR 93°)					DMIN	DCON	WF	LF	GAMO	KG	MIID	
		R	L									

07	NT-A10M-SDUC%/07	●	●	13	10	7	150	10°		DC□0702
	NT-A12M-SDUC%/07	●	●	16	12	9	150	8°		
	NT-A16Q-SDUC%/07	●	●	20	16	11	180	6°		
	NT-A20R-SDUC%/07	●	●	25	20	13	200	5°		
11	NT-A16Q-SDUC%/11	●	●	20	16	11	180	7°		DC□11T3
	NT-A20R-SDUC%/11	●	●	25	20	13	200	8°		

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH


NT-A10M-SDUC%/07	NT-ST010	NT-FT07
NT-A12M-SDUC%/07		
NT-A16Q-SDUC%/07		
NT-A20R-SDUC%/07		
NT-A16Q-SDUC%/11	NT-ST035	NT-FT15
NT-A20R-SDUC%/11		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

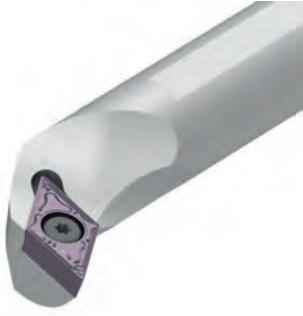
DC□0702	page 14	page 42	-	page 73
DC□11T3	page 14	page 42	-	page 73

DC

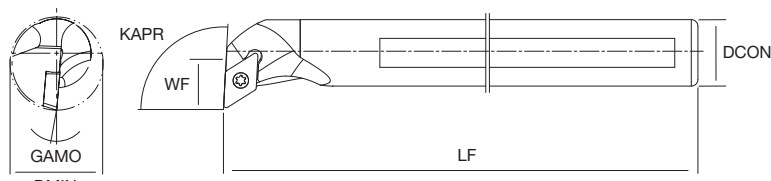
INTERNAL




S



Right-hand shown




VORTEX



max 5xD

INTERNAL COOLANT




		V SDUC		DMIN	DCON	WF	LF	GAMO	KG	MIID		
		Internal turning (KAPR 93°)										
		R	L									
07	NT-V10K-SDUC%/07-14	●	●	14	10	8.7	125	5°		DC□□0702		
	NT-V12M-SDUC%/07-16	●	●	16	12	9.7	150	5°				
	NT-V16Q-SDUC%/07-20	●	●	20	16	11.7	180	5°				
	NT-V20R-SDUC%/07-25	●	●	25	20	13.7	200	5°				
11	NT-V16Q-SDUC%/11-23	●	●	23	16	14.5	180	5°		DC□□11T3		
	NT-V20R-SDUC%/11-27	●	●	27	20	16.5	200	5°				
	NT-V25S-SDUC%/11-32	●	●	32	25	19	250	5°				

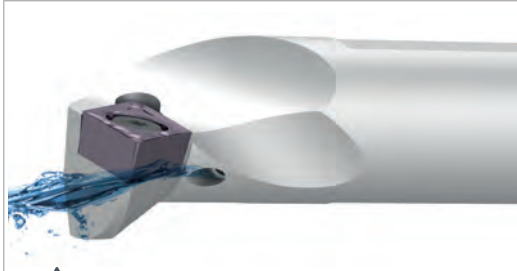
● stock standard


Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-V10K-SDUC%/07-14	NT-ST010	NT-FT07
NT-V12M-SDUC%/07-16		
NT-V16Q-SDUC%/07-20		
NT-V20R-SDUC%/07-25		
NT-V16Q-SDUC%/11-23	NT-ST035	NT-FT15
NT-V20R-SDUC%/11-27		
NT-V25S-SDUC%/11-32		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
				

DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73





COOLANT HOLE POSITION
Improved chip evacuation thanks to optimized direction of coolant jet

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

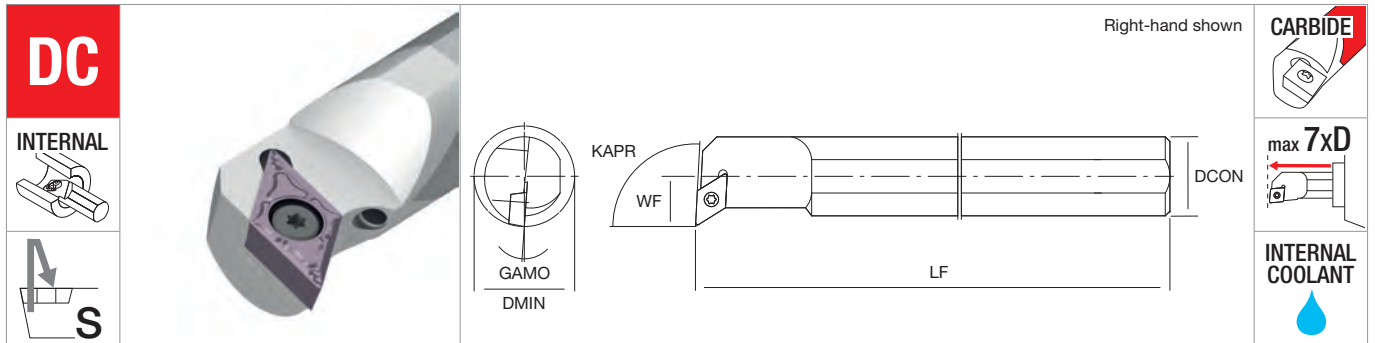
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



E SDUC Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

07	NT-E10K-SDUC%/L07	●	●	13	10	7	125	10°		DC□□0702
	NT-E12M-SDUC%/L07	●	●	16	12	9	150	8°		
11	NT-E16R-SDUC%/L11	●	●	20	16	11	200	7°		DC□□11T3
	NT-E20R-SDUC%/L11	●	●	25	20	13	200	8°		

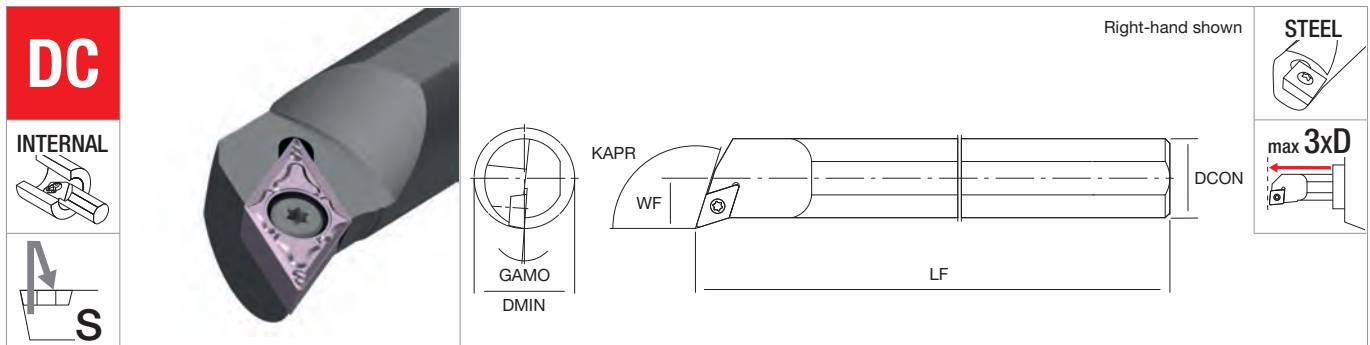
● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-E10K-SDUC%/L07	NT-ST010	NT-FT07
NT-E12M-SDUC%/L07		
NT-E16R-SDUC%/L11	NT-ST035	NT-FT15
NT-E20R-SDUC%/L11		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

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DC□□11T3	page 14	page 42	-	page 73



DC INTERNAL 		S 			DMIN	DCON	WF	LF	GAMO		MIID	
			S SDQC Internal turning (KAPR 107.5°)		R	L						

		R	L	DMIN	DCON	WF	LF	GAMO		MIID	
07	NT-S10M-SDQC%/07	●	●	13	10	7	150	10°		DC□□0702	
	NT-S12M-SDQC%/07	●	●	16	12	9	150	8°			
	NT-S16Q-SDQC%/07	●	●	20	16	11	180	6°			
	NT-S20R-SDQC%/07	●	●	25	20	13	200	6°			
11	NT-S16Q-SDQC%/11	●	●	20	16	11	180	6°		DC□□11T3	
	NT-S20R-SDQC%/11	●	●	25	20	13	200	8°			
	NT-S25R-SDQC%/11	●	●	32	25	17	200	4°			
	NT-S32S-SDQC%/11	●	●	38	32	20	250	4°			

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-S10M-SDQC%/07	NT-ST010	NT-FT07
NT-S12M-SDQC%/07		
NT-S16Q-SDQC%/07		
NT-S20R-SDQC%/07		
NT-S16Q-SDQC%/11	NT-ST035	NT-FT15
NT-S20R-SDQC%/11		
NT-S25R-SDQC%/11		
NT-S32S-SDQC%/11		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
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DC□□11T3	page 14	page 42	-	page 73

- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING

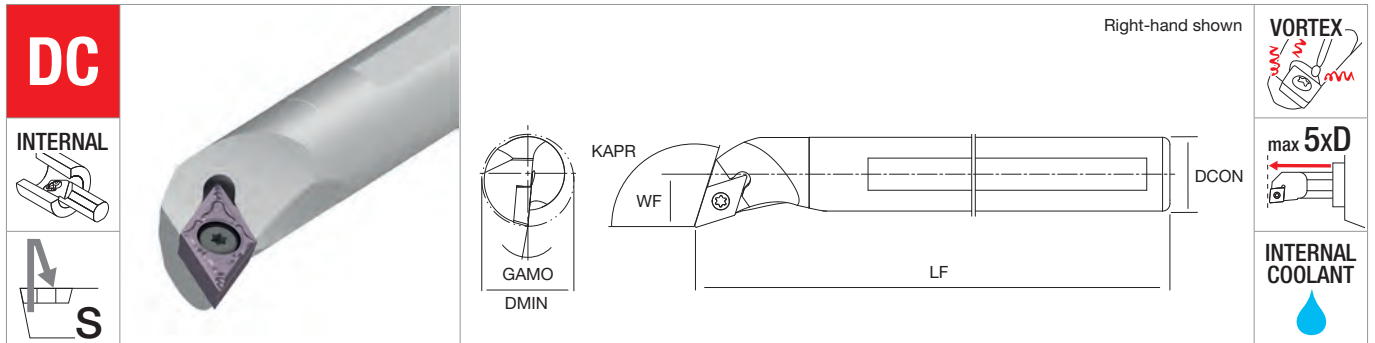
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



V SDQC Internal turning (KAPR 107.5°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

07	NT-V10K-SDQC%/07-13	●	●	13	10	7.7	125	10°	DC□□0702
	NT-V12M-SDQC%/07-16	●	●	16	12	9.7	150	8°	
	NT-V16Q-SDQC%/07-20	●	●	20	16	11.7	180	6°	
	NT-V20R-SDQC%/07-25	●	●	25	20	13.7	200	5°	
11	NT-V16Q-SDQC%/11-20	●	●	20	16	11.5	180	6°	DC□□11T3
	NT-V20R-SDQC%/11-25	●	●	25	20	14.4	200	5°	
	NT-V25S-SDQC%/11-30	●	●	30	25	16.9	250	4°	

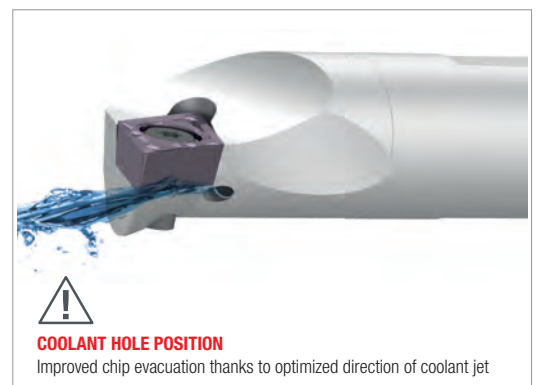
● stock standard

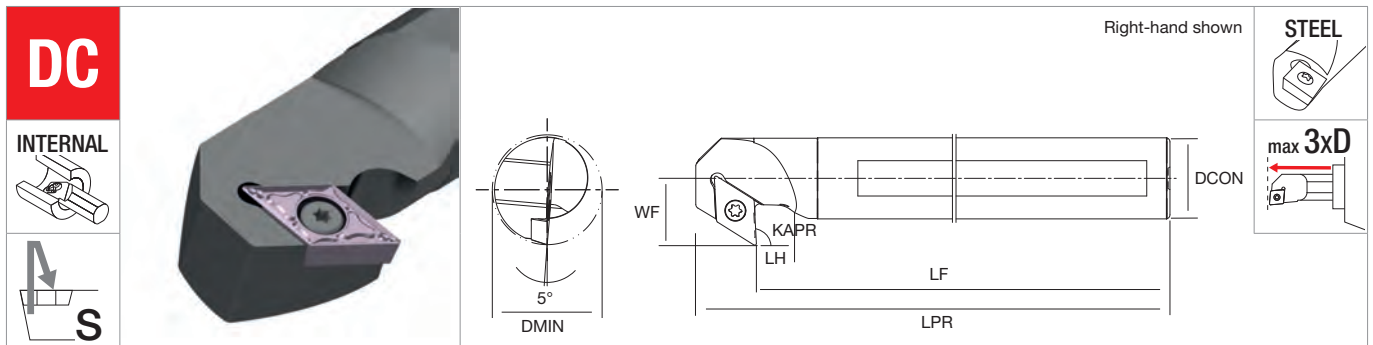
Spare Parts	INSERT SCREW	INSERT WRENCH

NT-V10K-SDQC%/07-13	NT-ST010	NT-FT07
NT-V12M-SDQC%/07-16		
NT-V16Q-SDQC%/07-20		
NT-V20R-SDQC%/07-25		
NT-V16Q-SDQC%/11-20	NT-ST035	NT-FT15
NT-V20R-SDQC%/11-25		
NT-V25S-SDQC%/11-30		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73





DC INTERNAL S		S SDZC Internal turning (KAPR 93°)		DMIN	DCON	WF	LF	LPR	GAMO	KG	MIID
		R	L								

07	NT-S10M-SDZC%/07	● ●	14	10	8.5	139	150	10°	DC□□0702
	NT-S12M-SDZC%/07	● ●	17	12	10.5	139	150	9°	
	NT-S16Q-SDZC%/07	● ●	21	16	12.5	169	180	8°	
11	NT-S20R-SDZC%/11	● ●	26	20	15.5	184	200	8°	DC□□11T3
	NT-S25R-SDZC%/11	○ ○	33	25	18	180	200	6°	
	NT-S32S-SDZC%/11	○ ○	38	32	21.5	230	250	4°	

● stock standard, ○ non-standard stock

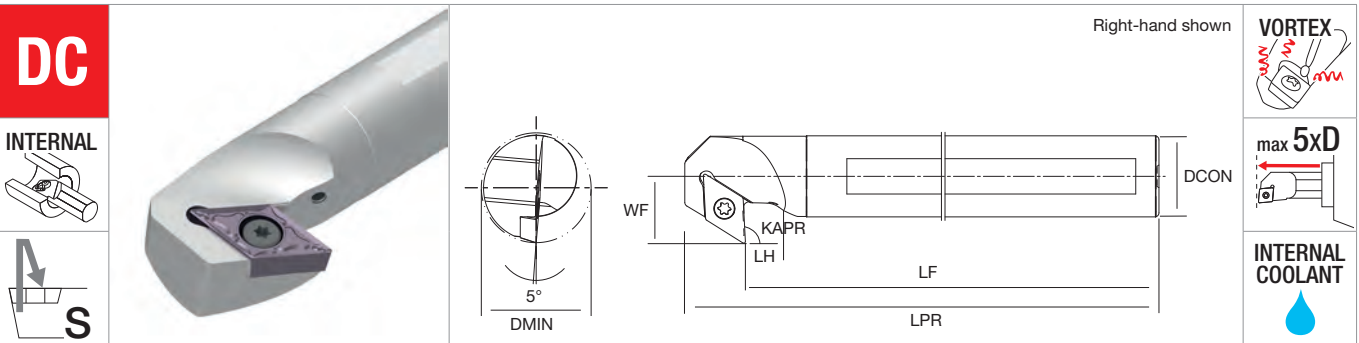
Spare Parts	INSERT SCREW	INSERT WRENCH

NT-S10M-SDZC%/07	NT-ST010	NT-FT07
NT-S12M-SDZC%/07		
NT-S16Q-SDZC%/07		
NT-S20R-SDZC%/11	NT-ST035	NT-FT15
NT-S25R-SDZC%/11		
NT-S32S-SDZC%/11		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

TURNING
 THREADING
 GROOVING
 MILLING
 DRILLING
 ACCESSORIES

TURNING

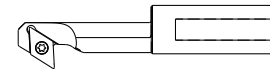


V SDZC Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	LH	LPR	KG	MIID

07	NT-V10L-SDZC%/07-14	●	●	14	10	8.7	130.5	14	140	DC□□0702
	NT-V12M-SDZC%/07-16	●	●	16	12	9.7	139.5	12.5	150	
	NT-V16Q-SDZC%/07-14*	●	●	14	16	13	170	30	180	
	NT-V16Q-SDZC%/07-20	●	●	20	16	11.7	169.5	17.5	180	
11	NT-V16Q-SDZC%/11-23	●	●	23	16	14.5	165	15	180	DC□□11T3
	NT-V20R-SDZC%/11-20*	●	●	20	20	16.1	185	40	200	
	NT-V20R-SDZC%/11-27	●	●	27	20	16.5	185	15	200	
	NT-V25S-SDZC%/11-32	●	●	32	25	19	235	15	250	

● stock standard

*Reduced neck



THREADING

GROOVING

Spare Parts	INSERT SCREW	INSERT WRENCH

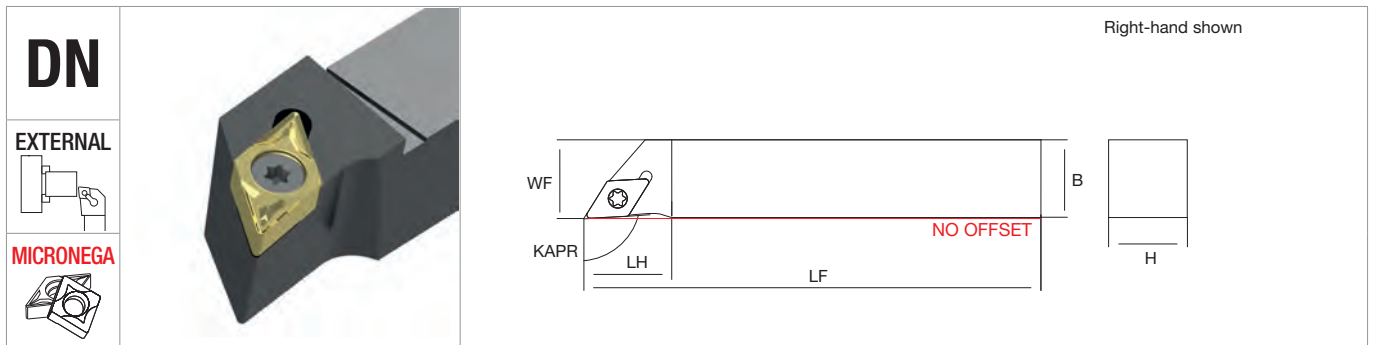
MILLING

NT-V10L-SDZC%/07-14	NT-ST010	NT-FT07
NT-V12M-SDZC%/07-16		
NT-V16Q-SDZC%/07-14		
NT-V16Q-SDZC%/07-20		
NT-V16Q-SDZC%/11-23	NT-ST035	NT-FT15
NT-V20R-SDZC%/11-20		
NT-V20R-SDZC%/11-27		
NT-V25S-SDZC%/11-32		

DRILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

ACCESSORIES



DN EXTERNAL MICRONEGA			H	B	WF	LF	LH	KG	MIID	
	MICRO DN External Turning (KAPR 95°)	R	L							

MICRO	NT-EX10H-MICRO-DN ^{RH/LH}	●	●	10	10	10	100	18	MICRO DN	
	NT-EX12H-MICRO-DN ^{RH/LH}	●	●	12	12	12	100	18		
	NT-EX16K-MICRO-DN ^{RH/LH}	●	●	16	16	16	120	18		
	NT-EX20K-MICRO-DN ^{RH/LH}	●	●	20	20	20	120	18		
	NT-EX25M-MICRO-DN ^{RH/LH}	●	●	25	25	25	150	18		

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-EX10H-MICRO-DN ^{RH/LH}	NT-ST400	NT-FT10
NT-EX12H-MICRO-DN ^{RH/LH}		
NT-EX16K-MICRO-DN ^{RH/LH}		
NT-EX20K-MICRO-DN ^{RH/LH}		
NT-EX25M-MICRO-DN ^{RH/LH}		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

MICRO DN	page 16	page 43	-	page 75
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TURNING

THREADING

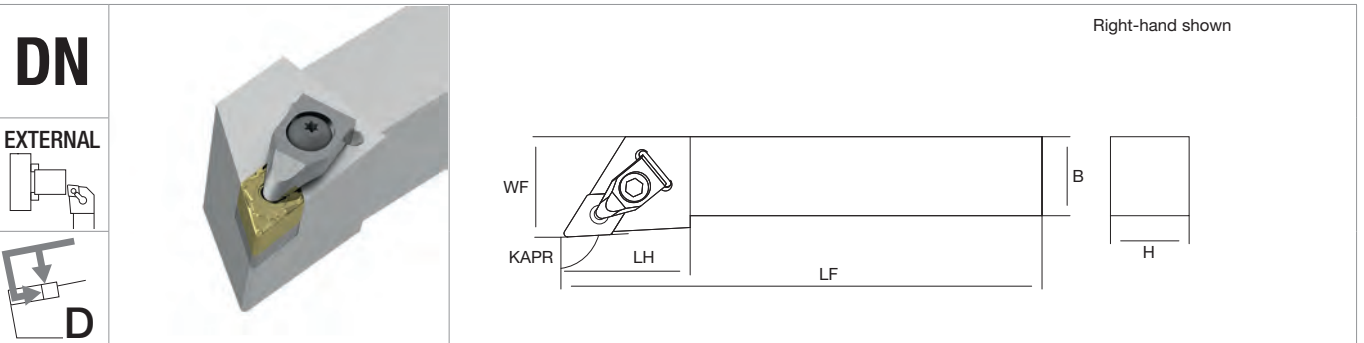
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



DN

EXTERNAL



DDJN

External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID
11	NT-DDJN [®] /1616H11X	●	●	16	16	20	100	36		DN□1104
	NT-DDJN [®] /2020K11X	●	●	20	20	25	125	36		
	NT-DDJN [®] /2525M11X	●	●	25	25	32	150	36		
15	NT-DDJN [®] /2020K1506X	●	●	20	20	25	125	43		DN□1506 (DN□1504)*
	NT-DDJN [®] /2525M1506X	●	●	25	25	32	150	43		
	NT-DDJN [®] /3225P1506X	●	●	32	25	32	170	43		

● stock standard

*For DN□1504 please purchase separately shim NT-SH025

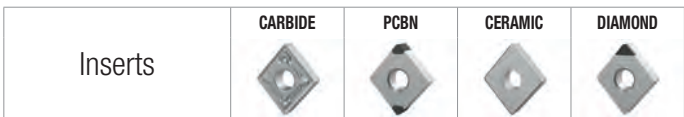
GROOVING



	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-DDJN [®] /1616H11X	NT-SH007	NT-ST250	NT-WR020	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DDJN [®] /2020K11X							
NT-DDJN [®] /2525M11X							
NT-DDJN [®] /2020K1506X	NT-SH045*	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-DDJN [®] /2525M1506X							
NT-DDJN [®] /3225P1506X							

*Shim for DNMG1504: NT-SH025

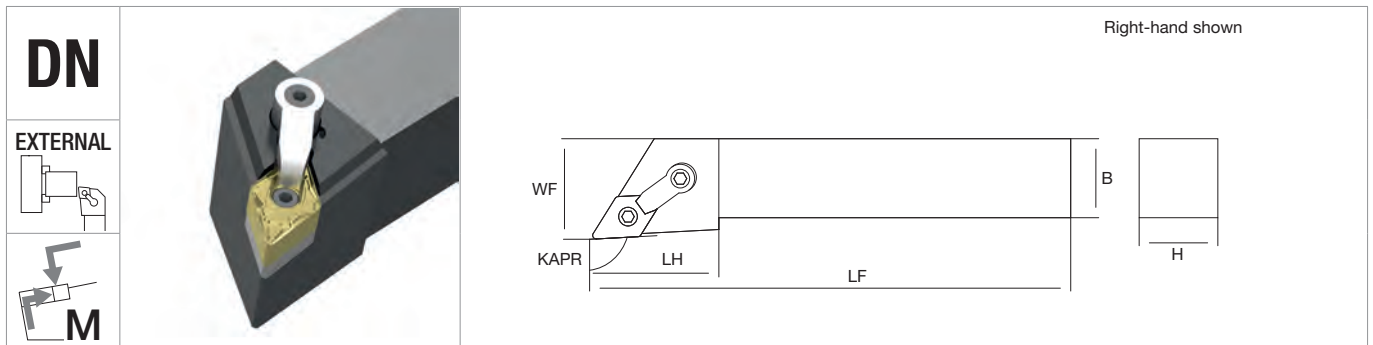
MILLING



	CARBIDE	PCBN	CERAMIC	DIAMOND
DN□1104	page 16	-	-	-
DN□1504	-	page 43	-	-
DN□1506	page 16	page 43	page 59	page 75

DRILLING

ACCESSORIES



DN	EXTERNAL	MDJN External turning (KAPR 93°)	R	L	H	B	WF	LF	LH	KG	MIID
	M										

15	NT-MDJN®/.2020K1506	●	●	20	20	25	125	37	DN□□1506 (DN□□1504)*
	NT-MDJN®/.2525M1506	●	●	25	25	32	150	37	
	NT-MDJN®/.3232P1506	●	●	32	32	40	170	42	

● stock standard

*For DN□□1504 please purchase separately shim NT-SH025



NT-MDJN®/.2020K1506	NT-SH045*	NT-SP025	NT-CS025	NT-SC010	NT-WR030
NT-MDJN®/.2525M1506					
NT-MDJN®/.3232P1506					

*Shim for DNMG1504: NT-SH025



DN□□1504	-	page 43	-	-
DN□□1506	page 16	page 43	page 59	page 75

TURNING

THREADING

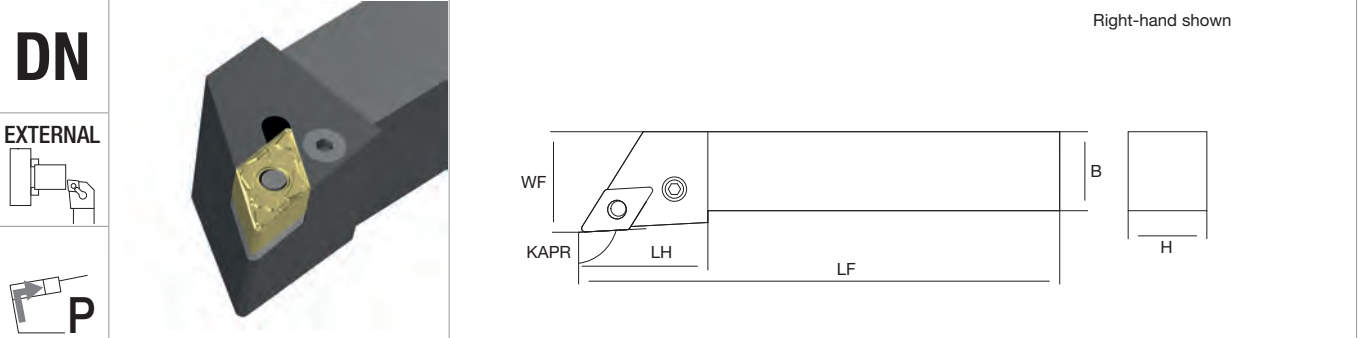
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



DN EXTERNAL 	PDJN External turning (KAPR 93°)	R	L	H	B	WF	LF	LH	KG	MIID	
		●	●	25	25	32	150	36			DN□□1506

15	NT-PDJN [®] /L2525M1506	●	●	25	25	32	150	36			DN□□1506
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● stock standard

THREADING

Spare Parts	SHIM	PLUG	LEVER	LEVER SCREW	WRENCH
NT-PDJN [®] /L2525M1506	NT-SH020	NT-SR020	NT-LL020	NT-SC020	NT-WR030

GROOVING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
DN□□1506	page 16	page 43	page 59	page 75

MILLING

DRILLING

ACCESSORIES

DN

INTERNAL

MICRONEGA

Right-hand shown

STEEL

max 3xD

INTERNAL COOLANT

A MICRO DN
Internal turning (KAPR 95°)

		DMIN	DCON	WF	LF	GAMO	KG	MIID
R	L							
●	●	15	10	9.3	125	19°		
●	●	16	12	9	150	17°		
●	●	20	16	11	200	17°		MICRO DN
●	●	24	20	13	200	17°		

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH
NT-A10K-MICRO-DN ^{RH/LH}	NT-ST400	NT-FT10
NT-A12M-MICRO-DN ^{RH/LH}		
NT-A16R-MICRO-DN ^{RH/LH}		
NT-A20R-MICRO-DN ^{RH/LH}		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO DN	page 16	page 43	-	page 75

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

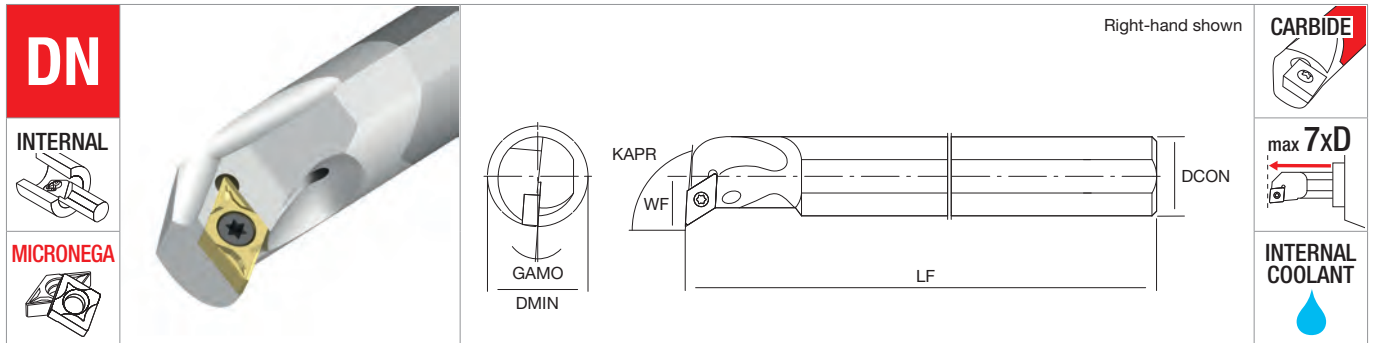
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



DN	INTERNAL	MICRONEGA						Right-hand shown	CARBIDE	max 7xD	INTERNAL COOLANT

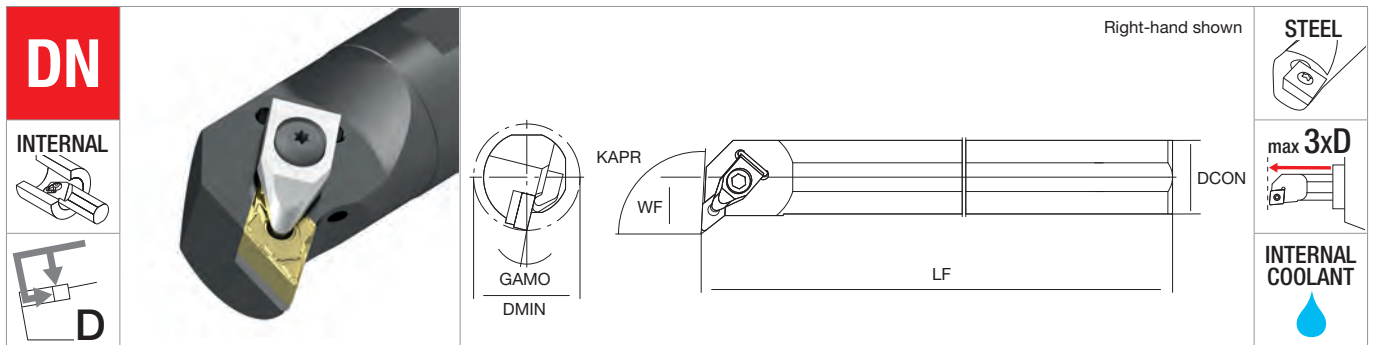
E MICRO DN Internal turning (KAPR 95°)			DMIN	DCON	WF	LF	GAMO		MIID
	R	L							
MICRO	NT-E10K-MICRO-DN ^{RH/LH}	● ●	15	10	9.3	125	19°		MICRO DN
	NT-E12M-MICRO-DN ^{RH/LH}	● ●	16	12	9	150	17°		
	NT-E16R-MICRO-DN ^{RH/LH}	● ●	20	16	11	200	17°		
	NT-E20R-MICRO-DN ^{RH/LH}	● ●	24	20	13	200	17°		

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-E10K-MICRO-DN ^{RH/LH}	NT-ST400	NT-FT10
NT-E12M-MICRO-DN ^{RH/LH}		
NT-E16R-MICRO-DN ^{RH/LH}		
NT-E20R-MICRO-DN ^{RH/LH}		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO DN	page 16	page 43	-	page 75



DN	INTERNAL	D	A DDUN Internal turning (KAPR 93°)	R	L	DMIN	DCON	WF	LF	GAMO		MIID	

15	NT-A25R-DDUN [®] /L1506	●	●	32	25	17	200	16°					
	NT-A32S-DDUN [®] /L1506	●	●	40	32	22	250	12°				DN□1506	
	NT-A40T-DDUN [®] /L1506	●	●	50	40	27	300	10°					

● stock standard



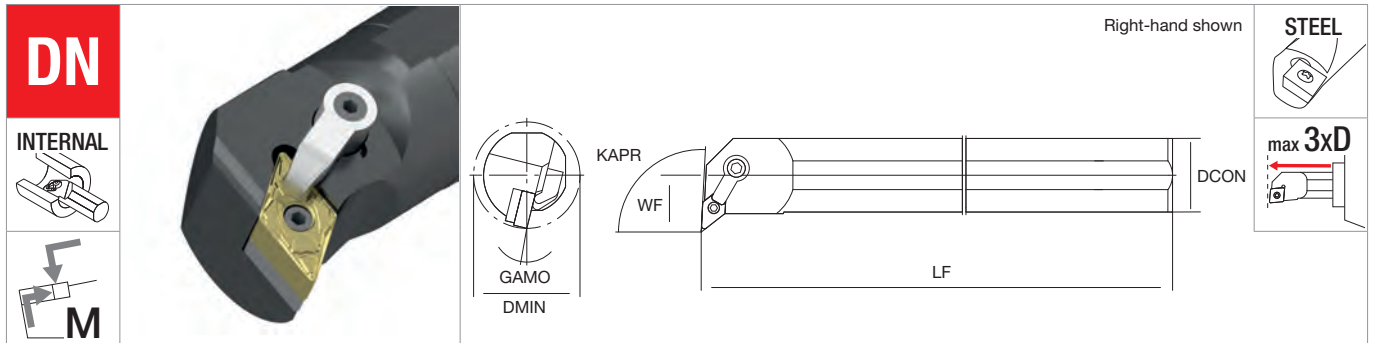
NT-A25R-DDUN [®] /L1506							
NT-A32S-DDUN [®] /L1506	NT-SH020	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-A40T-DDUN [®] /L1506							



DN□1506	page 16	page 43	page 59	page 75
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TURNING



THREADING

DN		INTERNAL		Right-hand shown		STEEL		max 3xD		
		M								
S MDUN		Internal turning (KAPR 93°)		DMIN	DCON	WF	LF	GAMO	KG	MIID
		R	L							
15	NT-S32S-MDUN®/L1506	●	●	40	32	22	250	17°		DN□1506 (DN□1504)*
	NT-S40T-MDUN®/L1506	●	●	50	40	27	350	15°		
	NT-S50U-MDUN®/L1506	●	●	63	50	35	300	12°		

● stock standard

*For DN□1504 please purchase separately shim NT-SH025

GROOVING

Spare Parts	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-S32S-MDUN®/L1506	NT-SH045*	NT-SP025	NT-CS025	NT-SC008	NT-WR030
NT-S40T-MDUN®/L1506				NT-SC010	
NT-S50U-MDUN®/L1506					

*Shim for DNMG1504: NT-SH025

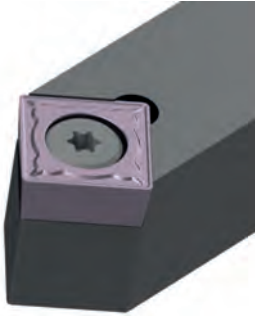
MILLING

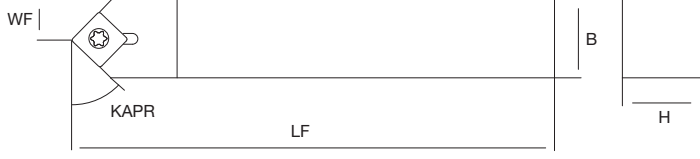
Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
DN□1504	-	page 43	-	-
DN□1506	page 16	page 43	page 59	page 75

DRILLING


ACCESSORIES

SC






EXTERNAL



S



SSDCN

External turning (KAPR 45°)

	H	B	WF	LF	KG	MIID		
--	---	---	----	----	----	------	--	--

09	NT-SSDCN2020K09	●	20	20	10	125	SC□□09T3		
	NT-SSDCN2525M09	●	25	25	12.5	150			
12	NT-SSDCN2020K12	●	20	20	10	125	SC□□1204		
	NT-SSDCN2525M12	●	25	25	12.5	150			

● stock standard

Spare Parts

INSERT SCREW




INSERT WRENCH



NT-SSDCN2020K09	NT-ST020	NT-FT15
NT-SSDCN2525M09		
NT-SSDCN2020K12	NT-ST050	NT-FT15
NT-SSDCN2525M12		

Inserts


CARBIDE




PCBN



CERAMIC



DIAMOND



SC□□09T3	page 20	-	page 62	-
SC□□1204	page 20	-	page 62	-

TURNING

THREADING

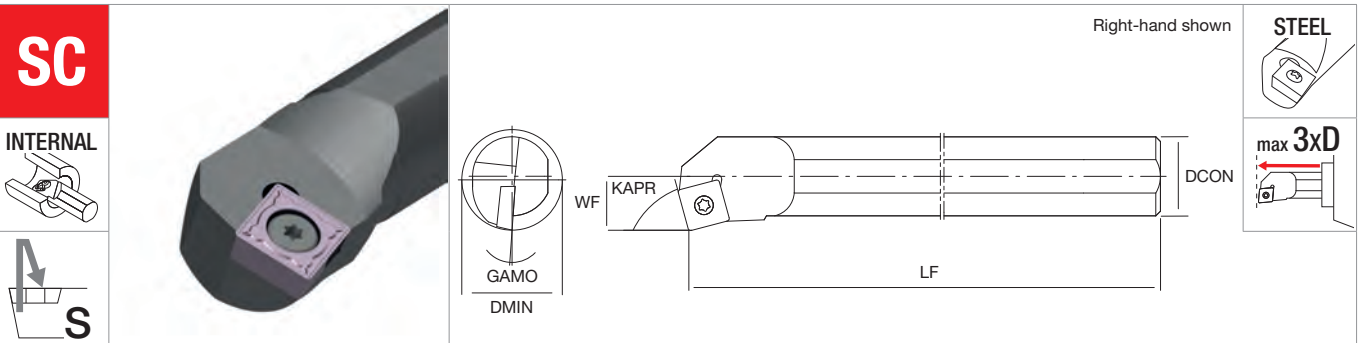
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



S SSKC Internal turning (KAPR 75°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

09	NT-S12M-SSKC%/09	●	●	16	12	8.5	150	12°	SC□09T3
	NT-S16Q-SSKC%/09	●	●	20	16	11	180	11°	
	NT-S20R-SSKC%/09	●	●	25	20	13	200	6°	
	NT-S25R-SSKC%/09	●	●	31	25	15	200	6°	
12	NT-S25R-SSKC%/12	●	●	32	25	17	200	7°	SC□1204
	NT-S32S-SSKC%/12	●	●	40	32	22	250	7°	

● stock standard

THREADING

GROOVING

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-S12M-SSKC%/09	NT-ST020	NT-FT15
NT-S16Q-SSKC%/09		
NT-S20R-SSKC%/09		
NT-S25R-SSKC%/09		
NT-S25R-SSKC%/12	NT-ST050	NT-FT15
NT-S32S-SSKC%/12		

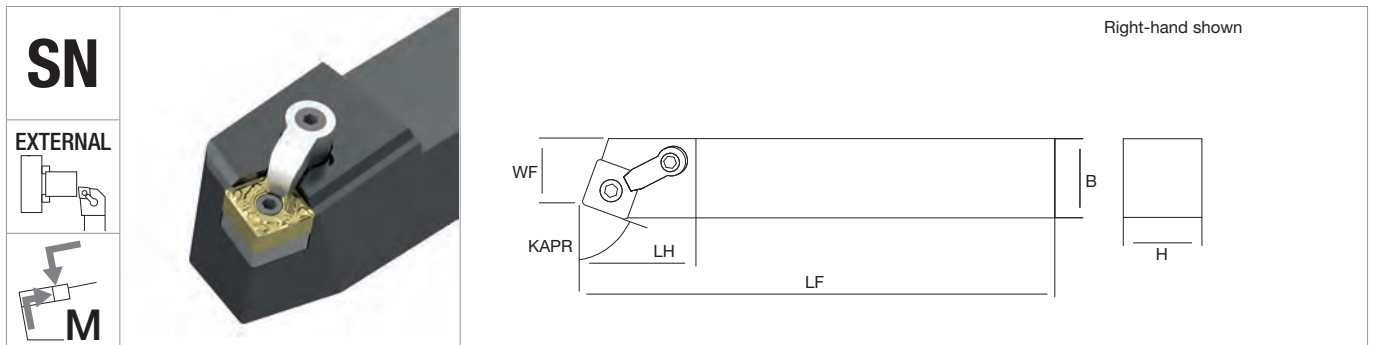
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

SC□09T3	page 20	-	page 62	-
SC□1204	page 20	-	page 62	-

DRILLING

ACCESSORIES



SN	EXTERNAL	MSBN External turning (KAPR 75°)	R	L	H	B	WF	LF	LH	KG	MIID
	M										

12	NT-MSBN®/2020K12	● ●	20	20	17	125	37	SN□1204
	NT-MSBN®/2525M12	● ●	25	25	22	150	37	
	NT-MSBN®/3232P12	○ ○	32	32	27	170	42	
19	NT-MSBN®/3232P19	○ ○	32	32	27	170	42	SN□1906
	NT-MSBN®/4040S19	○ ○	40	40	35	250	42	

● stock standard, ○ non-standard stock

Spare Parts	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH

NT-MSBN®/2020K12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSBN®/2525M12					
NT-MSBN®/3232P12					
NT-MSBN®/3232P19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040
NT-MSBN®/4040S19					

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

SN□1204	page 21	page 46	page 63	-
SN□1906	page 22	-	-	-

TURNING

THREADING

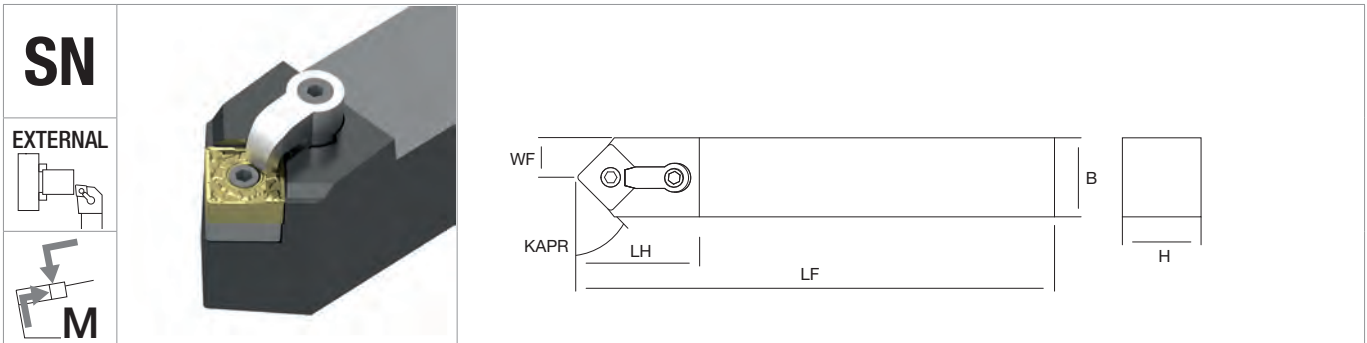
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



SN	EXTERNAL	MSDNN External turning (KAPR 45°)	H	B	WF	LF	LH	KG	MIID

THREADING

12	NT-MSDNN2020K12	●	20	20	10	125	35	SN□□1204
	NT-MSDNN2525M12	●	25	25	12.5	150	37	
	NT-MSDNN3232P12	○	32	32	16	170	43	

● stock standard, ○ non-standard stock

GROOVING

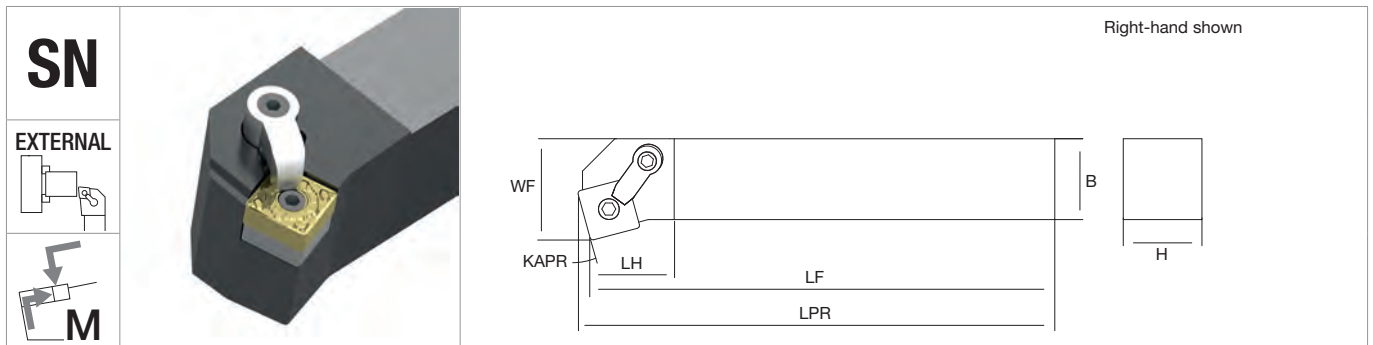
Spare Parts	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
	NT-MSDNN2020K12	NT-SP010	NT-CS010	NT-SC010	NT-WR030
	NT-MSDNN2525M12	NT-SH070	NT-CS010	NT-SC010	NT-WR030

MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
SN□□1204	page 21	page 46	page 63	-

DRILLING

ACCESSORIES



SN	EXTERNAL								MSKN External turning (KAPR 75°)	R	L	H	B	WF	LF	LH	LPR	KG	MIID

12	NT-MSKN®/.2020K12	● ●	20	20	25	122	37	125		SN□□1204
	NT-MSKN®/.2525M12	● ●	25	25	32	147	37	150		
	NT-MSKN®/.3232P12	○ ○	32	32	40	167	42	170		
19	NT-MSKN®/.4040S19	○ ○	40	40	50	247	42	250		SN□□1906

● stock standard, ○ non-standard stock

Spare Parts	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH

NT-MSKN®/.2020K12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSKN®/.2525M12					
NT-MSKN®/.3232P12					
NT-MSKN®/.4040S19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

SN□□1204	page 21	page 46	page 63	-
SN□□1906	page 22	-	-	-

TURNING

THREADING

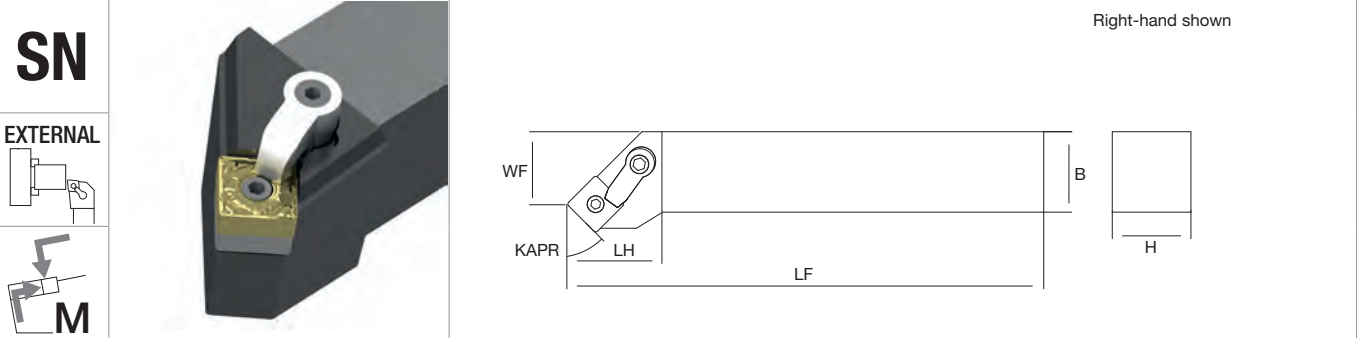
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



SN

EXTERNAL

M

MSSN

External turning (KAPR 45°)

	R	L	H	B	WF	LF	LH	KG	MIID
--	---	---	---	---	----	----	----	----	------

12	NT-MSSN®/L2020K12	●	●	20	20	25	125	35	SN□1204
	NT-MSSN®/L2525M12	●	●	25	25	32	150	35	
	NT-MSSN®/L3232P12	○	○	32	32	40	170	42	
19	NT-MSSN®/L3232P19	○	○	32	32	40	170	42	SN□1906
	NT-MSSN®/L4040S19	○	○	40	40	40	250	42	

● stock standard, ○ non-standard stock

GROOVING

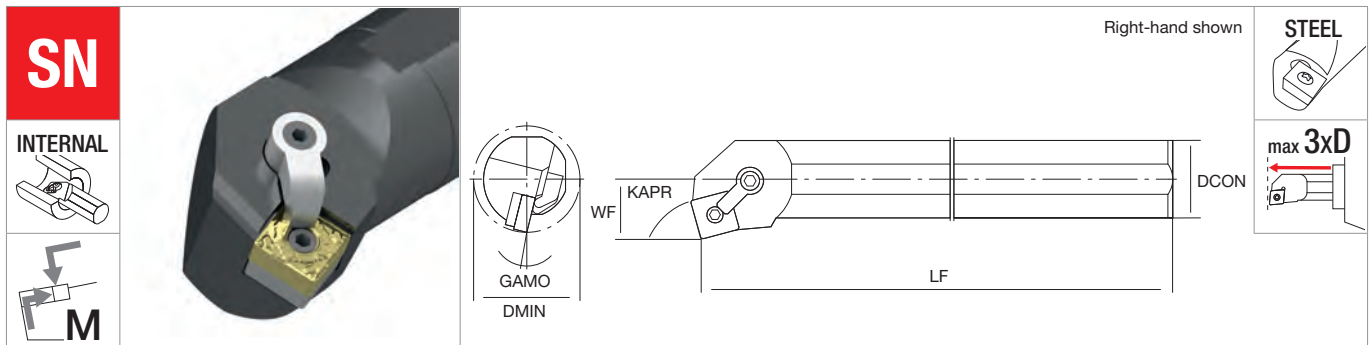
Spare Parts	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-MSSN®/L2020K12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSSN®/L2525M12					
NT-MSSN®/L3232P12					
NT-MSSN®/L3232P19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040
NT-MSSN®/L4040S19					

MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
SN□1204	page 21	page 46	page 63	-
SN□1906	page 22	-	-	-

DRILLING

ACCESSORIES



S MSKN Internal turning (KAPR 75°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

12	NT-S20R-MSKN [®] /L12	● ●	25	20	13	200	17°	SN□1204
	NT-S25R-MSKN [®] /L12	● ●	32	25	17	200	14°	
	NT-S32S-MSKN [®] /L12	● ●	40	32	22	250	14°	
	NT-S40T-MSKN [®] /L12	● ●	50	40	27	300	15°	
	NT-S50U-MSKN [®] /L12	● ●	63	50	35	350	12°	
19	NT-S50U-MSKN [®] /L19	○ ○	63	50	35	350	8°	SN□1906

● stock standard, ○ non-standard stock

Spare Parts	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH

NT-S20R-MSKN [®] /L12	-	NT-SP035	NT-WR025	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MSKN [®] /L12				NT-SC008		
NT-S32S-MSKN [®] /L12	NT-SH070	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S40T-MSKN [®] /L12						
NT-S50U-MSKN [®] /L12						
NT-S50U-MSKN [®] /L19	NT-SH090	NT-SP050	NT-WR030	NT-CS015	NT-SC070	NT-WR040

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

SN□1204	page 21	page 46	page 63	-
SN□1906	page 22	-	-	-

TURNING

THREADING

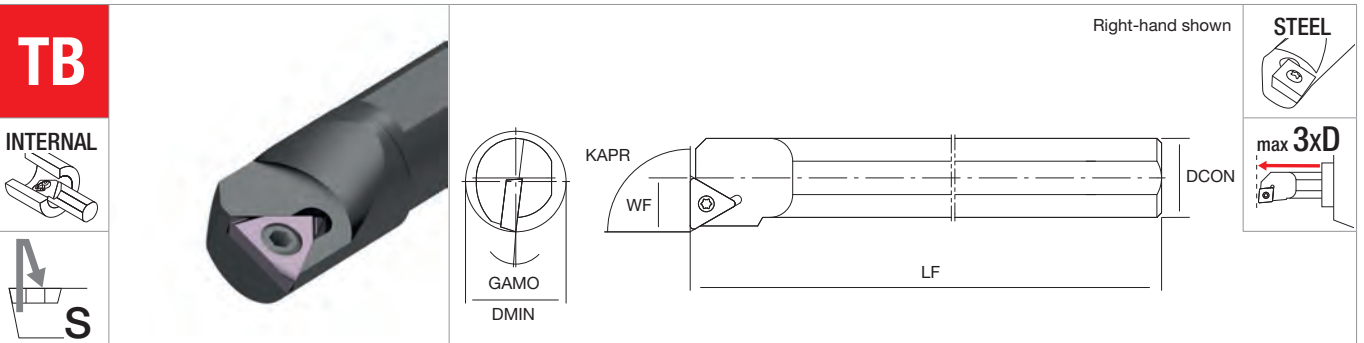
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



S STUB Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID
		●	●	10	8	4	100	12°		TB□□061

06	NT-S08H-STUB%/06	●	●	10	8	4	100	12°		TB□□061
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● stock standard

THREADING

Spare Parts	INSERT SCREW	INSERT WRENCH
	NT-S08H-STUB%/06	NT-ST003

GROOVING

MILLING

DRILLING

ACCESSORIES

TC

EXTERNAL

S

Right-hand shown

STAC External turning (KAPR 90°)		R	L	H	B	WF	LF		MIID		
--	--	---	---	---	---	----	----	--	------	--	--

09	NT-STAC%/L0808H09	○	○	8	8	8.5	100		TC□□0902		
	NT-STAC%/L1010H09	○	○	10	10	10.5	100				
11	NT-STAC%/L1212H11	●	●	12	12	12.5	100		TC□□1102		
	NT-STAC%/L1616H11	●	●	16	16	16.5	100				

● stock standard, ○ non-standard stock

Spare Parts	INSERT SCREW		INSERT WRENCH	
-------------	--------------	--	---------------	--

NT-STAC%/L0808H09	NT-ST004	NT-FT07
NT-STAC%/L1010H09		
NT-STAC%/L1212H11	NT-ST010	NT-FT07
NT-STAC%/L1616H11		

Inserts	CARBIDE		PCBN		CERAMIC		DIAMOND	
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TC□□0902	page 24	-	-	page 76
TC□□1102	page 24	page 47	-	page 76

TURNING

THREADING

GROOVING

MILLING


DRILLING

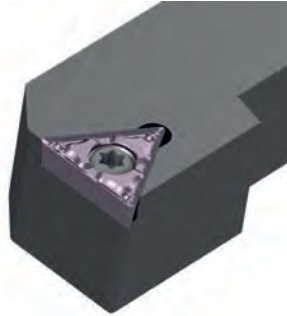
ACCESSORIES

TURNING

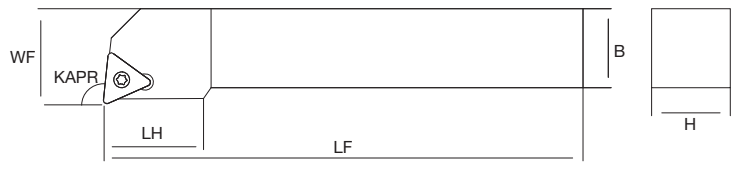
TC

EXTERNAL





Right-hand shown



THREADING

STFC External turning (KAPR 91°)			H	B	WF	LF	LH	KG	MIID
	R	L							

09	NT-STFC%/L0808H09		○	○	8	8	10	100	12		TC□□0902
	NT-STFC%/L1010H09		○	○	10	10	12	100	12		
11	NT-STFC%/L1212H11		●	●	12	12	16	100	17		TC□□1102
	NT-STFC%/L1616H11		●	●	16	16	20	100	18		
16	NT-STFC%/L2020K16		●	●	20	20	25	125	22		TC□□16T3
	NT-STFC%/L2525M16		●	●	25	25	32	150	25		





● stock standard, ○ non-standard stock

GROOVING

Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-STFC%/L0808H09	NT-ST004	NT-FT07
NT-STFC%/L1010H09		
NT-STFC%/L1212H11	NT-ST010	NT-FT07
NT-STFC%/L1616H11		
NT-STFC%/L2020K16	NT-ST020	NT-FT15
NT-STFC%/L2525M16		

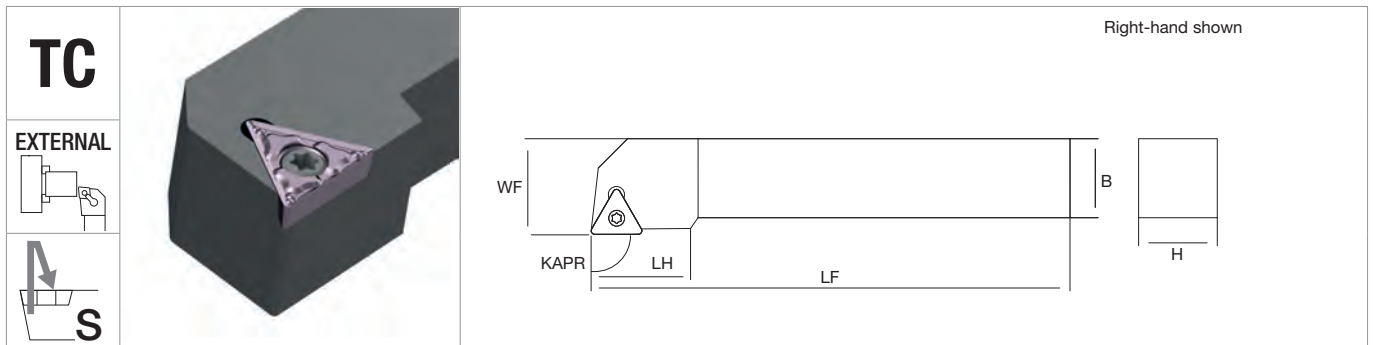
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
				

TC□□0902	page 24	-	-	page 76
TC□□1102	page 24	page 47	-	page 76
TC□□16T3	page 24	page 47	-	page 76

DRILLING

ACCESSORIES



TC															
EXTERNAL															
STGC															
External turning (KAPR 91°)															
		R L		H B		WF LF		LH		KG		MIID			

11	NT-STGC%/L1212H11	○	○	12	12	16	100	17			TC□□1102		
	NT-STGC%/L1616H11	○	●	16	16	20	100	18					
16	NT-STGC%/L2020K16	●	●	20	20	25	125	22			TC□□16T3		
	NT-STGC%/L2525M16	●	●	25	25	32	150	25					

● stock standard, ○ non-standard stock

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-STGC%/L1212H11	NT-ST010	NT-FT07
NT-STGC%/L1616H11		
NT-STGC%/L2020K16	NT-ST020	NT-FT15
NT-STGC%/L2525M16		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

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TC□□16T3	page 24	page 47	-	page 76

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

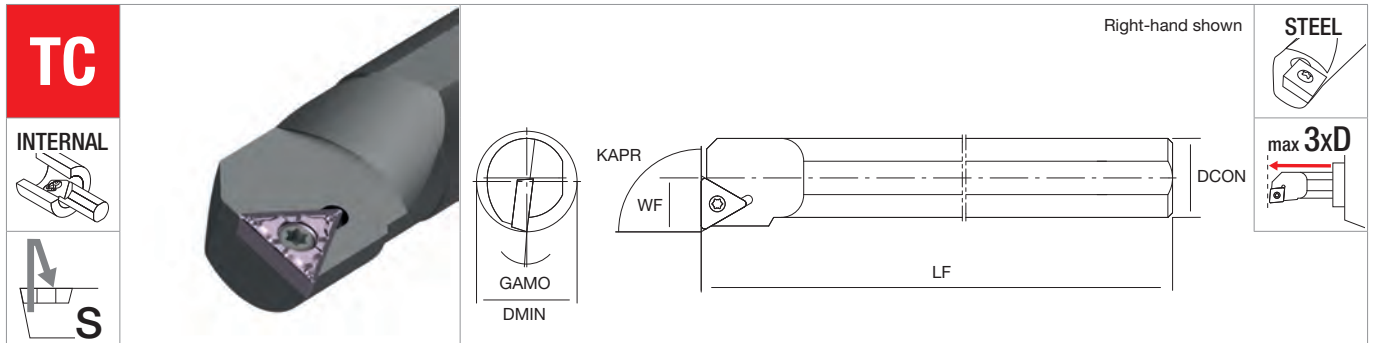
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



TC	INTERNAL	S	S STFC Internal turning (KAPR 91°)	R	L	DMIN	DCON	WF	LF	GAMO		MIID	

09	NT-S08H-STFC%/09	●	●	12	8	6	100	15°		TC□□0902	
	NT-S10K-STFC%/09	●	●	14	10	7	125	15°			
	NT-S12M-STFC%/09	●	●	16	12	9	150	10°			
11	NT-S10K-STFC%/11	●	●	14	10	7	125	15°		TC□□1102	
	NT-S12M-STFC%/11	●	●	14	12	7	150	10°			
	NT-S16K-STFC%/11	●	●	18	16	9	180	8°			
16	NT-S20R-STFC%/11	●	●	25	20	13	200	3°			
	NT-S20R-STFC%/16	●	●	25	20	13	200	8°		TC□□16T3	
	NT-S25R-STFC%/16	●	●	32	25	17	200	6°			
NT-S32S-STFC%/16	●	●	39	32	22	250	4°				

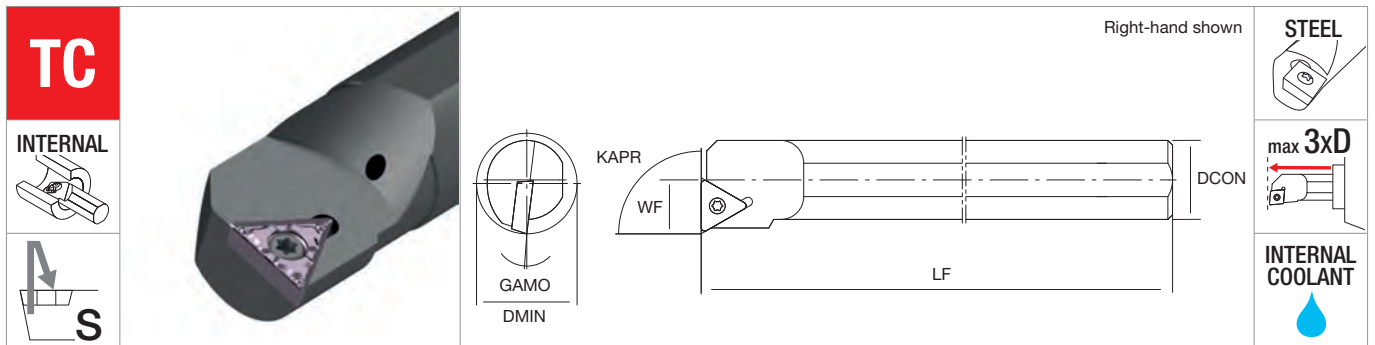
● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-S08H-STFC%/09	NT-ST004	NT-FT07
NT-S10K-STFC%/09		
NT-S12M-STFC%/09		
NT-S10K-STFC%/11	NT-ST010	NT-FT07
NT-S12M-STFC%/11		
NT-S16K-STFC%/11		
NT-S20R-STFC%/11	NT-ST030	NT-FT15
NT-S20R-STFC%/16		
NT-S25R-STFC%/16		
NT-S32S-STFC%/16		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

TC□□0902	page 24	-	-	page 76
TC□□1102	page 24	page 47	-	page 76
TC□□16T3	page 24	page 47	-	page 76



TC	INTERNAL 	S 	A STFC Internal turning (KAPR 91°)						MIID	
			R	L	DMIN	DCON	WF			

11	NT-A10K-STFC%/L11	● ●	14	10	7	125	15°	TC□□1102
	NT-A12M-STFC%/L11	● ●	14	12	7	150	10°	
	NT-A16Q-STFC%/L11	● ●	18	16	9	180	8°	
	NT-A20R-STFC%/L11	● ●	25	20	13	200	3°	

● stock standard

Spare Parts	INSERT SCREW 	INSERT WRENCH
	NT-ST010	NT-FT07

NT-A10K-STFC%/L11	NT-ST010	NT-FT07
NT-A12M-STFC%/L11		
NT-A16Q-STFC%/L11		
NT-A20R-STFC%/L11		

Inserts	CARBIDE 	PCBN 	CERAMIC 	DIAMOND
	TC□□1102	page 24	page 47	- page 76

TC□□1102	page 24	page 47	-	page 76
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TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

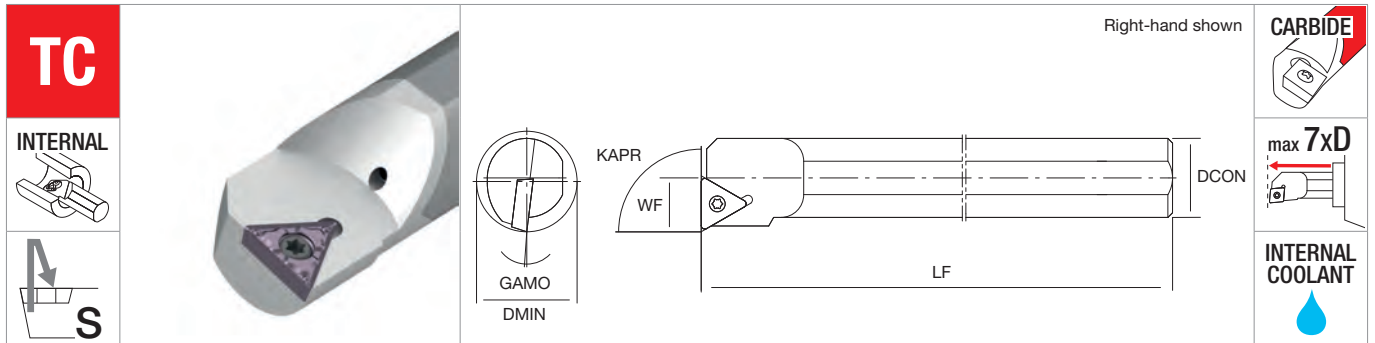
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



TC	INTERNAL	S	E STFC		DMIN	DCON	WF	LF	GAMO	KG	MIID	
			Internal turning (KAPR 91°)									
			R	L								

11	NT-E10K-STFC%/L11	● ●	12	10	6	125	15°	TC□□1102	
	NT-E12M-STFC%/L11	● ●	14	12	7	150	10°		
	NT-E16R-STFC%/L11	● ●	18	16	9	200	8°		
	NT-E20R-STFC%/L11	● ●	22	20	11	200	6°		

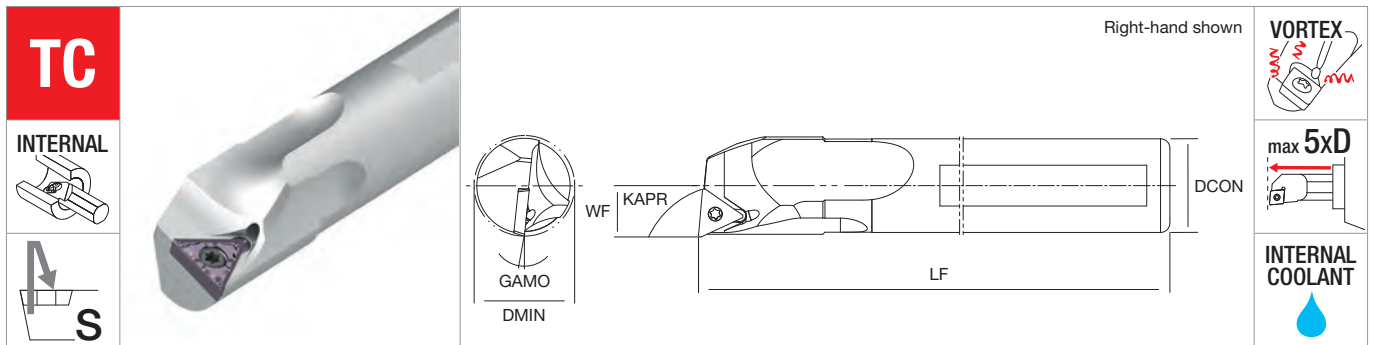
● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-E10K-STFC%/L11	NT-ST010	NT-FT07
NT-E12M-STFC%/L11		
NT-E16R-STFC%/L11		
NT-E20R-STFC%/L11		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

TC□□1102	page 24	page 47	-	page 76
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V STLC Internal turning (KAPR 95°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

09	NT-V08H-STLC%/09-10	●	●	10	8	5	100	14°	TC□□0902
	NT-V10K-STLC%/09-12	●	●	12	10	6	125	12°	
	NT-V12M-STLC%/09-14	●	●	14	12	7	150	10°	
11	NT-V10K-STLC%/11-12	●	●	12	10	6	125	12°	TC□□1102
	NT-V12M-STLC%/11-14	●	●	14	12	7	150	10°	
	NT-V16Q-STLC%/11-18	●	●	18	16	9	180	8°	
	NT-V20R-STLC%/11-22	●	●	22	20	11	200	6°	
16	NT-V20R-STLC%/16-25	●	●	25	20	12.5	200	8°	TC□□16T3
	NT-V25S-STLC%/16-32	●	●	32	25	16	250	6°	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-V08H-STLC%/09-10	NT-ST004	NT-FT07
NT-V10K-STLC%/09-12		
NT-V12M-STLC%/09-14		
NT-V10K-STLC%/11-12	NT-ST010	NT-FT07
NT-V12M-STLC%/11-14		
NT-V16Q-STLC%/11-18		
NT-V20R-STLC%/11-22		
NT-V20R-STLC%/16-25	NT-ST030	NT-FT15
NT-V25S-STLC%/16-32		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

TC□□0902	page 24	-	-	page 76
TC□□1102	page 24	page 47	-	page 76
TC□□16T3	page 24	page 47	-	page 76

TURNING

THREADING

GROOVING

MILLING

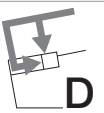
DRILLING


ACCESSORIES

TURNING

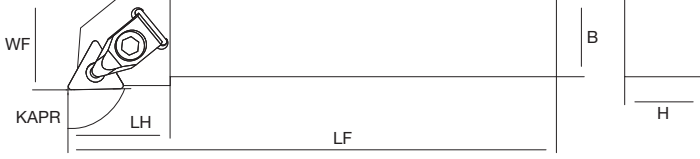
TN

EXTERNAL





Right-hand shown



THREADING





		R L		H	B	WF	LF	LH	KG	MIID
16	NT-DTGN [®] /2020K16X	●	●	20	20	25	125	33		TN□□1604
	NT-DTGN [®] /2525M16X	●	●	25	25	32	150	33		

● stock standard

GROOVING

Spare Parts	SHIM	SHIM SCREW	CLAMP	SPRING	CLAMP SCREW	WRENCH
						
NT-DTGN [®] /2020K16X	NT-SH006	NT-ST250	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DTGN [®] /2525M16X						

MILLING

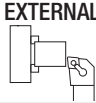

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
				
TN□□1604	page 25	page 48	page 65	page 78

DRILLING


ACCESSORIES

TN

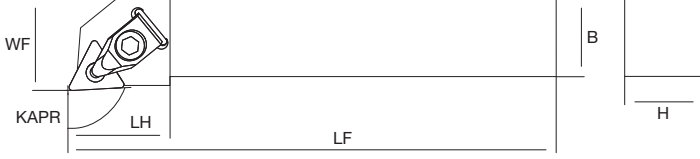
EXTERNAL

D



Right-hand shown



DTJN			H	B	WF	LF	LH	 KG	MIID	
External turning (KAPR 93°)										
	R	L								

16	NT-DTJN[®]/L2020K16X	● ●	20	20	25	125	33		TN□1604	
	NT-DTJN[®]/L2525M16X	● ●	25	25	32	150	33			

● stock standard

Spare Parts	SHIM 	SHIM SCREW 	CLAMP 	SPRING 	CLAMP SCREW 	WRENCH 
-------------	--	--	---	--	---	---

NT-DTJN[®]/L2020K16X	NT-SH006	NT-ST250	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DTJN[®]/L2525M16X						

Inserts	CARBIDE 	PCBN 	CERAMIC 	DIAMOND 
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TN□1604	page 25	page 48	page 65	page 78
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TURNING

THREADING

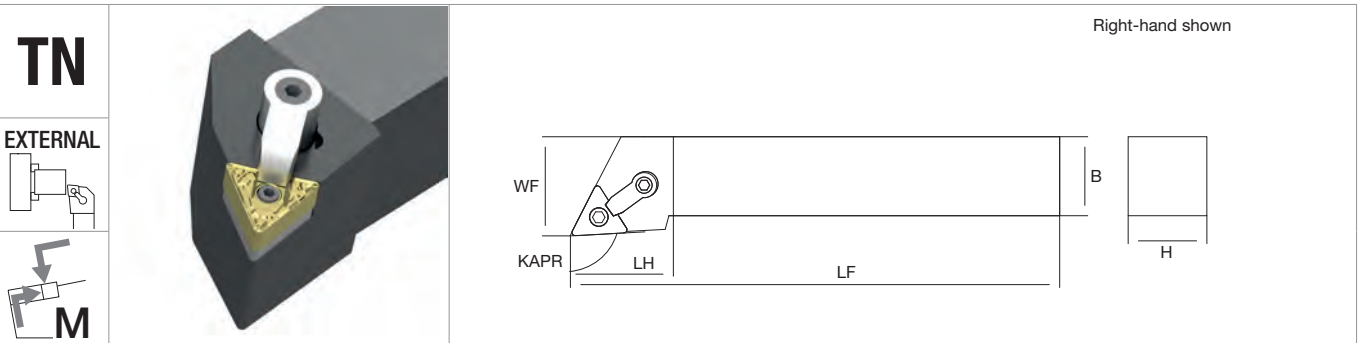
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



TN

EXTERNAL



MTJN

External turning (KAPR 93°)

R L

H	B	WF	LF	LH	KG	MIID
---	---	----	----	----	----	------

16	NT-MTJN®/2020K16	●	●	20	20	25	125	33	TN□□1604
	NT-MTJN®/2525M16	●	●	25	25	32	150	35	
	NT-MTJN®/3232P16	●	●	32	32	40	170	43	
22	NT-MTJN®/2525M22	●	●	25	25	32	150	43	TN□□2204
	NT-MTJN®/3225P22	●	●	32	25	32	170	43	

● stock standard

GROOVING

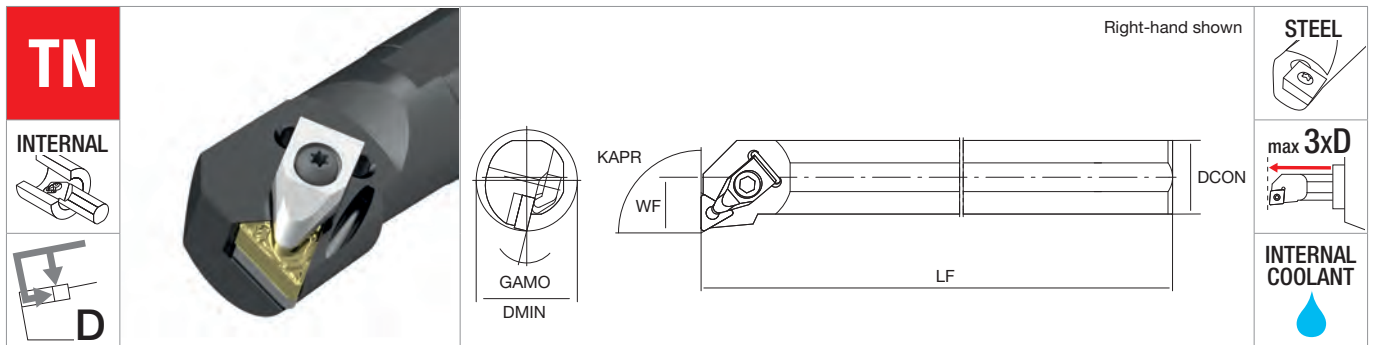
Spare Parts	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH
NT-MTJN®/2020K16	NT-SH005	NT-SP020	NT-WR020	NT-CS010	NT-SC008	NT-WR030
NT-MTJN®/2525M16					NT-SC010	
NT-MTJN®/3232P16						
NT-MTJN®/2525M22	NT-SH008	NT-SP010	NT-WR030	NT-CS070	NT-SC070	NT-WR040
NT-MTJN®/3225P22						

MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
TN□□1604	page 25	page 48	page 65	page 78
TN□□2204	page 25	-	-	-

DRILLING

ACCESSORIES



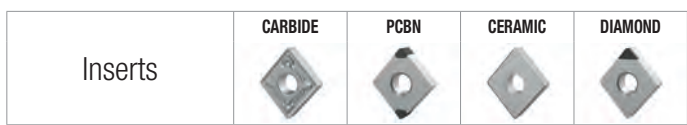
A DTFN Internal turning (KAPR 91°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

16	NT-A25R-DTFN [®] /L16	● ●	32	25	17	200	13°		TN□1604
	NT-A32S-DTFN [®] /L16	● ●	40	32	22	250	13°		

● stock standard



NT-A25R-DTFN [®] /L16	NT-SH006	NT-ST250	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-A32S-DTFN [®] /L16						



TN□1604	page 25	page 48	page 65	page 78
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TURNING

THREADING

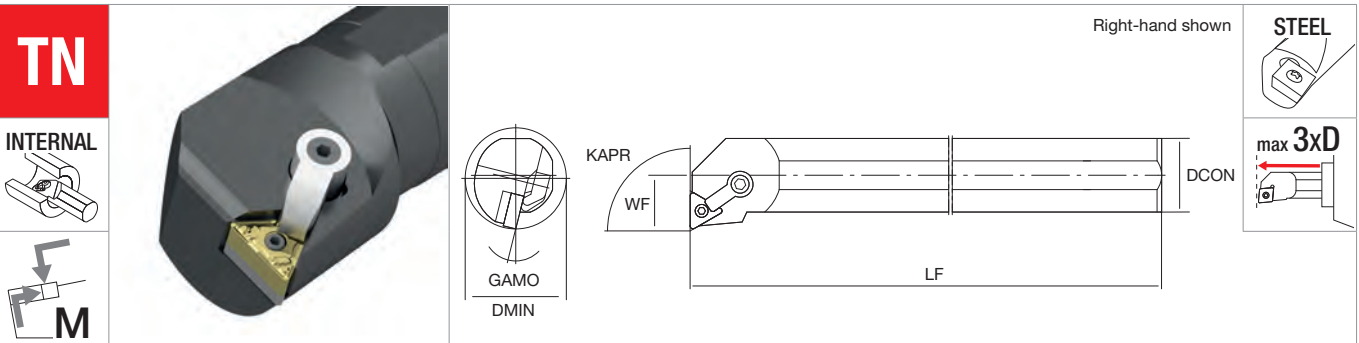
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



TN	INTERNAL		S MTUN Internal turning (KAPR 93°)	DMIN	DCON	WF	LF	GAMO	KG	MIID
	R	L								

				DMIN	DCON	WF	LF	GAMO	KG	MIID
		R	L							
16	NT-S20R-MTUN [®] /L16	●	●	25	20	13	200	17°	TN□1604	
	NT-S25R-MTUN [®] /L16	●	●	32	25	17	200	12°		
	NT-S32S-MTUN [®] /L16	●	●	40	32	22	250	10°		
	NT-S40T-MTUN [®] /L16	●	●	50	40	27	300	10°		
	NT-S50U-MTUN [®] /L16	●	●	63	50	35	350	8°		
22	NT-S40T-MTUN [®] /L22	○	○	50	40	27	300	15°	TN□2204	
	NT-S50U-MTUN [®] /L22	○	○	63	50	35	350	12°		

● stock standard, ○ non-standard stock

THREADING

GROOVING

Spare Parts	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH

NT-S20R-MTUN [®] /L16	-	NT-SP030	NT-WR020	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MTUN [®] /L16				NT-SC008	NT-WR030	
NT-S32S-MTUN [®] /L16	NT-SH005	NT-SP020	NT-CS010	NT-SC010		
NT-S40T-MTUN [®] /L16						
NT-S50U-MTUN [®] /L16						
NT-S40T-MTUN [®] /L22	NT-SH008	NT-SP010	NT-WR030	NT-CS070	NT-SC070	NT-WR040
NT-S50U-MTUN [®] /L22						

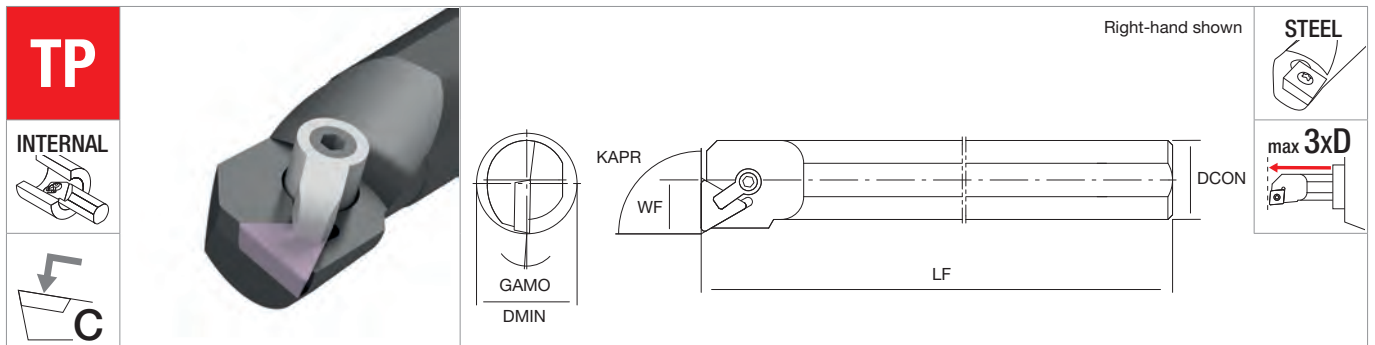
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

TN□1604	page 25	page 48	page 65	page 78
TN□2204	page 25	-	-	-

DRILLING

ACCESSORIES



TP INTERNAL 	S CTUP Internal turning (KAPR 93°)		DMIN	DCON	WF	LF	GAMO	KG	MIID
			R	L					

11	NT-S12M-CTUP ^{R/L} 11	● ●	16	12	9	150	0°	TP□□1103
	NT-S16Q-CTUP ^{R/L} 11	● ●	20	16	11	180	3°	
	NT-S20R-CTUP ^{R/L} 11	● ●	25	20	13	200	3°	
16	NT-S25R-CTUP ^{R/L} 16	● ●	32	25	17	200	3°	TP□□1604
	NT-S32S-CTUP ^{R/L} 16	● ●	40	32	22	250	3°	

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH

NT-S12M-CTUP ^{R/L} 11	-	-	-	NT-CS003		NT-WR025
NT-S16Q-CTUP ^{R/L} 11				NT-CS005	NT-SC005	
NT-S20R-CTUP ^{R/L} 11						
NT-S25R-CTUP ^{R/L} 16	NT-SH002	NT-ST022	NT-FT06	NT-CS010	NT-SC008	NT-WR030
NT-S32S-CTUP ^{R/L} 16						

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

TP□□1103	-	-	page 66	-
TP□□1604	-	-	page 66	-

TURNING

THREADING

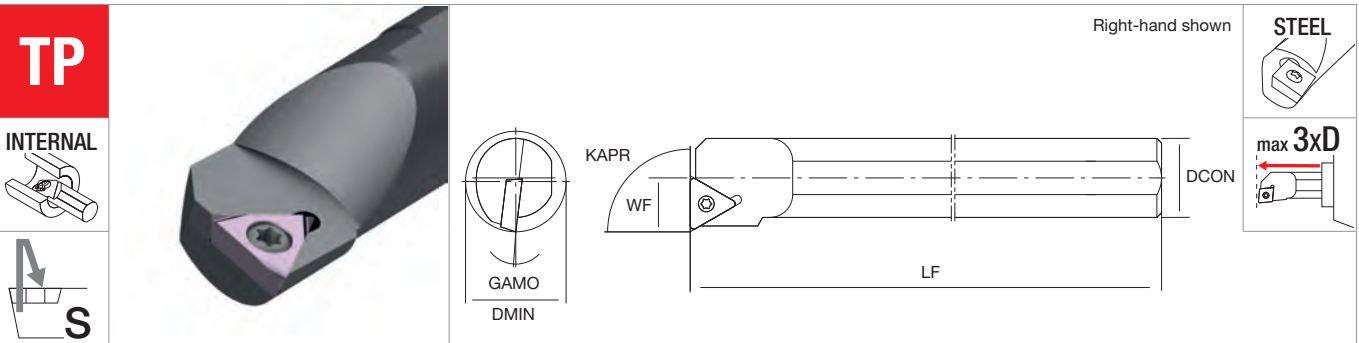
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



S STUP Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

09	NT-S10K-STUP ^{R/L} 09	●	●	12	10	6	125	8°		TP□□0902
	NT-S12M-STUP ^{R/L} 09	●	●	14	12	7	150	5°		
11	NT-S10K-STUP ^{R/L} 11	●	●	12	10	6	125	8°		TP□□1103
	NT-S12M-STUP ^{R/L} 11	●	●	14	12	7	150	7°		
	NT-S16K-STUP ^{R/L} 11	●	●	18	16	9	180	4°		
	NT-S20R-STUP ^{R/L} 11	●	●	22	20	11	200	2°		

● stock standard

THREADING

GROOVING

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-S10K-STUP ^{R/L} 09	NT-ST005	NT-FT08
NT-S12M-STUP ^{R/L} 09		
NT-S10K-STUP ^{R/L} 11	NT-ST014	NT-FT10
NT-S12M-STUP ^{R/L} 11		
NT-S16K-STUP ^{R/L} 11	NT-ST015	
NT-S20R-STUP ^{R/L} 11		

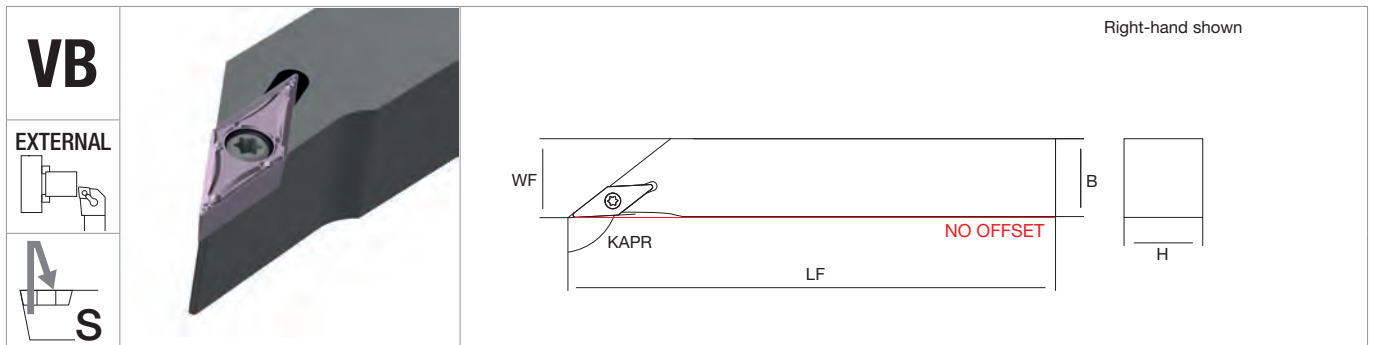
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

TP□□0902	page 28	page 49	-	page 79
TP□□1103	page 28	page 49	-	page 79

DRILLING

ACCESSORIES



VB EXTERNAL S		SVJB N External turning (KAPR 93°)		H	B	WF	LF	KG	MIID		
				R	L						

11	NT-SVJB%/L1212K11N	●	●	12	12	12	125		VB□1103		
	NT-SVJB%/L1616K11N	●	●	16	16	16	125				
16	NT-SVJB%/L1616H16N	●	●	16	16	16	100		VB□1604		

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

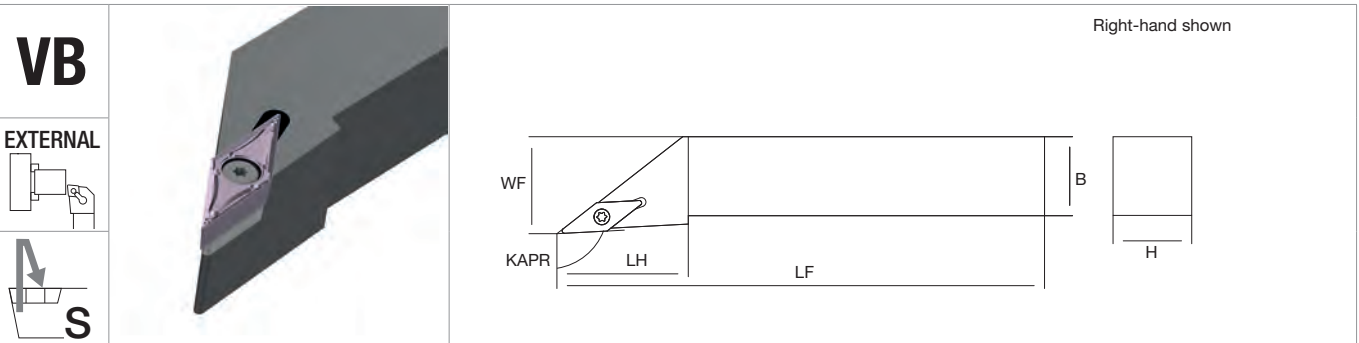
NT-SVJB%/L1212K11N	-	-	-	NT-ST010	NT-FT07
NT-SVJB%/L1616K11N	-	-	-	NT-ST040	NT-FT15
NT-SVJB%/L1616H16N	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

VB□1103	page 29	page 50	-	page 80
VB□1604	page 29	page 50	-	page 80

TURNING
 THREADING
 GROOVING
 MILLING
 DRILLING
 ACCESSORIES

TURNING



THREADING

<p>VB</p> <p>EXTERNAL</p> <p>SVJB External turning (KAPR 93°)</p>		R	L	H	B	WF	LF	LH	KG	MIID	

11	NT-SVJB%/2020K11	●	●	20	20	25	125	22		VB□1103	
	NT-SVJB%/2020K16	●	●	20	20	25	125	33		VB□1604	
	NT-SVJB%/2525M16	●	●	25	25	32	150	38			

● stock standard

GROOVING

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVJB%/2020K11	-	-	-	NT-ST010	NT-FT07
NT-SVJB%/2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVJB%/2525M16					

MILLING



Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
VB□1103	page 29	page 50	-	page 80
VB□1604	page 29	page 50	-	page 80

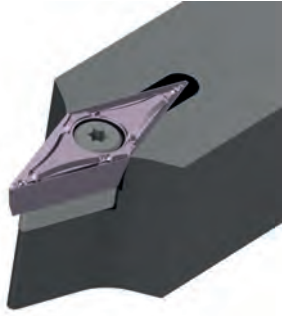
DRILLING

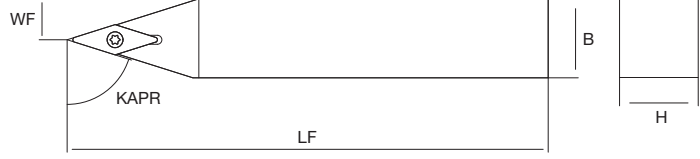
ACCESSORIES

VB

EXTERNAL





SVBN

External turning (KAPR 72.5°)





	H	B	WF	LF	KG	MIID		
--	---	---	----	----	----	------	--	--

11	NT-SVBN2020K11	●	20	20	10	125		VB□1103		
	NT-SVBN2525M11	●	25	25	12.5	150				
16	NT-SVBN2020K16	●	20	20	10	125		VB□1604		
	NT-SVBN2525M16	●	25	25	12.5	150				

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVBN2020K11					

NT-SVBN2020K11	-	-	-	NT-ST010	NT-FT07
NT-SVBN2525M11	-	-	-		
NT-SVBN2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVBN2525M16					

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
				

VB□1103	page 29	page 50	-	page 80
VB□1604	page 29	page 50	-	page 80

TURNING

THREADING

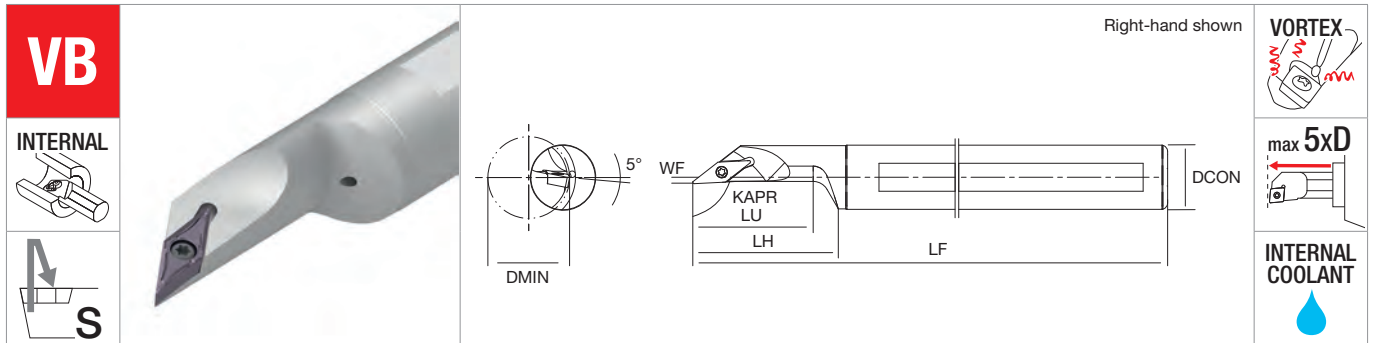
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



THREADING

V SVJB Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	LH	LU		MIID
		●	●	25	20	2	200	48	37.5		VB□1103
11	NT-V20R-SVJB [®] /L11-25	●	●	30	25	3.5	250	58	46		
	NT-V25S-SVJB [®] /L11-30	●	●								

● stock standard

GROOVING

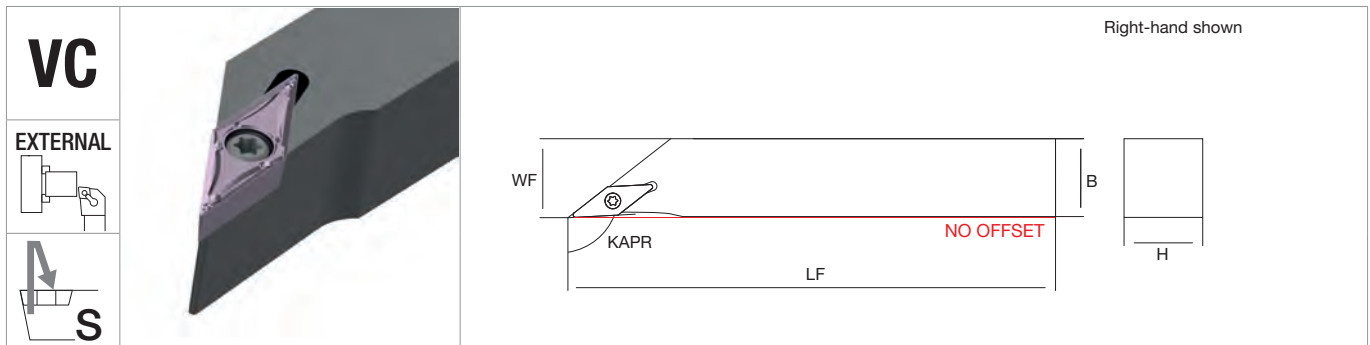
Spare Parts	INSERT SCREW	INSERT WRENCH
NT-V20R-SVJB [®] /L11-25	NT-ST010	NT-FT07
NT-V25S-SVJB [®] /L11-30		

MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
VB□1103	page 29	page 50	-	page 80

DRILLING

ACCESSORIES



VC EXTERNAL S		SVJC N External turning (KAPR 93°)		H	B	WF	LF	KG	MIID		
				R	L						

11	NT-SVJC%/L1010K11N	○	○	10	10	10	125		VC□□1103		
	NT-SVJC%/L1212K11N	●	●	12	12	12	125				
	NT-SVJC%/L1616K11N	●	●	16	16	16	125				
16	NT-SVJC%/L1616H16N	●	●	16	16	16	100		VC□□1604		

● stock standard, ○ non-standard stock

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

NT-SVJC%/L1010K11N					
NT-SVJC%/L1212K11N	-	-	-	NT-ST010	NT-FT07
NT-SVJC%/L1616K11N					
NT-SVJC%/L1616H16N	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

VC□□1103	page 30	page 51	-	page 81
VC□□1604	page 30	page 51	-	page 81

TURNING

THREADING

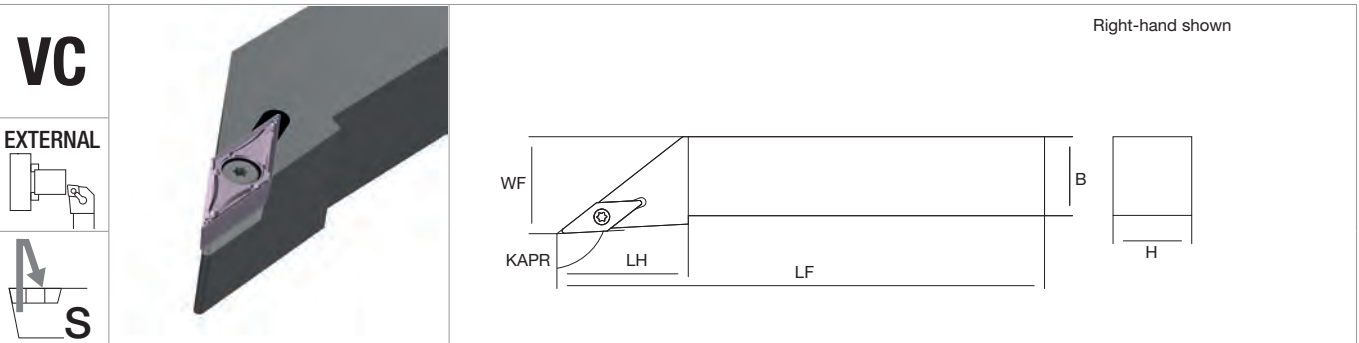
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



<p>VC</p> <p>EXTERNAL</p> <p>S</p>		<p>SVJC</p> <p>External turning (KAPR 93°)</p>		H	B	WF	LF	LH		MIID
		R	L							

11	NT-SVJC%/2020K11	●	●	20	20	25	125	22		VC□□1103
	NT-SVJC%/2020K16	●	●	20	20	25	125	33		VC□□1604
	NT-SVJC%/2525M16	●	●	25	25	32	150	38		

● stock standard

THREADING

GROOVING

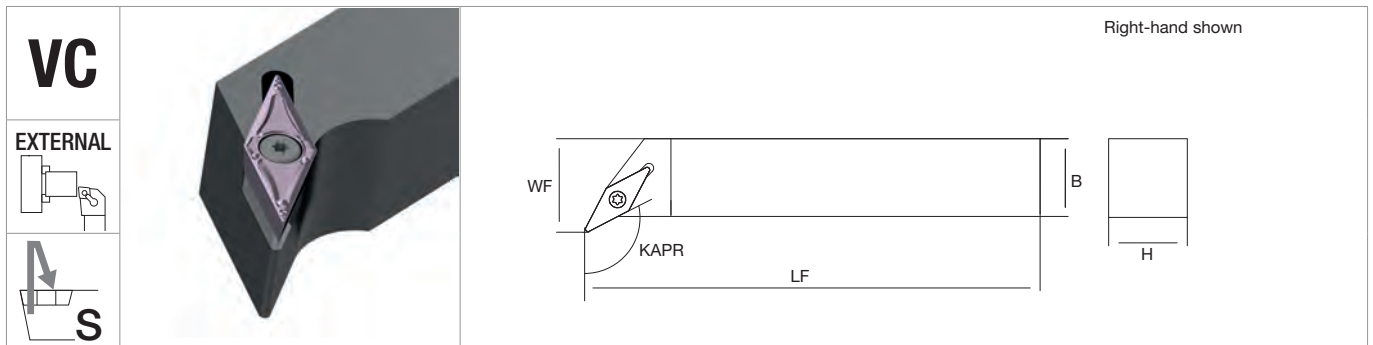
Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
	NT-SVJC%/2020K11	-	-	NT-ST010	NT-FT07
	NT-SVJC%/2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040
NT-SVJC%/2525M16	NT-FT15				

MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
	VC□□1103	page 30	page 51	-
VC□□1604	page 30	page 51	-	page 81

DRILLING

ACCESSORIES



VC			Right-hand shown							
EXTERNAL										
S										
SVPC										
External turning (KAPR 117.5°)										
	R	L	H	B	WF	LF	KG	MIID		

11	NT-SVPC%/1010H11	○	○	10	10	14.5	100		VC□□1103		
	NT-SVPC%/1212H11	●	●	12	12	16.5	100				
	NT-SVPC%/1616H11	●	●	16	16	20.5	100				
16	NT-SVPC%/2020K16	●	●	20	20	25	125		VC□□1604		
	NT-SVPC%/2525M16	●	●	25	25	32	150				

● stock standard, ○ non-standard stock

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

NT-SVPC%/1010H11	-	-	-	NT-ST010	NT-FT07
NT-SVPC%/1212H11					
NT-SVPC%/1616H11					
NT-SVPC%/2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVPC%/2525M16					

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

VC□□1103	page 30	page 51	-	page 81
VC□□1604	page 30	page 51	-	page 81

TURNING

THREADING

GROOVING

MILLING

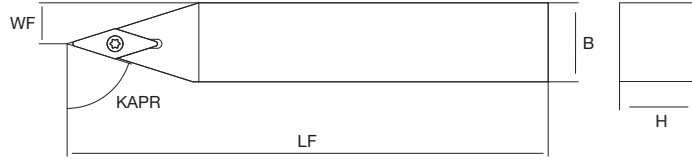
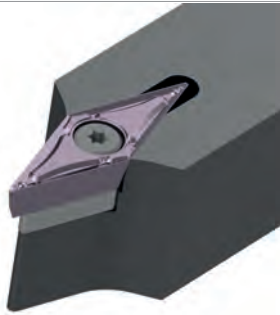
DRILLING

ACCESSORIES

TURNING

VC

EXTERNAL



SWCN

External turning (KAPR 72.5°)

H	B	WF	LF	KG	MIID		
---	---	----	----	----	------	--	--

11	NT-SVVCN1010H11	○	10	10	5	100	VC□□1103		
	NT-SVVCN1212H11	●	12	12	6	100			
	NT-SVVCN1616H11	●	16	16	8	100			
16	NT-SVVCN2020K16	●	20	20	10	125	VC□□1604		
	NT-SVVCN2525M16	●	25	25	12.5	150			

● stock standard, ○ non-standard stock

GROOVING

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

NT-SVVCN1010H11					
NT-SVVCN1212H11	-	-	-	NT-ST010	NT-FT07
NT-SVVCN1616H11					
NT-SVVCN2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVVCN2525M16					

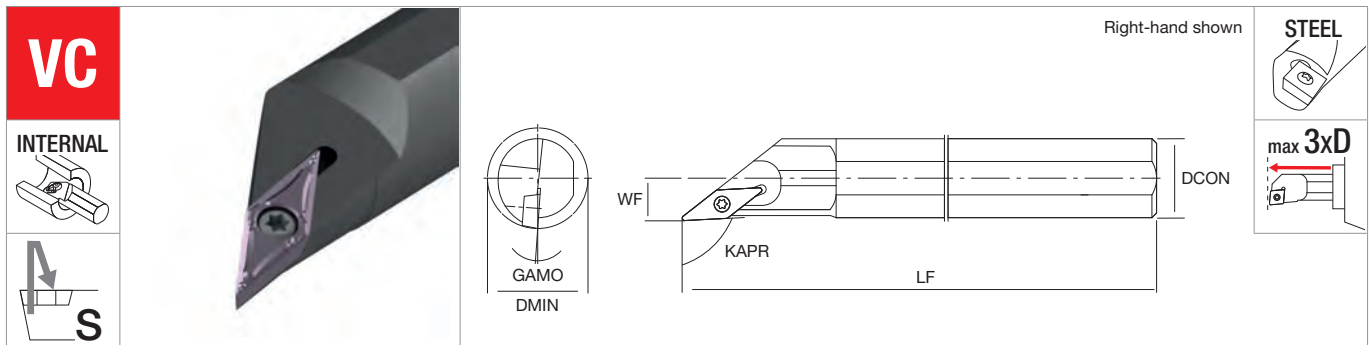
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

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VC□□1604	page 30	page 51	-	page 81

DRILLING

ACCESSORIES



VC INTERNAL 		S 	S SVJC Internal turning (KAPR 93°)	R L	DMIN	DCON	WF	LF	GAMO	KG	MIID

11	NT-S12M-SVJC%/L11	● ●	14	12	7	150	7°		VC□□1103
	NT-S16Q-SVJC%/L11	● ●	18	16	9	180	7°		
16	NT-S16Q-SVJC%/L16	● ●	18	16	9	180	7°	VC□□1604	
	NT-S20R-SVJC%/L16	● ●	21	20	10.5	200	6°		
	NT-S25R-SVJC%/L16	● ●	27	25	13.5	200	6°		
	NT-S32S-SVJC%/L16	● ●	34	32	17	250	4°		
	NT-S40T-SVJC%/L16	○ ○	44	40	22	300	4°		

● stock standard, ○ non-standard stock

Spare Parts	INSERT SCREW	INSERT WRENCH

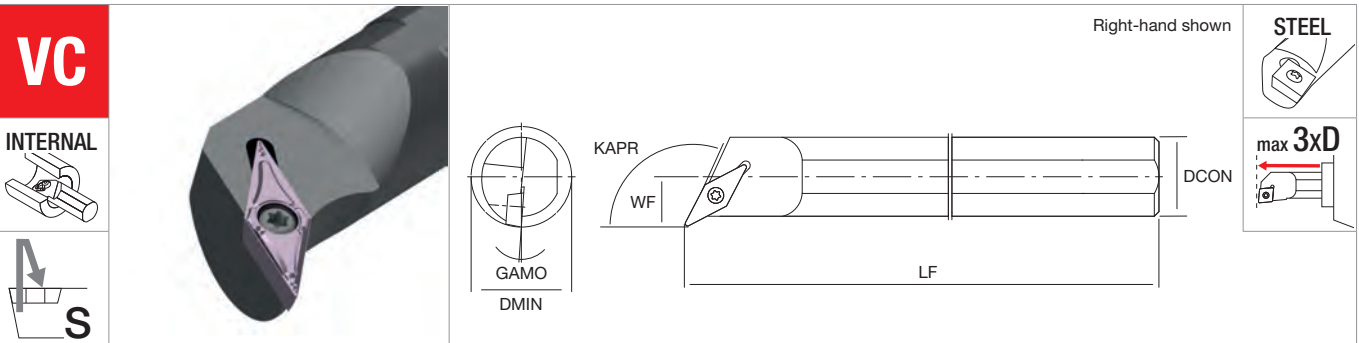
NT-S12M-SVJC%/L11	NT-ST010	NT-FT07
NT-S16Q-SVJC%/L11		
NT-S16Q-SVJC%/L16	NT-ST030	NT-FT15
NT-S20R-SVJC%/L16		
NT-S25R-SVJC%/L16		
NT-S32S-SVJC%/L16		
NT-S40T-SVJC%/L16		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

VC□□1103	page 30	page 51	-	page 81
VC□□1604	page 30	page 51	-	page 81

- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING



S SVQC Internal turning (KAPR 107.5°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

11	NT-S16Q-SVQC%/L11	●	●	22	16	13	180	7°		VC□1103
	NT-S20R-SVQC%/L11	●	●	27	20	15	200	6°		
16	NT-S20R-SVQC%/L16	●	●	30	20	19	200	8°		VC□1604
	NT-S25R-SVQC%/L16	●	●	34	25	20.5	200	4°		
	NT-S32S-SVQC%/L16	●	●	41	32	22.5	250	8°		
	NT-S40T-SVQC%/L16	○	○	50	40	27	300	6°		

● stock standard, ○ non-standard stock

THREADING

GROOVING

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-S16Q-SVQC%/L11	NT-ST010	NT-FT07
NT-S20R-SVQC%/L11		
NT-S20R-SVQC%/L16	NT-ST030	NT-FT15
NT-S25R-SVQC%/L16		
NT-S32S-SVQC%/L16		
NT-S40T-SVQC%/L16		

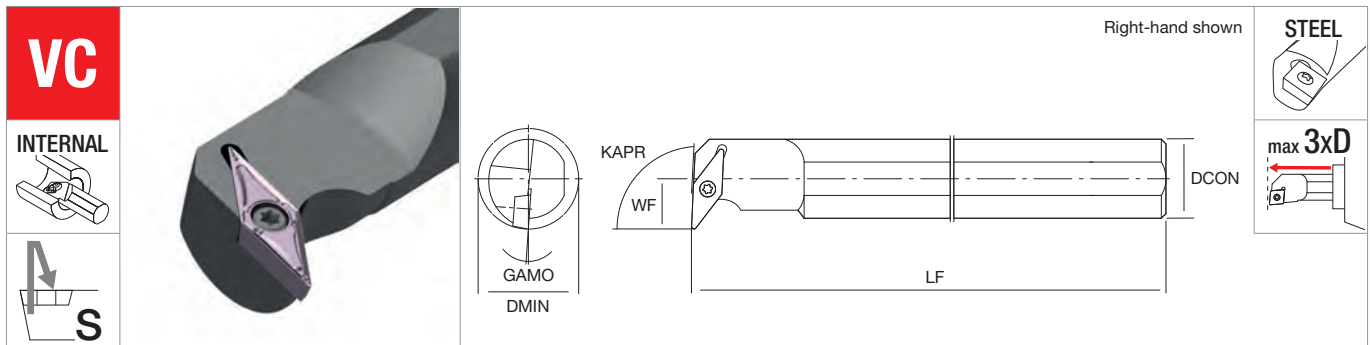
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

VC□1103	page 30	page 51	-	page 81
VC□1604	page 30	page 51	-	page 81

DRILLING

ACCESSORIES



S SVUC Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

11	NT-S16Q-SVUC%/L11	●	●	22	16	13	180	7°		VC□□1103
	NT-S20R-SVUC%/L11	●	●	27	20	15	200	6°		
16	NT-S20R-SVUC%/L16	●	●	31	20	19	200	8°		VC□□1604
	NT-S25R-SVUC%/L16	●	●	33	25	20.5	200	7°		
	NT-S32S-SVUC%/L16	●	●	42	32	22.5	250	5°		
	NT-S40T-SVUC%/L16	○	○	51	40	27	300	4°		

● stock standard, ○ non-standard stock

Spare Parts	INSERT SCREW	INSERT WRENCH

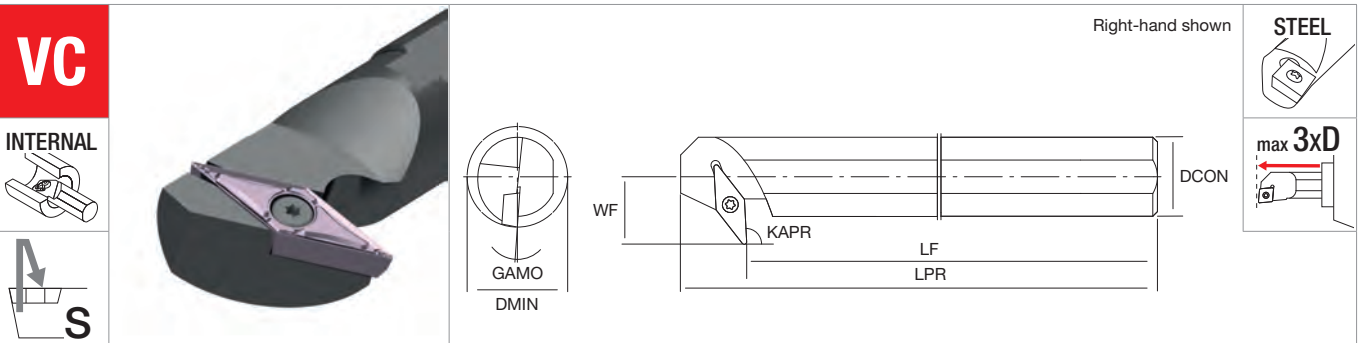
NT-S16Q-SVUC%/L11	NT-ST010	NT-FT07
NT-S20R-SVUC%/L11		
NT-S20R-SVUC%/L16	NT-ST030	NT-FT15
NT-S25R-SVUC%/L16		
NT-S32S-SVUC%/L16		
NT-S40T-SVUC%/L16		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

VC□□1103	page 30	page 51	-	page 81
VC□□1604	page 30	page 51	-	page 81

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

TURNING



THREADING

		S SVZC Internal turning (KAPR 93°)		DMIN	DCON	WF	LF	LPR	GAMO		MIID
		R	L								
16	NT-S20R-SVZC [®] /L16	●	●	30	20	17	183	200	7.5°		VC□□1604
	NT-S25R-SVZC [®] /L16	●	●	35	25	19.5	180	200	7.5°		
	NT-S32S-SVZC [®] /L16	○	○	40	32	23	230	250	7.5°		

● stock standard, ○ non-standard stock

GROOVING

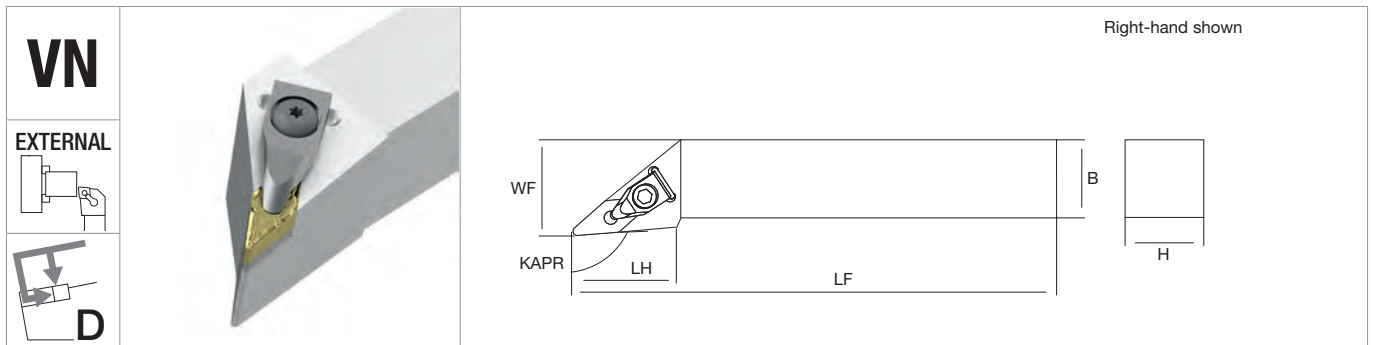
Spare Parts	INSERT SCREW	INSERT WRENCH
	NT-S20R-SVZC [®] /L16	NT-ST030
NT-S25R-SVZC [®] /L16		
NT-S32S-SVZC [®] /L16		

MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
	VC□□1604	page 30	page 51	-

DRILLING

ACCESSORIES



DVJN External turning (KAPR 93°)		R	L	H	B	WF	LF	LH		MIID	

16	NT-DVJN [®] /L2020K16X	●	●	20	20	25	125	50		VN□□1604	
	NT-DVJN [®] /L2525M16X	●	●	25	25	32	150	46			

● stock standard



NT-DVJN [®] /L2020K16X	NT-SH075	NT-ST250	NT-TX15	NT-CS210	NT-SG200	NT-SC200	NT-TX20
NT-DVJN [®] /L2525M16X							



VN□□1604	page 31	page 52	page 67	-
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TURNING

THREADING

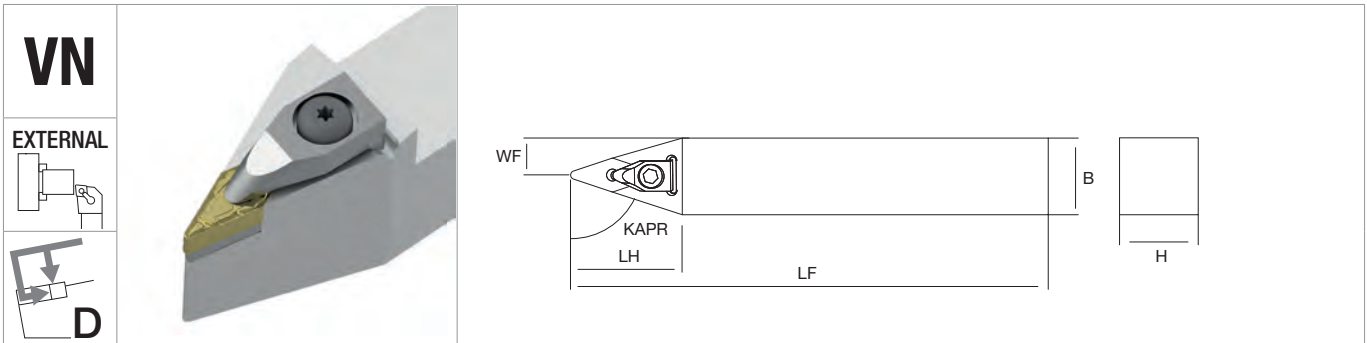
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



VN		DVNN		H	B	WF	LF	LH	KG	MIID
EXTERNAL		External turning (KAPR 72.5°)								

THREADING

16	NT-DVVNN2020K16X	●	20	20	10	125	47		VN□□1604
	NT-DVVNN2525M16X	●	25	25	12.5	150	47		

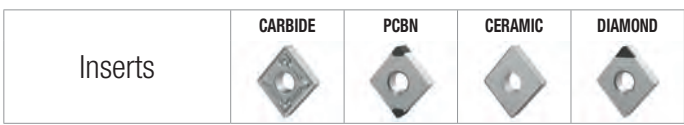
● stock standard

GROOVING



NT-DVVNN2020K16X	NT-SH075	NT-ST250	NT-TX15	NT-CS210	NT-SG200	NT-SC200	NT-TX20
NT-DVVNN2525M16X							

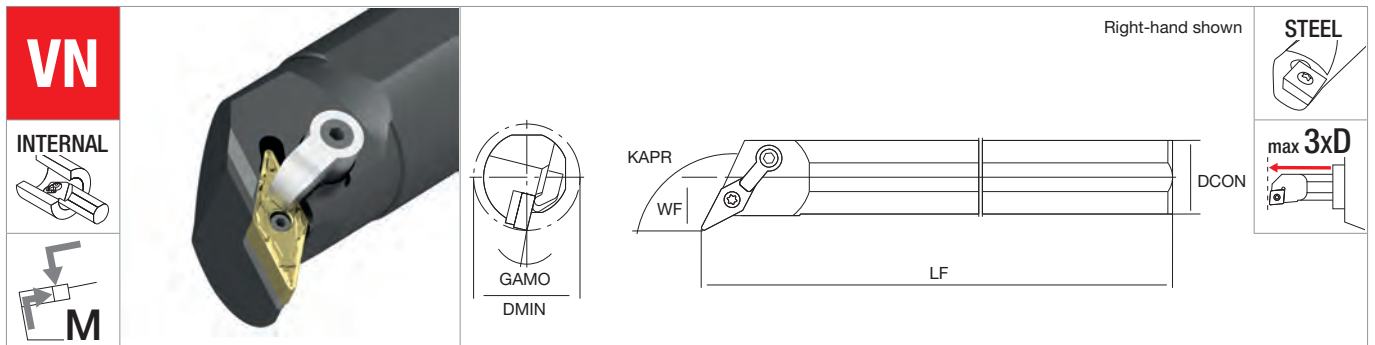
MILLING



VN□□1604	page 31	page 52	page 67	-
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DRILLING

ACCESSORIES



VN INTERNAL 		S MVQN Internal turning (KAPR 107.5°)	R L	DMIN	DCON	WF	LF	GAMO	KG	MIID

16	NT-S25R-MVQN®/L16	● ●	33	25	20	200	12°	VN□1604
	NT-S32S-MVQN®/L16	● ●	40	32	23	250	17°	
	NT-S40T-MVQN®/L16	● ●	50	40	27	300	15°	
	NT-S50U-MVQN®/L16	● ●	63	50	33	350	12°	

● stock standard, ○ non-standard stock

Spare Parts	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH

NT-S25R-MVQN®/L16	NT-SH075	NT-SP020	NT-WR020	NT-CS010	NT-SC008	NT-WR030
NT-S32S-MVQN®/L16					NT-SC010	
NT-S40T-MVQN®/L16						
NT-S50U-MVQN®/L16						

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

VN□1604	page 31	page 52	page 67	-
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TURNING

THREADING

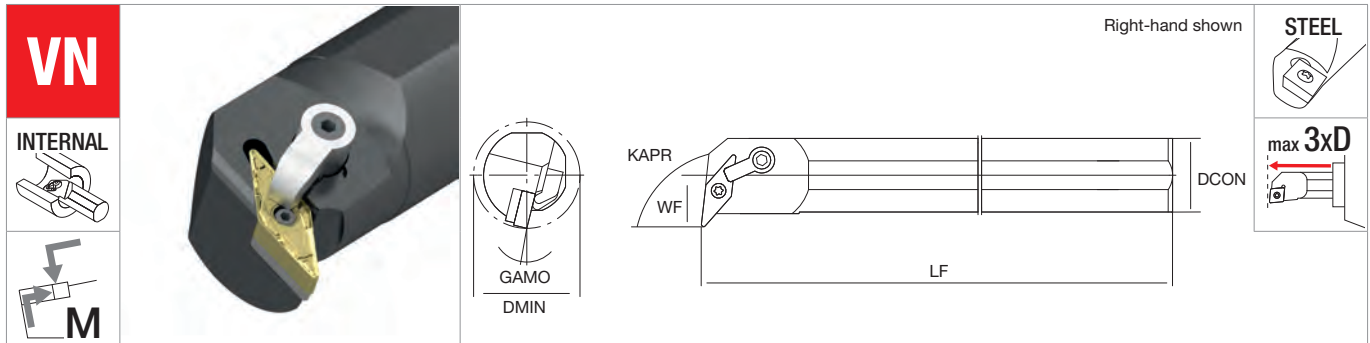
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



THREADING

VN		INTERNAL		S MVUN Internal turning (KAPR 93°)	R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

16	NT-S25R-MVUN[®]/L16	● ●	37	25	20	200	12°	VN□1604
	NT-S32S-MVUN[®]/L16	● ●	40	32	22	250	12°	
	NT-S40T-MVUN[®]/L16	● ●	50	40	27	300	15°	
	NT-S50U-MVUN[®]/L16	○ ○	63	50	32	350	12°	

● stock standard, ○ non-standard stock

GROOVING

Spare Parts	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH

NT-S25R-MVUN[®]/L16	NT-SH075	NT-SP020	NT-WR020	NT-CS010	NT-SC008	NT-WR030
NT-S32S-MVUN[®]/L16					NT-SC010	
NT-S40T-MVUN[®]/L16						
NT-S50U-MVUN[®]/L16						

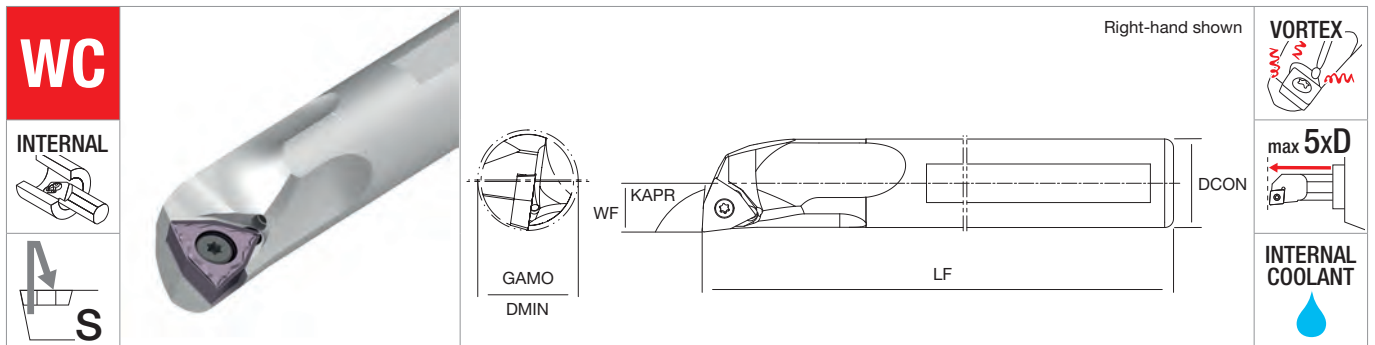
MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

VN□1604	page 31	page 52	page 67	-
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DRILLING

ACCESSORIES



V SWUC Internal turning (KAPR 93°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

12	NT-V12M-SWUC%/12-14	●	●	14	12	7	150	13°	WC□□12T3
	NT-V16Q-SWUC%/12-18	●	●	18	16	9	180	10°	
	NT-V20R-SWUC%/12-22	●	●	22	20	11	200	8°	
	NT-V25S-SWUC%/12-27	●	●	27	25	13.5	250	8°	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-V12M-SWUC%/12-14	NT-ST020	NT-FT15
NT-V16Q-SWUC%/12-18		
NT-V20R-SWUC%/12-22		
NT-V25S-SWUC%/12-27		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

WC□□12T3	page 33	-	-	-
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TURNING

THREADING

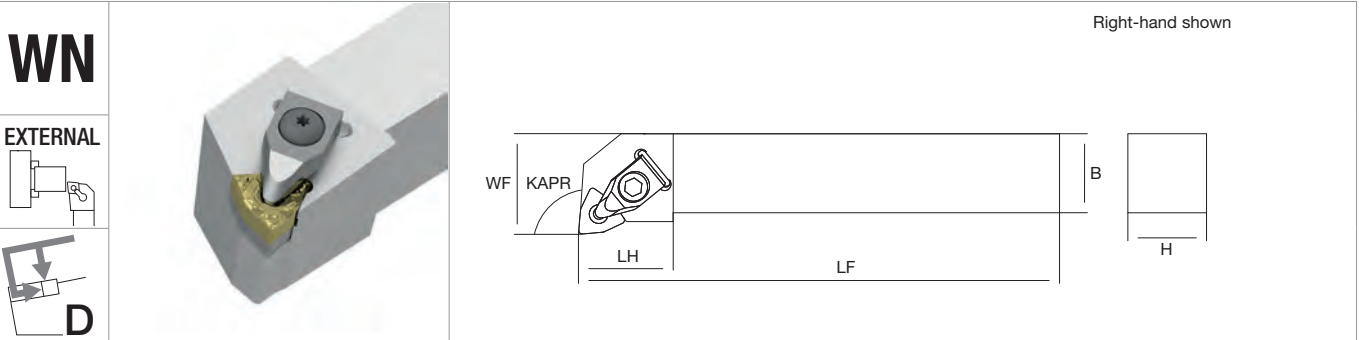
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



THREADING

DWLN External turning (KAPR 95°)			H	B	WF	LF	LH	KG	MIID	
			R	L						

06	NT-DWLN®/.1616H06X	●	●	16	16	20	100	33		WN□□0604
	NT-DWLN®/.2020K06X	●	●	20	20	25	125	33		
	NT-DWLN®/.2525M06X	●	●	25	25	32	150	33		
08	NT-DWLN®/.2020K08X	●	●	20	20	25	125	40		WN□□0804
	NT-DWLN®/.2525M08X	●	●	25	25	32	150	40		
	NT-DWLN®/.3225P08X	●	●	32	25	32	170	40		

● stock standard

GROOVING



NT-DWLN®/.1616H06X	NT-SH003	NT-ST250	NT-TX15	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DWLN®/.2020K06X							
NT-DWLN®/.2525M06X							
NT-DWLN®/.2020K08X	NT-SH010	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-DWLN®/.2525M08X							
NT-DWLN®/.3225P08X							

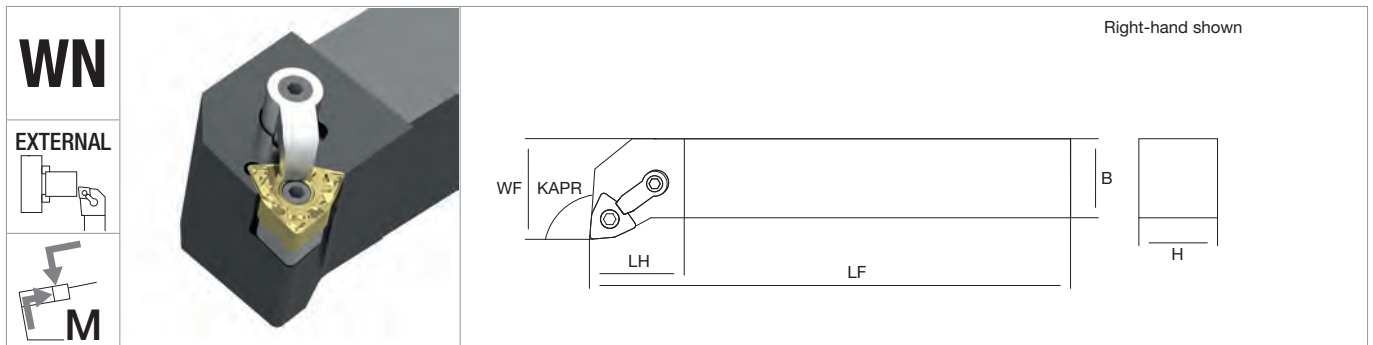
MILLING



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WN□□0804	page 34	page 53	page 68	page 83

DRILLING

ACCESSORIES



WN	EXTERNAL				Right-hand shown					

MWLN External turning (KAPR 95°)				H	B	WF	LF	LH	KG	MIID
06			R	L						
	06	NT-MWLN [®] /2020K06		○	○	20	20	25	125	34
NT-MWLN [®] /2525M06		○	○	25	25	32	150	34		
08	NT-MWLN [®] /2020K08		●	●	20	20	25	125	34	WN□0804
	NT-MWLN [®] /2525M08		●	●	25	25	32	150	34	
	NT-MWLN [®] /3232P08		●	●	32	32	40	170	40	

● stock standard, ○ non-standard stock

Spare Parts	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH
NT-MWLN [®] /2020K06	NT-SH003	NT-SP020	NT-WR020	NT-CS009	NT-SC030	NT-WR025
NT-MWLN [®] /2525M06						
NT-MWLN [®] /2020K08	NT-SH010	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-MWLN [®] /2525M08						
NT-MWLN [®] /3232P08						

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
WN□0604	page 34	-	-	-
WN□0804	page 34	page 53	page 68	page 83

TURNING

THREADING

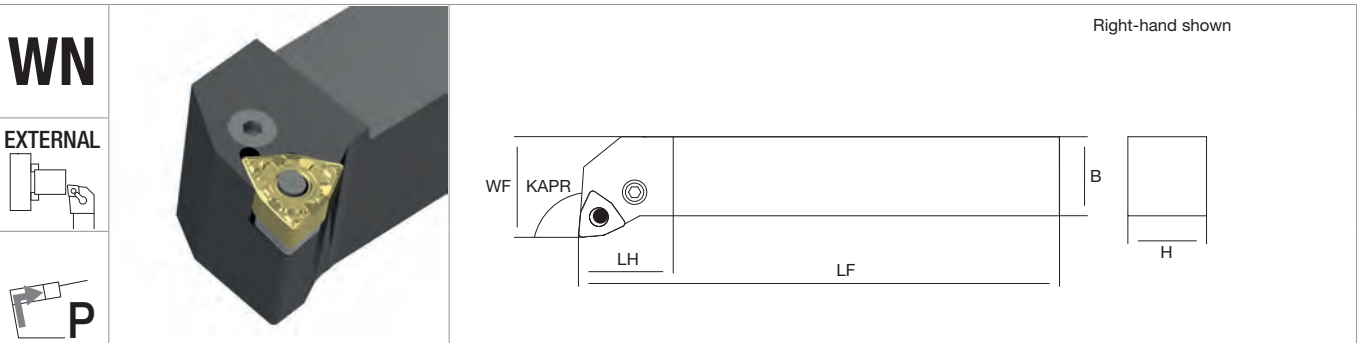
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



WN	EXTERNAL	P	Right-hand shown								
			PWLN	External turning (KAPR 95°)							
			R	L	H	B	WF	LF	LH		MIID

08	NT-PWLN [®] /L2020K08	●	●	20	20	25	125	20		WN□□0804
	NT-PWLN [®] /L2525M08	●	●	25	25	32	150	26		

● stock standard

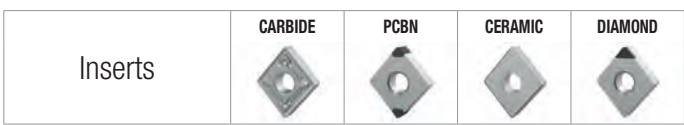
THREADING

GROOVING



NT-PWLN [®] /L2020K08	NT-SH015	NT-SR020	NT-LL020	NT-SC025	NT-WR030
NT-PWLN [®] /L2525M08					

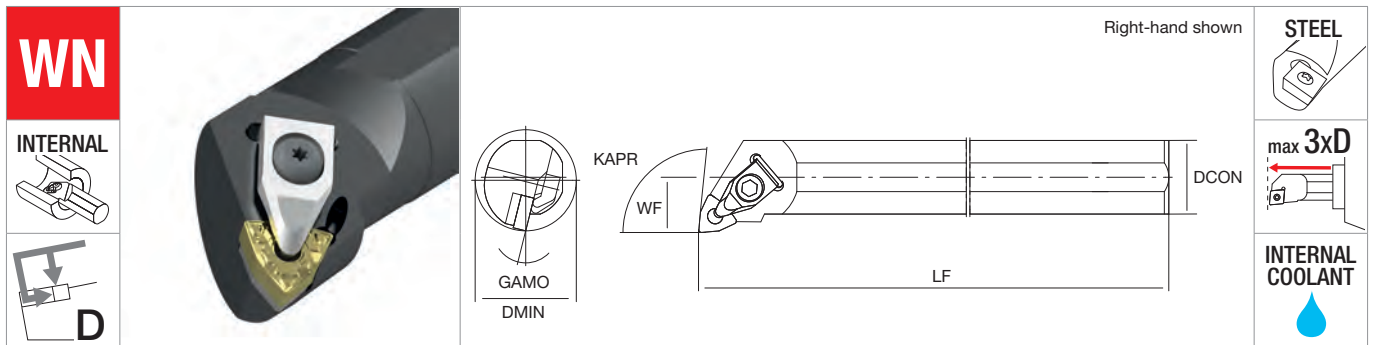
MILLING



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DRILLING

ACCESSORIES



WN	INTERNAL	D	A DWLN Internal turning (KAPR 95°)	R	L	DMIN	DCON	WF	LF	GAMO		MIID	

08	NT-A25R-DWLN [®] /08	● ●	32	25	17	200	14°					
	NT-A32S-DWLN [®] /08	● ●	40	32	22	250	14°			WN□□0804		
	NT-A40T-DWLN [®] /08	● ●	50	40	27	300	12°					

● stock standard



NT-A25R-DWLN [®] /08							
NT-A32S-DWLN [®] /08	NT-SH015	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-A40T-DWLN [®] /08							



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TURNING

THREADING

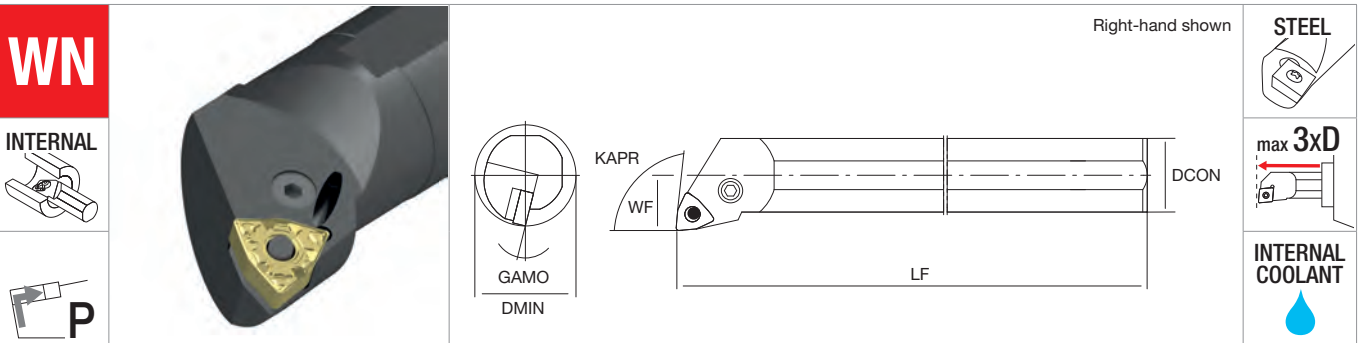
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



THREADING

WN		INTERNAL		P		<p>A PWLN Internal turning (KAPR 95°)</p>							<table border="1"> <tr> <th>DMIN</th> <th>DCON</th> <th>WF</th> <th>LF</th> <th>GAMO</th> <th>KG</th> <th>MIID</th> </tr> <tr> <td>R</td> <td>L</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	DMIN	DCON	WF	LF	GAMO	KG	MIID	R	L					
														DMIN	DCON	WF	LF	GAMO	KG	MIID							
R	L																										
08	NT-A25R-PWLN [®] /08	●	●	30	25	17	200	12°		WN□□0804																	
	NT-A32S-PWLN [®] /08	●	●	40	32	22	250	10°																			
	NT-A40T-PWLN [®] /08	●	●	48	40	27	300	8°																			

● stock standard

GROOVING

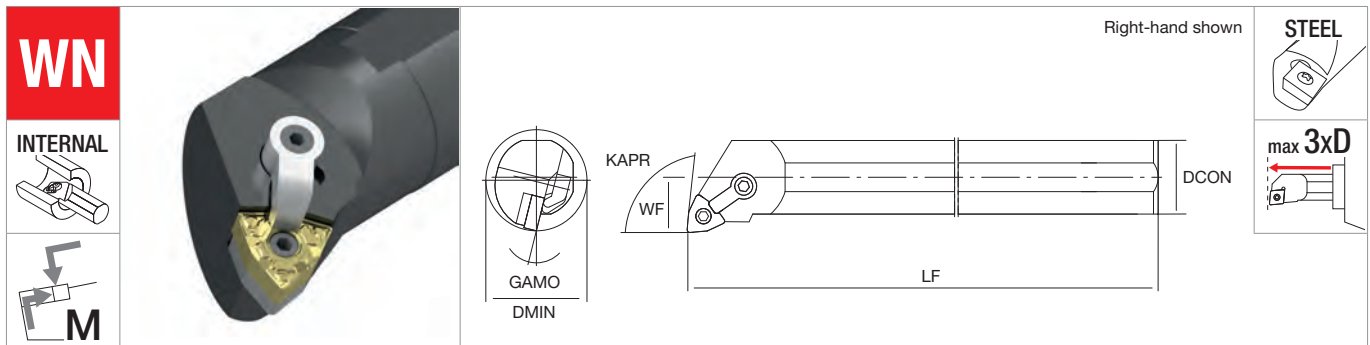
Spare Parts	SHIM	PLUG	LEVER	LEVER SCREW	WRENCH	
	NT-A25R-PWLN [®] /08	-	NT-SR015	NT-LL015	NT-SC015	NT-WR025
	NT-A32S-PWLN [®] /08	NT-SH015	NT-SR020	NT-LL020	NT-SC025	NT-WR030

MILLING

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
WN□□0804	page 34	page 53	page 68	page 83

DRILLING

ACCESSORIES



S MWLN Internal turning (KAPR 95°)		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID

06	NT-S16Q-MWLN%/06	○	○	22	16	11	180	18°		WN□□0604
	08	NT-S20R-MWLN%/08	●	●	25	20	13	200	17°	
NT-S25R-MWLN%/08		●	●	32	25	17	200	14°		
NT-S32S-MWLN%/08		●	●	40	32	22	250	14°		
NT-S40T-MWLN%/08		●	●	50	40	27	300	12°		
NT-S50U-MWLN%/08		●	●	63	50	35	350	12°		

● stock standard, ○ non-standard stock

Spare Parts	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH

NT-S16Q-MWLN%/06	-	NT-SP030	NT-WR020	NT-CS030	NT-SC030	NT-WR025
NT-S20R-MWLN%/08	-	NT-SP035	NT-WR025	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MWLN%/08					NT-SC008	
NT-S32S-MWLN%/08	NT-SH010	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S40T-MWLN%/08						
NT-S50U-MWLN%/08						

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND

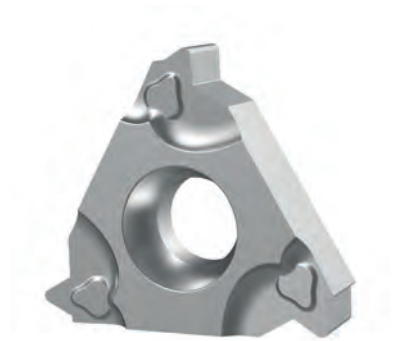
WN□□0604	page 34	-	-	-
WN□□0804	page 34	page 53	page 68	page 83

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES



THREADING

Carbide .175
Advanced .181
Holders .185



THREADING Carbide

TURNING

THREADING

GROOVING

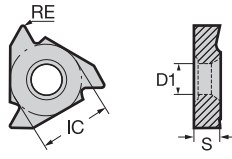


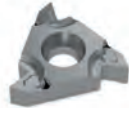

MILLING

DRILLING

ACCESSORIES

TPM	CARBIDE				ISO513	HC-PVD																
	Size	IC	S	D1		JPS125																
<p>3 edges</p>	16	9.525	3.65	4.00	P	80 180																
					M	60 140																
					K	50 120																
					N																	
					S	20 40																
					H																	
GRADE APPLICATION AREA	Stable machining, continuous cut				+																	
main application	General machining, light interruption				-																	
applicable	Unstable machining, interrupted cut				-																	
FULL PROFILE	<p>METRIC 60°</p>	16ER	100ISO-TPM	RE 0.14	pitch: 1.00 mm no. of passes 5÷8	●																
			125ISO-TPM	RE 0.18	pitch: 1.25 mm no. of passes 6÷9	●																
			150ISO-TPM	RE 0.22	pitch: 1.50 mm no. of passes 6÷9	●																
			175ISO-TPM	RE 0.25	pitch: 1.75 mm no. of passes 8÷11	●																
			200ISO-TPM	RE 0.29	pitch: 2.00 mm no. of passes 8÷11	●																
			250ISO-TPM	RE 0.36	pitch: 2.50 mm no. of passes 10÷13	●																
			300ISO-TPM	RE 0.43	pitch: 3.00 mm no. of passes 12÷15	●																
	<p>UNIFIED 60°</p>	16ER	24UN-TPM	RE 0.15	pitch: 24 TPI no. of passes 5÷8	●																
			20UN-TPM	RE 0.18	pitch: 20 TPI no. of passes 6÷9	●																
			18UN-TPM	RE 0.20	pitch: 18 TPI no. of passes 6÷9	●																
			16UN-TPM	RE 0.23	pitch: 16 TPI no. of passes 7÷10	●																
			14UN-TPM	RE 0.26	pitch: 14 TPI no. of passes 8÷11	●																
			12UN-TPM	RE 0.31	pitch: 12 TPI no. of passes 8÷11	●																
			08UN-TPM	RE 0.46	pitch: 8 TPI no. of passes 12÷15	●																
	<p>NATIONAL PIPE TAPERED 60°</p>	16ER	18NPT-TPM	RE 0.20	pitch: 18 TPI no. of passes 8÷11	●																
			14NPT-TPM	RE 0.22	pitch: 14 TPI no. of passes 10÷13	●																
			11.5NPT-TPM	RE 0.25	pitch: 11.5 TPI no. of passes 12÷15	●																
	<p>WHITWORTH 55°</p>	16ER	19W-TPM	RE 0.17	pitch: 19 TPI no. of passes 6÷9	●																
			14W-TPM	RE 0.24	pitch: 14 TPI no. of passes 8÷11	●																
			11W-TPM	RE 0.30	pitch: 11 TPI no. of passes 9÷12	●																
	<p>BRITISH STANDARD PIPE TAPERED 55°</p>	16ER	28BSPT-TPM	RE 0.11	pitch: 28 TPI no. of passes 5÷8	●																
			19BSPT-TPM	RE 0.17	pitch: 19 TPI no. of passes 6÷9	●																
			14BSPT-TPM	RE 0.24	pitch: 14 TPI no. of passes 9÷12	●																
			11BSPT-TPM	RE 0.30	pitch: 11 TPI no. of passes 12÷15	●																

● stock standard

TPM	CARBIDE				ISO513	HC-PVD																	
	External threading						JPS125																
 <p>3 edges</p>	Size	IC	S	D1	P	80 180																	
	16	9.525	3.65	4.00	M	60 140																	
					K	50 120																	
					N																		
					S	20 40																	
					H																		
GRADE APPLICATION AREA	Stable machining, continuous cut				+																		
main application	General machining, light interruption				-																		
applicable	Unstable machining, interrupted cut				+																		
PARTIAL PROFILE  60° P M K S METRIC AND UNIFIED THREADS	16ER	A60-TPM	RE 0.08	pitch: 0.50÷1.50 mm, 48÷16 TPI	●																		
		G60-TPM	RE 0.25	pitch: 1.75÷3.00 mm, 14÷8 TPI	●																		
		AG60-TPM	RE 0.08	pitch: 0.50÷3.00 mm, 48÷8 TPI	●																		
	55° P M K S  WHITWORTH AND GAS THREADS	16ER	A55-TPM	RE 0.08	pitch: 48÷16 TPI	●																	
			G55-TPM	RE 0.21	pitch: 14÷8 TPI	●																	
			AG55-TPM	RE 0.08	pitch: 48÷8 TPI	●																	

● stock standard

- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

<h1>TPM</h1>	<h2>CARBIDE</h2> <p>Internal threading</p>				ISO513	HC-PVD																		
	Size	IC	S	D1		P	80 180																	
<p>3 edges</p>	11	6.35	3.18	3.20	M	60 140																		
	16	9.525	3.65	4.00	K	50 120																		
					N																			
					S	20 40																		
					H																			
GRADE APPLICATION AREA		Stable machining, continuous cut			+																			
■ main application		General machining, light interruption			-																			
■ applicable		Unstable machining, interrupted cut			+																			

M P M K S		METRIC 60°	11IR	100ISO-TPM	RE 0.07	pitch: 1.00 mm no. of passes 5÷8	●																		
			125ISO-TPM	RE 0.09	pitch: 1.25 mm no. of passes 6÷9	●																			
			150ISO-TPM	RE 0.11	pitch: 1.50 mm no. of passes 6÷9	●																			
			175ISO-TPM	RE 0.13	pitch: 1.75 mm no. of passes 8÷11	●																			
			200ISO-TPM	RE 0.15	pitch: 2.00 mm no. of passes 8÷11	●																			
			16IR	100ISO-TPM	RE 0.07	pitch: 1.00 mm no. of passes 5÷8	●																		
			125ISO-TPM	RE 0.09	pitch: 1.25 mm no. of passes 6÷9	●																			
			150ISO-TPM	RE 0.11	pitch: 1.50 mm no. of passes 6÷9	●																			
			175ISO-TPM	RE 0.13	pitch: 1.75 mm no. of passes 8÷11	●																			
			200ISO-TPM	RE 0.15	pitch: 2.00 mm no. of passes 8÷11	●																			
	250ISO-TPM	RE 0.18	pitch: 2.50 mm no. of passes 10÷13	●																					
	300ISO-TPM	RE 0.22	pitch: 3.00 mm no. of passes 12÷15	●																					
UN P M K S		UNIFIED 60°	16IR	24UN-TPM	RE 0.08	pitch: 24 TPI no. of passes 5÷8	●																		
			20UN-TPM	RE 0.09	pitch: 20 TPI no. of passes 6÷9	●																			
			18UN-TPM	RE 0.10	pitch: 18 TPI no. of passes 6÷9	●																			
			16UN-TPM	RE 0.12	pitch: 16 TPI no. of passes 7÷10	●																			
			14UN-TPM	RE 0.13	pitch: 14 TPI no. of passes 8÷11	●																			
			12UN-TPM	RE 0.16	pitch: 12 TPI no. of passes 8÷11	●																			
			08UN-TPM	RE 0.23	pitch: 8 TPI no. of passes 12÷15	●																			
				16IR	18NPT-TPM	RE 0.20	pitch: 18 TPI no. of passes 8÷11	●																	
	14NPT-TPM	RE 0.22	pitch: 14 TPI no. of passes 10÷13	●																					
	11.5NPT-TPM	RE 0.25	pitch: 11.5 TPI no. of passes 12÷15	●																					
W P M K S		WHITWORTH 55°	16IR	19W-TPM	RE 0.17	pitch: 19 TPI no. of passes 6÷9	●																		
			14W-TPM	RE 0.24	pitch: 14 TPI no. of passes 8÷11	●																			
			11W-TPM	RE 0.30	pitch: 11 TPI no. of passes 9÷12	●																			

● stock standard

TPM		CARBIDE Internal threading				ISO513	HC-PVD													
		Size	IC	S	D1		JPS125													
<p>3 edges</p>						P	80 180													
	11	6.35	3.18	3.20		M	60 140													
	16	9.525	3.65	4.00		K	50 120													
						N														
						S	20 40													
						H														
GRADE APPLICATION AREA		Stable machining, continuous cut																		
main application		General machining, light interruption																		
applicable		Unstable machining, interrupted cut																		
FULL PROFILE	BSPT P M K S	<p>BRITISH STANDARD PIPE TAPERED 55°</p>	16IR	28BSPT-TPM	RE 0.11	pitch: 28 TPI no. of passes 5÷8	●													
			19BSPT-TPM	RE 0.17	pitch: 19 TPI no. of passes 6÷9	●														
			14BSPT-TPM	RE 0.24	pitch: 14 TPI no. of passes 9÷12	●														
			11BSPT-TPM	RE 0.30	pitch: 11 TPI no. of passes 12÷15	●														
PARTIAL PROFILE	60° P M K S	<p>METRIC AND UNIFIED THREADS</p>	11IR	A60-TPM	RE 0.08	pitch: 0.50÷1.50 mm, 48÷16 TPI	●													
			16IR	A60-TPM	RE 0.08	pitch: 0.50÷1.50 mm, 48÷16 TPI	●													
			G60-TPM	RE 0.13	pitch: 1.75÷3.00 mm, 14÷8 TPI	●														
			AG60-TPM	RE 0.08	pitch: 0.50÷3.00 mm, 48÷8 TPI	●														
PARTIAL PROFILE	55° P M K S	<p>WHITWORTH AND GAS THREADS</p>	11IR	A55-TPM	RE 0.08	pitch: 48÷16 TPI	●													
			16IR	A55-TPM	RE 0.08	pitch: 48÷16 TPI	●													
			G55-TPM	RE 0.21	pitch: 14÷8 TPI	●														
	AG55-TPM	RE 0.08	pitch: 48÷8 TPI	●																

● stock standard

TURNING

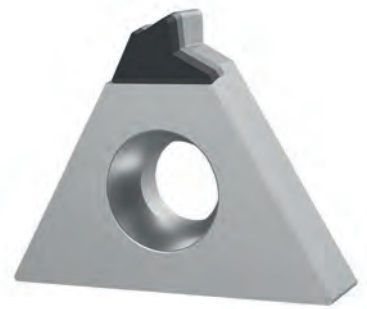
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



THREADING Advanced

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

16ER	DIAMOND-PCBN External threading				ISO513	DP	BH										
	Size	IC	S	D1		ND120	NBH450U	◀ SINTERED POWDER METAL									
	16	9.525	3.65	4.00		P	140 300										
					M												
					K	400 1200											
					N	500 2000											
					S												
					H	60 160											
GRADE APPLICATION AREA	Stable machining, continuous cut				+												
main application	General machining, light interruption				-												
applicable	Unstable machining, interrupted cut				+												

FULL PROFILE	METRIC N H		16ER	ISO	N	H	pitch: mm	no. of passes	O	O										
	100ISO	N	pitch: 1.00 mm	5÷8	O															
		H	pitch: 1.00 mm	7÷10		O														
	125ISO	N	pitch: 1.25 mm	6÷9	O															
		H	pitch: 1.25 mm	8÷11		O														
	150ISO	N	pitch: 1.50 mm	6÷9	O															
		H	pitch: 1.50 mm	8÷11		O														
	175ISO	N	pitch: 1.75 mm	8÷11	O															
		H	pitch: 1.75 mm	10÷13		O														
	200ISO	N	pitch: 2.00 mm	8÷11	O															
		H	pitch: 2.00 mm	10÷13		O														
	250ISO	N	pitch: 2.50 mm	10÷13	O															
		H	pitch: 2.50 mm	13÷15		O														
	300ISO	N	pitch: 3.00 mm	12÷15	O															
		H	pitch: 3.00 mm	14÷17		O														

○ non-standard stock

16IR		DIAMOND-PCBN Internal threading				ISO513	DP	BH													
		Size	IC	S	D1		ND120	NBH450U	◀ SINTERED POWDER METAL												
	16	9.525	3.65	4.00	P	140															
					M	300															
					K	400															
					N	1200															
					S	500															
					H	2000															
GRADE APPLICATION AREA		Stable machining, continuous cut			+ Hardness - Toughness																
main application		General machining, light interruption																			
applicable		Unstable machining, interrupted cut																			
FULL PROFILE	METRIC N H		16IR	100ISO	N	pitch: 1.00 mm no. of passes 5÷8	○														
	H	pitch: 1.00 mm no. of passes 7÷10				○															
	125ISO	N		pitch: 1.25 mm no. of passes 6÷9		○															
		H		pitch: 1.25 mm no. of passes 8÷11			○														
	150ISO	N		pitch: 1.50 mm no. of passes 6÷9		○															
		H		pitch: 1.50 mm no. of passes 8÷11				○													
	175ISO	N		pitch: 1.75 mm no. of passes 8÷11		○															
		H		pitch: 1.75 mm no. of passes 10÷13					○												
	200ISO	N		pitch: 2.00 mm no. of passes 8÷11		○															
		H		pitch: 2.00 mm no. of passes 10÷13						○											
	250ISO	N		pitch: 2.50 mm no. of passes 10÷13		○															
		H		pitch: 2.50 mm no. of passes 13÷15							○										
	300ISO	N		pitch: 3.00 mm no. of passes 12÷15		○															
		H		pitch: 3.00 mm no. of passes 14÷17								○									

○ non-standard stock

TURNING

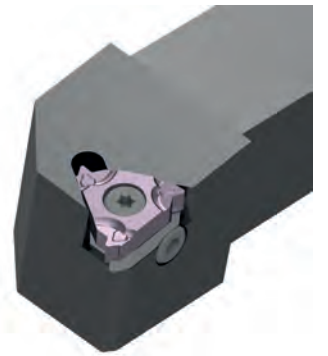
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

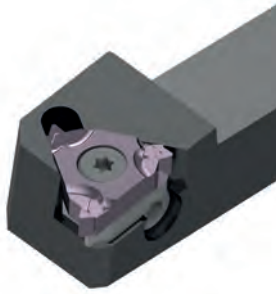
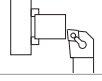


THREADING Holders

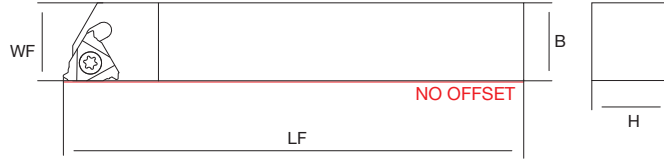
TURNING

16E

EXTERNAL



Right-hand shown



THREADING

SE N

External threading

R L

H

B

WF

LF



MIID

16	NT-SE ^R /.1212H16N	●	○	12	12	12	100	16E ^R /□□□□		
	NT-SE ^R /.1616H16N	○	○	16	16	16	100			

● stock standard, ○ non-standard stock

GROOVING

Spare Parts

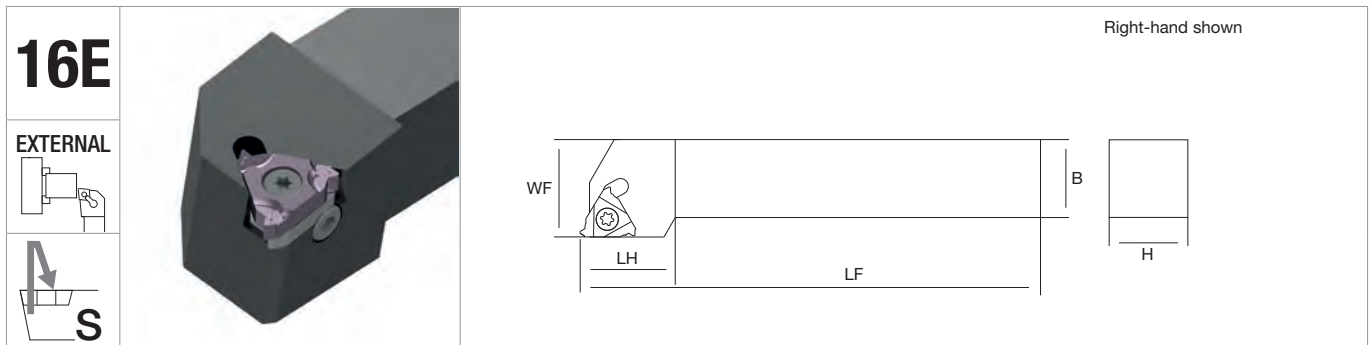


	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SER1212H16N	NT-SH060	NT-ST080	NT-WR025	NT-ST040	NT-FT15
NT-SER1616H16N					
NT-SEL1212H16N	NT-SH065	NT-ST080	NT-WR025	NT-ST040	NT-FT15
NT-SEL1616H16N					

MILLING

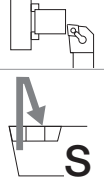
DRILLING

ACCESSORIES



16E

EXTERNAL



SE External threading	R	L	H	B	WF	LF	LH	KG	MIID	

16	NT-SE%/1616H16	●	●	16	16	20	100	22		
	NT-SE%/2020K16	●	●	20	20	25	125	25		16E ^R /□□□□
	NT-SE%/2525M16	●	●	32	25	32	150	25		

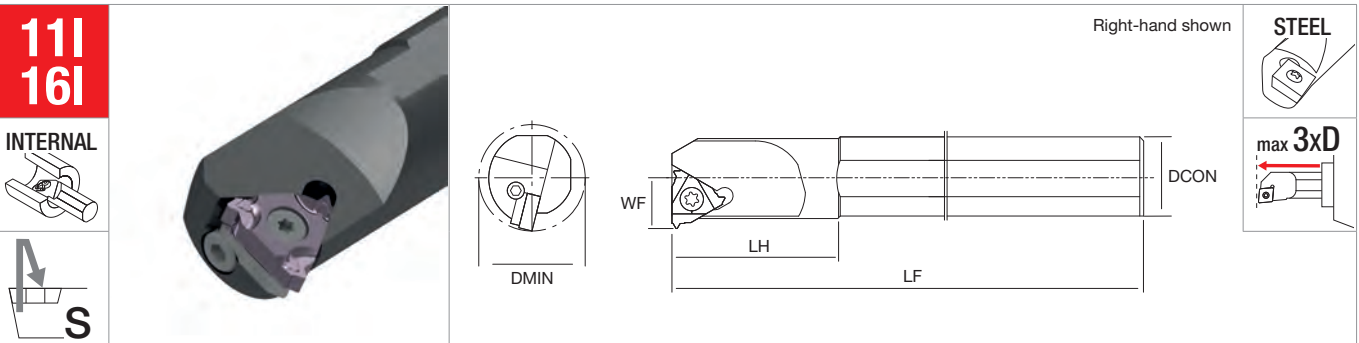
● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

NT-SER1616H16	NT-SH060	NT-ST080	NT-WR025	NT-ST040	NT-FT15
NT-SER2020K16					
NT-SER2525M16					
NT-SEL1616H16	NT-SH065	NT-ST080	NT-WR025	NT-ST040	NT-FT15
NT-SEL2020K16					
NT-SEL2525M16					

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

TURNING



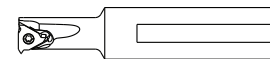
THREADING

SI Internal threading		R	L	DMIN	DCON	WF	LF	LH	KG	MIID

11	NT-SIR1012-11	●		10	12	5.2	150	25		11IR□□□
	NT-SIR1216-11*	●		12	16	6.3	150	25		
	NT-SIR1516-11*	●		15	16	7.5	150	25		
16	NT-SIP/2016-16	●	●	20	16	10	150	35		16IP/L□□□
	NT-SIP/2420S-16	●	●	24	20	12	180	35		
	NT-SIP/3025S-16	●	●	30	25	15	200	35		
	NT-SIP/3732S-16	●	●	37	32	18.5	250	35		

● stock standard

*Reduced neck



GROOVING

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

MILLING

NT-SIR1012-11					
NT-SIR1216-11	-	-	-	NT-ST041	NT-FT08
NT-SIR1516-11					
NT-SIR2016-16				NT-ST030	
NT-SIR2420S-16					NT-FT15
NT-SIR3025S-16	NT-SH065	NT-ST080	NT-WR025	NT-ST040	
NT-SIR3732S-16					
NT-SIL2016-16				NT-ST030	
NT-SIL2420S-16					NT-FT15
NT-SIL3025S-16	NT-SH060	NT-ST080	NT-WR025	NT-ST040	
NT-SIL3732S-16					

DRILLING

ACCESSORIES

111
161

Right-hand shown

max 5xD

INTERNAL COOLANT

V SIR
Internal threading

DMIN
DCON
WF
LF
LH
 KG
MIID

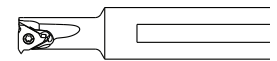
			DMIN	DCON	WF	LF	LH	KG	MIID
11	NT-V10M-SIR11-10	●	10	10	5.2	150	25		11IR000
	NT-V16M-SIR11-12*	●	12	16	6.3	150	25		
	NT-V16M-SIR11-15*	●	15	16	7.5	150	25		
16	NT-V16M-SIR16-20	●	20	16	10	150	35		16IR000
	NT-V20Q-SIR16-24	●	24	20	12	180	35		
	NT-V25R-SIR16-30	●	30	25	15	200	35		
	NT-V32S-SIR16-37	●	37	32	18.5	250	35		

● stock standard

*Reduced neck

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH

NT-V10M-SIR11-10	-	-	-	NT-ST041	NT-FT08
NT-V16M-SIR11-12					
NT-V16M-SIR11-15					
NT-V16M-SIR16-20	NT-SH065	NT-ST080	NT-WR025	NT-ST030	NT-FT15
NT-V20Q-SIR16-24					
NT-V25R-SIR16-30					
NT-V32S-SIR16-37					



TURNING

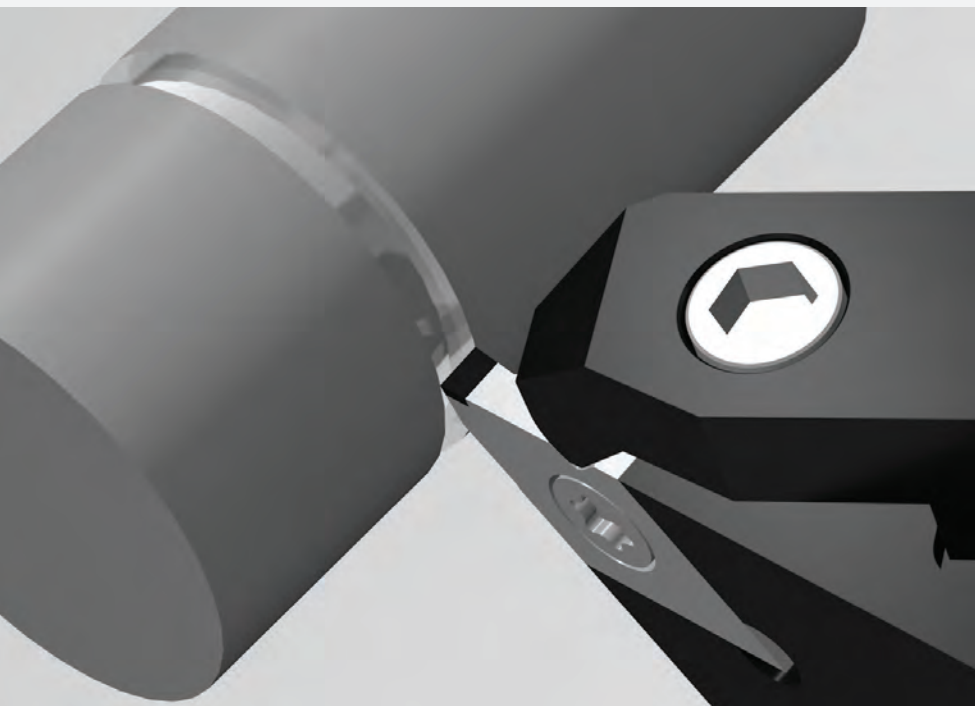
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



GROOVING

Advanced .193

 Holders .195



GROOVING Advanced

TURNING

THREADING

GROOVING

MILLING

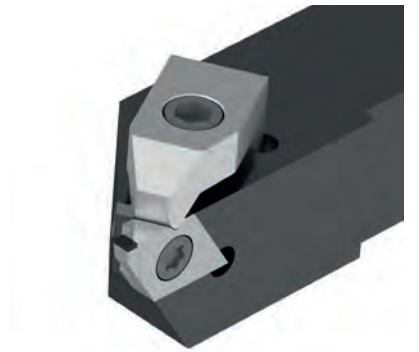
DRILLING

ACCESSORIES

BGF	DIAMOND-PCBN External grooving				ISO513	DP	BH														
	Size	IC	S	CDX		ND120	NBR4500	◀ SINTERED POWDER METAL													
	100	12.70	4.76	1.8	P	140															
	150	12.70	4.76	2.6	M	400															
	200	12.70	4.76	3.0	K	1200															
	250	12.70	4.76	3.5	N	500															
	300	12.70	4.76	4.5	S	2000															
	300÷400	12.70	4.76	4.5	H	60	160														
GRADE APPLICATION AREA		Stable machining, continuous cut			+		○														
■ main application		General machining, light interruption			-		○														
■ applicable		Unstable machining, interrupted cut			+		○														
FLAT		BGF%L	100-010	N	CW 1.00 RE 0.10	$f_{p>}$ 0.04	0.08	0.12	○*												
				H	CW 1.00 RE 0.10	$f_{p>}$ 0.04	0.05	0.06	○												
			150-010	N	CW 1.50 RE 0.10	$f_{p>}$ 0.04	0.08	0.12	○*												
				H	CW 1.50 RE 0.10	$f_{p>}$ 0.04	0.05	0.06	○												
			200-020	N	CW 2.00 RE 0.20	$f_{p>}$ 0.06	0.10	0.14	○*												
				H	CW 2.00 RE 0.20	$f_{p>}$ 0.04	0.06	0.08	○												
			250-020	N	CW 2.50 RE 0.20	$f_{p>}$ 0.06	0.10	0.14	○*												
				H	CW 2.50 RE 0.20	$f_{p>}$ 0.04	0.06	0.08	○												
			300-020	N	CW 3.00 RE 0.20	$f_{p>}$ 0.06	0.10	0.14	○*												
				H	CW 3.00 RE 0.20	$f_{p>}$ 0.04	0.06	0.08	○												
			350-020	N	CW 3.50 RE 0.20	$f_{p>}$ 0.08	0.12	0.16	○*												
				H	CW 3.50 RE 0.20	$f_{p>}$ 0.06	0.08	0.10	○												
			400-020	N	CW 4.00 RE 0.20	$f_{p>}$ 0.08	0.12	0.16	○*												
				H	CW 4.00 RE 0.20	$f_{p>}$ 0.06	0.08	0.10	○												
			FULL RADIUS		100-050FR	N	CW 1.00 RE 0.50	$f_{p>}$ 0.04	0.08	0.12	○*										
						H	CW 1.00 RE 0.50	$f_{p>}$ 0.04	0.05	0.06	○										
					150-075FR	N	CW 1.50 RE 0.75	$f_{p>}$ 0.04	0.08	0.12	○*										
						H	CW 1.50 RE 0.75	$f_{p>}$ 0.04	0.05	0.06	○										
					200-100FR	N	CW 2.00 RE 1.00	$f_{p>}$ 0.06	0.10	0.14	○*										
						H	CW 2.00 RE 1.00	$f_{p>}$ 0.04	0.06	0.08	○										
					250-125FR	N	CW 2.50 RE 1.25	$f_{p>}$ 0.06	0.10	0.14	○*										
						H	CW 2.50 RE 1.25	$f_{p>}$ 0.04	0.06	0.08	○										
					300-150FR	N	CW 3.00 RE 1.50	$f_{p>}$ 0.06	0.10	0.14	○*										
						H	CW 3.00 RE 1.50	$f_{p>}$ 0.04	0.06	0.08	○										
350-175FR	N	CW 3.50 RE 1.75			$f_{p>}$ 0.08	0.12	0.16	○*													
	H	CW 3.50 RE 1.75			$f_{p>}$ 0.06	0.08	0.10	○													
400-200FR	N	CW 4.00 RE 2.00			$f_{p>}$ 0.08	0.12	0.16	○*													
	H	CW 4.00 RE 2.00			$f_{p>}$ 0.06	0.08	0.10	○													

○ non-standard stock

*Only right-hand available

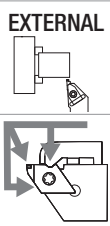


GROOVING Holders


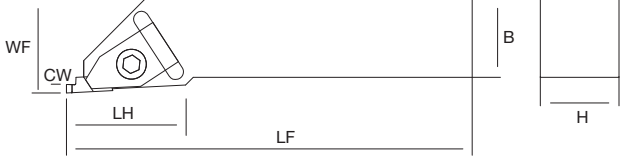
TURNING

BGF


EXTERNAL



Right-hand shown





THREADING

BGF-HLD External grooving			H	B	WF	LF	LH		MIID
CW 1÷4	R	L							
BGF-HLD 1616 [°] /L	▽		16	16	30	150	45		
BGF-HLD 2020 [°] /L	●	●	20	20	30	150	45		BGF [°] /L□□□
BGF-HLD 2525 [°] /L	●	●	25	25	30	150	45		

● stock standard, ▽ stock exhaustion

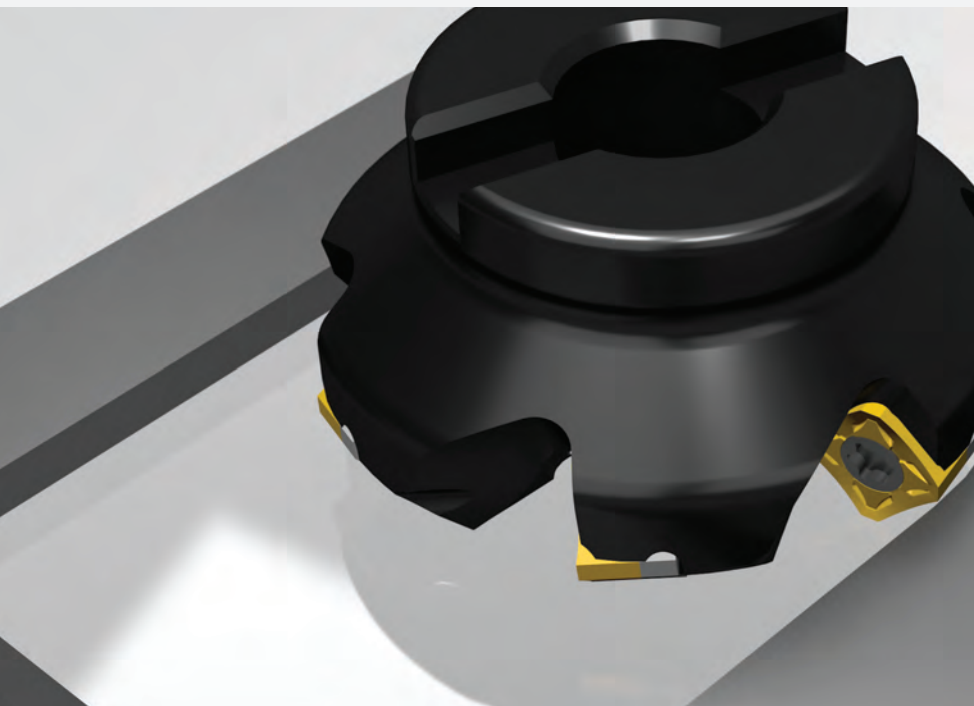
GROOVING

Spare Parts	CLAMP	CLAMP SCREW	CLAMP WRENCH	INSERT SCREW	INSERT WRENCH
					
BGF-HLF 1616 [°] /L	NT-CS300 [°] /L	NT-SC300	NT-WR040	NT-ST300	NT-FT15
BGF-HLF 2020 [°] /L					
BGF-HLF 2525 [°] /L					

MILLING

DRILLING

ACCESSORIES



MILLING

Shouldering .199

Facing .209

High Feed .223

Copying .229

Chamfering .237

Advanced .241



MILLING Shouldering

DOUBLE3GON .200

REKPLUS .202

APKT ISO .206

TURNING

THREADING

GROOVING

MILLING

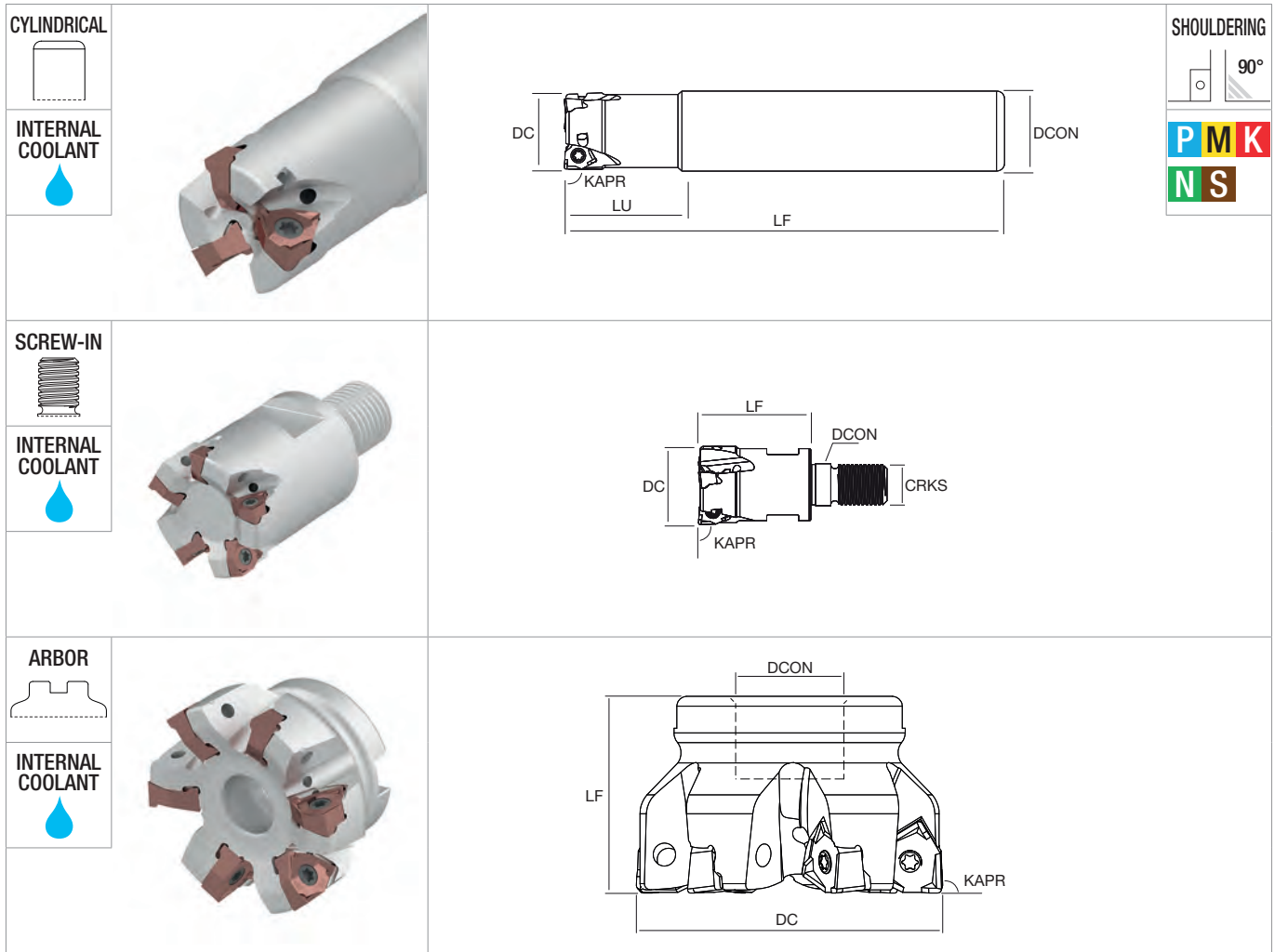
DRILLING

ACCESSORIES

WNEX		DOUBLE3GON Shouldering double side				ISO513	HC-PVD					HC-CVD			HW		
		Size	IC	S	D1		JP5530	JP5540	JP7525	JP9525	JP9525	JC7515	JC7530	JC8530	JW6520		
		04	6.70	3.30	3.10	P	60 230	60 220		80 250			100 320				
		08	12.70	6.45	4.60	M	60 150	60 200		70 220							
						K			100 240		120 350	100 300					
						N								200 1000			
						S			40 100								
						H											
GRADE APPLICATION AREA		Light cut, stable machining				+											
■ main application		Variable condition, general machining				-											
■ applicable		Heavy cut, unstable machining				+											
SHARP	SC PMS	WNEX 080604R-SC	RE 0.4 BS 1.8	$a_p \triangleright$ 0.50 $f_z \triangleright$ 0.08	4.00 0.14	7.00 0.20		●		●							
		080608R-SC	RE 0.8 BS 1.5	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.10	4.00 0.16	7.00 0.22			●	●							
GENERAL	GP PMK	WNEX 040304R-GP	RE 0.4 BS 0.9	$a_p \triangleright$ 0.50 $f_z \triangleright$ 0.06	1.80 0.12	3.00 0.18		▲		●	▽		●	●			
		WNEX 080608R-GP	RE 0.8 BS 1.5	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.14	4.00 0.20	7.00 0.26	▲	●	▲	●	▽	▲	●	●			
REINFORCED	TE PK	WNEX 080608R-TE	RE 0.8 BS 1.5	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.14	4.00 0.22	7.00 0.30	▲	●	▲	●	▽	▲	●	●			
		080612R-TE	RE 1.2 BS 1.1	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.14	4.00 0.24	7.00 0.34		●		●			●	●			
ALUMINIUM	AL N	WNEX 080608R-AL	RE 0.8 BS 1.4	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.10	4.00 0.17	7.00 0.24							●				

● stock standard, ▲ upcoming introduction, ▽ stock exhaustion

Spare Parts	INSERT SCREW	INSERT WRENCH
NT-WX04H D\square	NT-ST018	NT-FTB08
NT-WX08H D\square	NT-ST017	NT-FTB15



DOUBLE3GON
Shouldering (KAPR 90°)

DC		DCON	LF	LU	CRKS		MIID
----	--	------	----	----	------	--	------

TYPE	CODE	ITEM	DC	Z	DCON	LF	LU	CRKS	KG	MIID	
											STOCK
CYLINDRICAL	NT-WX04H	D020-S16-Z3	20	3	16	110	20	-	0.30	WNEX04	
		D020-S20-Z3									3
		D025-S20-Z4	25	4	20	120	22	-	0.50		-
		D025-S25-Z4									
		D032-S25-Z5	32	5	25	130	25	-	0.80		-
		D032-S32-Z5									
SCREW-IN	NT-WX04H	D020-M10-Z3	20	3	10.5	28	-	M10	0.10	WNEX04	
		D025-M12-Z4	25	4	12.5	30	-	M12	0.15		
		D032-M16-Z5	32	5	17	40	-	M16	0.25		
ARBOR	NT-WX04H	D040-F16-Z7	40	7	16	40	-	-	0.25	WNEX04	
		D050-F22-Z9	50	9	22	40	-	-	0.50		
	NT-WX08H	D050-F22-Z4	50	4	22	40	-	-	0.45	WNEX08	
				5	22	40	-	-	0.45		
		D063-F22-Z6	63	6	22	40	-	-	0.70		
				6	27	40	-	-	0.70		
		D063-F27-Z7	63	7	22	40	-	-	0.80		
				7	27	50	-	-	1.00		
		D080-F27-Z9	80	9	27	50	-	-	1.00		
				9	27	50	-	-	1.00		
		D100-F32-Z8	100	8	32	50	-	-	1.60		
				8	32	50	-	-	1.60		
D100-F32-Z11	100	11	32	50	-	-	1.60				
D125-F40-Z11	125	11	40	63	-	-	2.40				
D160-F40-Z12	160	12	40	63	-	-	4.00				

● stock standard

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

NT-RKP	REKPLUS Shouldering - positive					ISO513	HC-PVD						CVD	HW	HT	
	Size	IC	S	D1	AN		JP5520	JP5530	JP7615	JP7525	JP8625	JP9535				JP9635
	11	6.35	3.50	2.80	11°	P	80 250	60 230			80 250					160 350
						M	60 160	60 150			60 200	60 200				100 240
	16	9.525	4.76	4.50	11°	K			120 250	100 240			120 350			160 380
						N									200 1000	
						S					40 100	40 100				
					H											
GRADE APPLICATION AREA	Light cut, stable machining					+										
main application	Variable condition, general machining					-										
applicable	Heavy cut, unstable machining					+										

HELIICAL TYPE	HSC P M S	Image	Description	RE	a _p	f _p	V _c	V _f	Material																												
									Al	AlTiN	AlTiAlN	AlTiN2	AlTiAlN2	AlTiAlCN	AlTiAlCN2	AlTiAlN2CN	AlTiAlN2CN2	AlTiAlCN2CN	AlTiAlCN2CN2	AlTiAlN2CN2CN	AlTiAlN2CN2CN2																
<p>low cutting force</p>	NT-RKP	11R04M-HSC	RE 0.4	0.50	0.05	4.50	8.00	0.10	0.15																												
										11R08M-HSC	RE 0.8	1.00	0.05	4.50	8.00	0.10	0.15																				
																		11R12M-HSC	RE 1.2	1.00	0.05	4.50	8.00	0.10	0.15												
										NT-RKP	16R08M-HSC	RE 0.8	1.00	0.08	7.00	13.00	0.14	0.18																			
																			16R12M-HSC	RE 1.2	1.00	0.08	7.00	13.00	0.14	0.18											
	<p>1st choice, general purpose</p>	NT-RKP	11R04M-HGP	RE 0.4	0.50	0.08	4.50	8.00	0.14										0.20																		
																				11R08M-HGP	RE 0.8	1.00	0.08	4.50	8.00	0.14	0.20										
										11R12M-HGP	RE 1.2	1.00	0.08	4.50	8.00	0.14	0.20																				
		NT-RKP	16R08M-HGP	RE 0.8	1.00	0.10	7.00	13.00	0.17									0.25																			
16R12M-HGP										RE 1.2	1.00	0.10	7.00	13.00	0.17	0.25																					
																	16R16M-HGP		RE 1.6	1.00	0.10	7.00	13.00	0.17	0.25												
16R20M-HGP	RE 2.0	1.00	0.10	7.00	13.00	0.17	0.25																														
								16R31M-HGP	RE 3.1	1.00	0.10	7.00	13.00	0.17	0.25																						

● stock standard, ○ non-standard stock, ▽ stock exhaustion

<h1>NT-RKP</h1>		<h2>REKPLUS</h2>				ISO513	HC-PVD						CVD	HW	HT																											
		Size	IC	S	D1		AN	JP5520	JP5530	JP7615	JP7525	JP8625	JP9535	JP9635	JC7515	JU6520	JU4525																									
		11	6.35	3.50	2.80	11°	P	80 250	60 230			80 250					160 350																									
		16	9.525	4.76	4.50	11°	M	60 160	60 150				60 200	60 200				100 240																								
								K			120 250	100 240						160 380																								
								N										200 1000																								
								S						40 100	40 100																											
								H																																		
GRADE APPLICATION AREA		Light cut, stable machining				+ - + -	Hardness Toughness	○ ⊖ ⊕																																		
■ main application		Variable condition, general machining																																								
■ applicable		Heavy cut, unstable machining																																								
STRAIGHT TYPE	AL		NT-RKP 11R04G-AL		RE 0.4	a _p ▶ 0.50 f _z ▶ 0.10	4.50 0.17	8.00 0.25									●																									
			11R08G-AL		RE 0.8	a _p ▶ 1.00 f _z ▶ 0.10	4.50 0.17	8.00 0.25											●																							
			NT-RKP 16R08G-AL		RE 0.8	a _p ▶ 1.00 f _z ▶ 0.10	7.00 0.20	13.00 0.30												●																						

● stock standard

TURNING

THREADING

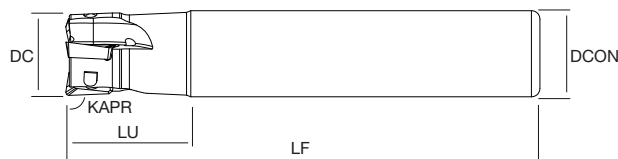
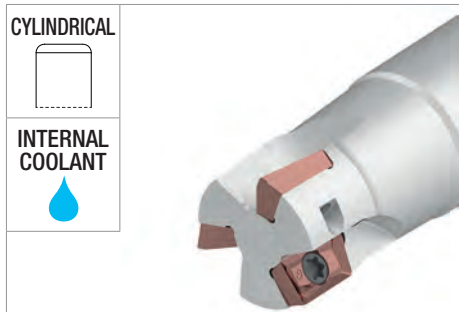
GROOVING

MILLING

DRILLING

ACCESSORIES

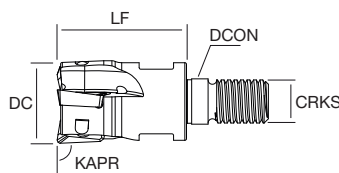
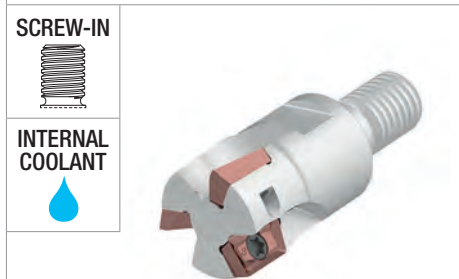
TURNING



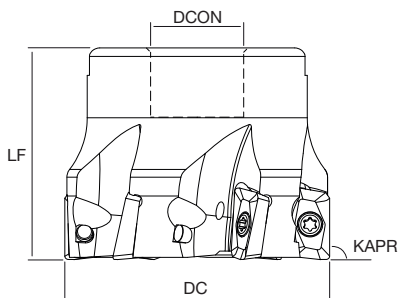
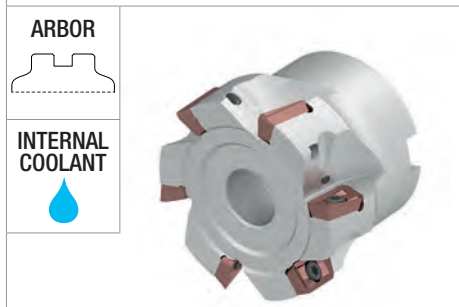
SHOULDERING



THREADING



GROOVING



MILLING

REKPLUS Shouldering (KAPR 90°)

DC		DCON	LF	LU	CRKS		MIID
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DRILLING

CYLINDRICAL	NT-RKP11	D016-S16-Z2	●	16	2	16	100	25	-	0.15	NT-RKP11
		D020-S16-Z3	●	20	3	16	110	30	-	0.25	
D020-S20-Z3	●	20	3	20	110	30	-	0.30			
D025-S20-Z3	●	25	3	20	120	35	-	0.40			
D025-S25-Z3	●	25	3	25	120	35	-	0.50			
D025-S25-Z4	●	25	4	25	120	35	-	0.50			
D032-S25-Z4	●	32	4	25	130	35	-	0.60			
D032-S32-Z4	●	32	4	32	130	35	-	1.00			
D032-S32-Z5	●	32	5	32	130	35	-	1.00			
NT-RKP16	D025-S25-Z2	●	25	2	25	120	35	-	0.45	NT-RKP16	
	D032-S32-Z3	●	32	3	32	130	45	-	0.75		
	D040-S32-Z4	●	40	4	32	150	45	-	1.00		
CYLINDRICAL LONG	NT-RKP11	D016-S15-Z2-L160	●	16	2	15	160	25	-	0.25	NT-RKP11
		D016-S16-Z2-L160	●	16	2	16	160	25	-	0.30	
		D017-S16-Z2-L170	●	17	2	16	170	25	-	0.35	
		D020-S19-Z3-L200	●	20	3	19	200	30	-	0.50	
		D020-S20-Z3-L200	●	20	3	20	200	30	-	0.50	
		D021-S20-Z3-L210	●	21	3	20	210	30	-	0.50	
		D025-S24-Z3-L250	●	25	3	24	250	35	-	1.00	
		D025-S25-Z3-L250	●	25	3	25	250	35	-	1.00	
		D026-S25-Z3-L260	●	26	3	25	260	35	-	1.00	

● stock standard

REKPLUS Shouldering (KAPR 90°)				DC		DCON	LF	LU	CRKS		MIID
WELDON	NT-RKP11	D016-W16-Z2-L080	●	16	2	16	80	25	-	0.15	NT-RKP11
		D020-W20-Z3-L090	●	20	3	20	90	30	-	0.20	
		D025-W25-Z4-L100	●	25	4	25	100	35	-	0.35	
SCREW-IN	NT-RKP11	D016-M08-Z2	●	16	2	8.5	25	-	M8	0.05	NT-RKP11
		D020-M10-Z2	▽	20	2	10.5	30	-	M10	0.10	
		D020-M10-Z3	●		3	10.5	38	-	M10	0.10	
		D025-M12-Z3	●	25	3	12.5	38	-	M12	0.15	
		D025-M12-Z4	●		4	12.5	38	-	M12	0.15	
		D032-M16-Z4	●	32	4	17	43	-	M16	0.25	
	D032-M16-Z5	●	5		17	43	-	M16	0.25		
	NT-RKP16	D025-M12-Z2	●	25	2	12.5	38	-	M12	0.15	NT-RKP16
		D032-M16-Z3	●	32	3	17	43	-	M16	0.25	
D040-M16-Z4		●	40	4	17	43	-	M16	0.30		
ARBOR	NT-RKP11	D040-F16-Z5	●	40	5	16	40	-	-	0.25	NT-RKP11
		D040-F16-Z6	●		6	16	40	-	-	0.25	
		D050-F22-Z5	●	50	5	22	40	-	-	0.45	
		D050-F22-Z7	●		7	22	40	-	-	0.45	
		D063-F22-Z6	●	63	6	22	40	-	-	0.65	
		D063-F22-Z8	●		8	22	40	-	-	0.65	
		D080-F27-Z7	●	80	7	27	50	-	-	1.20	
	D080-F27-Z10	●	10		27	50	-	-	1.20		
	NT-RKP16	D040-F16-Z4	●	40	4	16	40	-	-	0.25	NT-RKP16
		D040-F16-Z5	●		5	16	40	-	-	0.25	
		D050-F22-Z4	●	50	4	22	40	-	-	0.50	
		D050-F22-Z5	●		5	22	40	-	-	0.50	
		D063-F22-Z5	●	63	5	22	40	-	-	0.80	
		D063-F22-Z6	●		6	22	40	-	-	0.80	
		D080-F27-Z6	●	80	6	27	50	-	-	1.20	
D080-F27-Z8		●	8		27	50	-	-	1.20		
D100-F32-Z7	●	100	7	32	50	-	-	1.70			
D100-F32-Z9	●		9	32	50	-	-	1.70			

● stock standard, ▽ stock exhaustion

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-RKP11 D□□□	NT-ST018N	NT-FTB08
NT-RKP16 D□□□	NT-ST017N	NT-FTB15

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING




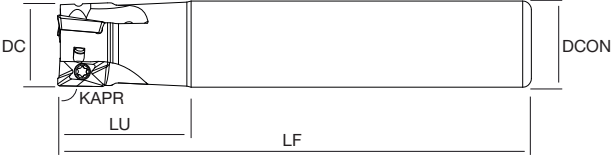







DRILLING



ACCESSORIES

APKT	ISO Shouldering - positive					ISO513	HC-PVD			HC-CVD	HW										
	Size	IC	S	D1	AN		JP5540	JP9525	JP9525	JC7530	JC8530	JW6520									
	10	6.70	3.18	2.80	11°	P	60 220	80 250		100 320											
	16	9.525	4.76	4.40	11°	M	60 200		70 220												
						K				100 300											
						N					200 1000										
						S	40 100														
						H															
GRADE APPLICATION AREA		Light cut, stable machining																			
main application		Variable condition, general machining																			
applicable		Heavy cut, unstable machining																			

GENERAL	GP	P M K	APKT	1003PDSR-GP	RE 0.5 BS 0.9	a _p ▶ f _z ▶	1.00 0.08	4.00 0.14	7.00 0.20	●	●	●	●											
			APKT	1604PDSR-GP	RE 1.0 BS 1.9	a _p ▶ f _z ▶	1.00 0.10	7.00 0.17	13.00 0.25	●	●		●	●										
REINFORCED	TE	P K	APKT	1003PDSR-TE	RE 0.5 BS 0.9	a _p ▶ f _z ▶	1.00 0.10	4.00 0.16	7.00 0.22	●	●		●	●										
			APKT	1604PDSR-TE	RE 1.0 BS 1.3	a _p ▶ f _z ▶	1.00 0.12	7.00 0.20	13.00 0.28	▲	●	▽	●	●										
ALUMINIUM	AL	N	APKT	1003PDFR-AL	RE 0.5 BS 1.6	a _p ▶ f _z ▶	1.00 0.10	4.00 0.17	7.00 0.25					●										
			APKT	1604PDFR-AL	RE 1.0 BS 1.9	a _p ▶ f _z ▶	1.00 0.10	7.00 0.20	13.00 0.30					●										

● stock standard, ▲ upcoming introduction, ▽ stock exhaustion

<p>CYLINDRICAL</p>  <p>INTERNAL COOLANT</p> 			<p>SHOULDERING</p>  90° <p>P M K</p> <p>N</p>					
<p>ARBOR</p>  <p>INTERNAL COOLANT</p> 								
<p>APKT ISO Shouldering (KAPR 90°)</p>		<p>DC</p> 	<p>DCON</p>	<p>LF</p>	<p>LU</p>	<p>CRKS</p>		<p>MIID</p>

			DC		DCON	LF	LU	CRKS		MIID	
CYLINDRICAL	NT-APK10H	D016-S16-Z2	●	16	2	16	100	28	-	0.15	APKT10
		D020-S20-Z3	●	20	3	20	110	30	-	0.25	
		D025-S25-Z3	●	25	3	25	120	30	-	0.45	
		D032-S32-Z4	●	32	4	32	130	40	-	0.75	
CYLINDRICAL	NT-APK16H	D025-S25-Z2	●	25	2	25	120	40	-	0.45	APKT16
		D032-S32-Z3	●	32	3	32	130	45	-	0.75	
ARBOR	NT-APK10H	D040-F16-Z5	●	40	5	16	40	-	-	0.25	APKT10
		D050-F22-Z5	●	50	5	22	50	-	-	0.45	
		D050-F22-Z7	●		7	22	50	-	-	0.45	
	NT-APK16H	D040-F16-Z4	●	40	4	16	40	-	-	0.25	APKT16
		D050-F22-Z4	●	50	4	22	50	-	-	0.55	
		D050-F22-Z5	●		5	22	50	-	-	0.55	
		D063-F22-Z5	●		63	5	22	40	-	-	
		D063-F22-Z6	●	6		22	40	-	-	0.80	
		D080-F27-Z6	●	80		6	27	50	-	-	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-APK10H D _{□□□}	NT-ST011	NT-FTB09
NT-APK16H D _{□□□}	NT-ST019	NT-FTB15

TURNING

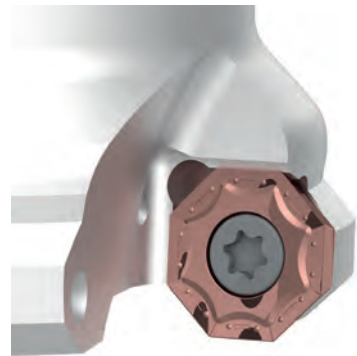
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



MILLING Facing

DOUBLE4FACE .210

DOUBLEHEX .212

4FACEPLUS .214

OKTOPLUS .218

SEHX12 ISO .222

TURNING

THREADING

GROOVING

MILLING

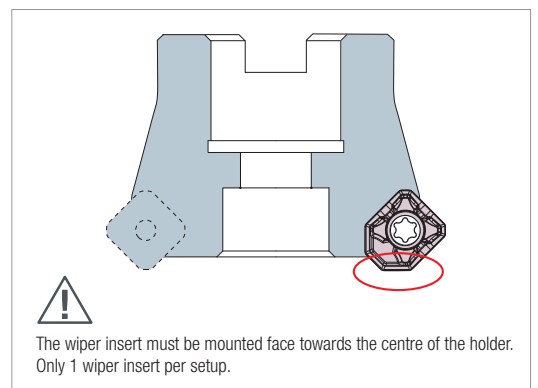
DRILLING

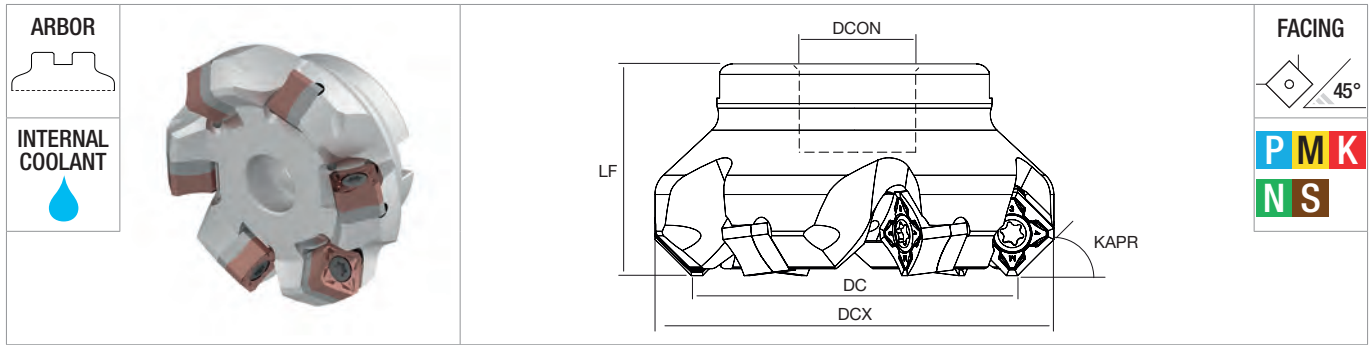
ACCESSORIES

SN _□ X	DOUBLE4FACE Facing 45° - double sided				ISO513	HC-PVD				HC-CVD	HW												
	Size	IC	S	D1		JP5520	JP5530	JP7525	JP9535			JG7515	JW6520										
					P	80 250	60 230																
	12	12.70	6.35	5.90	M	60 160	60 150		60 200														
					K			100 240		120 350													
					N						200 1000												
					S					40 100													
					H																		
GRADE APPLICATION AREA		Light cut, stable machining																					
main application		Variable condition, general machining																					
applicable		Heavy cut, unstable machining																					

SHARP	SC P M S		SNEX 1205ANEN-SC	BS 2.2	a _p ▶ 0.50 f _z ▶ 0.08	2.00 3.50 0.16 0.24	● ● ● ● ●															
GENERAL	GP P M K		SNEX 1205ANEN-GP	BS 2.2	a _p ▶ 1.00 f _z ▶ 0.10	2.50 4.00 0.23 0.36	● ● ● ● ●															
			SNMX 1205ANEN-GP	BS 2.2	a _p ▶ 1.00 f _z ▶ 0.10	2.50 4.00 0.23 0.36	● ● ▲ ▲ ●															
REINFORCED	TE P K		SNEX 1205ANSN-TE	BS 2.2	a _p ▶ 1.50 f _z ▶ 0.14	3.00 4.50 0.27 0.40	● ● ● ● ●															
			SNMX 1205ANSN-TE	BS 2.2	a _p ▶ 1.50 f _z ▶ 0.14	3.00 4.50 0.27 0.40	● ● ▲ ▲ ●															
WIPER	WU P K		SNEX 1205-WU	BS 5.6	a _p ▶ 0.50 f _z ▶ 0.08	1.00 1.50 0.16 0.24	● ● ● ● ●															
ALUMINIUM	AL N		SNEX 1205ANFN-AL	BS 2.2	a _p ▶ 0.50 f _z ▶ 0.10	2.50 4.50 0.22 0.35	●															

● stock standard, ▲ upcoming introduction





DOUBLE4FACE Facing (KAPR 45°)	DC	DCX	Z	DCON	LF	KG	MIID

ARBOR	NT-SX12H	D050-F22-Z4	●	50	64	4	22	40	0.60	SNEX12 SNMX12
		D050-F22-Z5	●			5	22	40	0.60	
		D063-F22-Z5	●	63	77	5	22	50	0.80	
		D063-F22-Z6	●			6	22	50	0.80	
		D080-F27-Z6	●	80	94	6	27	50	1.40	
		D080-F27-Z7	●			7	27	50	1.40	
		D080-F27-Z8	●			8	27	50	1.40	
		D100-F32-Z7	●	100	114	7	32	50	1.80	
		D100-F32-Z8	●			8	32	50	1.80	
		D100-F32-Z9	●			9	32	50	1.80	
		D125-F40-Z10	●	125	139	10	40	63	3.10	
		D160-F40-Z12	●	160	174	12	40	63	4.60	

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SX12H D000	NT-SH009	NT-SR009	NT-WR040	NT-ST029	NT-FTB15

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

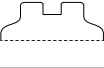
DRILLING


ACCESSORIES

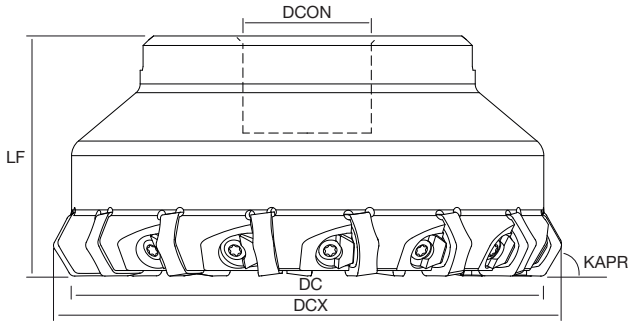
HN		DOUBLEHEX				ISO513	HC-PVD	HC-CVD	CN	BH										
		Facing 60° - double sided						JP7525	JC7515	MSM400	MBH500									
<p>12 edges</p>	Size	IC	S		P															
	09	16.20	5.56		M															
					K	100 240	120 350	400 1000	800 2000											
					N															
					S															
GRADE APPLICATION AREA		Light cut, stable machining																		
main application		Variable condition, general machining			+															
applicable		Heavy cut, unstable machining			-															
CARBIDE	GL low cutting force	HNEX 090510-GL	RE 1.0	$a_p \triangleright$ 0.50 $f_z \triangleright$ 0.08	2.50 0.15	4.50 0.22	●	●												
		090520-GL	RE 2.0	$a_p \triangleright$ 0.50 $f_z \triangleright$ 0.10	2.50 0.18	4.50 0.26	●	●												
	GG general purpose	HNEX 090520-GG	RE 2.0	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.12	3.00 0.23	5.00 0.34	●	●												
		HNMX 090520-GG	RE 2.0	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.12	3.00 0.23	5.00 0.34	●	●												
	GH reinforced edge	HNEX 090516-GH	RE 1.6	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.14	3.50 0.25	6.00 0.36	●	●												
		090530-GH	RE 3.0	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.16	3.50 0.28	6.00 0.40	●	●												
PCBN	UE solid	HNEN 090520S-UE	K RE 2.0	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.10	2.00 0.20	3.00 0.30			●											
			H RE 2.0	$a_p \triangleright$ 0.50 $f_z \triangleright$ 0.05	1.00 0.10	1.50 0.15														
CERAMIC	T02020 	HNEN 090520-GP	RE 2.0	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.08	2.50 0.16	4.00 0.24			●											
		090530-GP	RE 3.0	$a_p \triangleright$ 1.00 $f_z \triangleright$ 0.08	2.50 0.16	4.00 0.24			●											

● stock standard

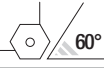
ARBOR







FACING



60°

K

DOUBLEHEX
Facing (KAPR 60°)

	DC	DCX	Z	DCON	LF	KG	MIID
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ARBOR	NT-HN09									
		D080-F27-Z8	●	80	90	8	27	50	1.40	HNEX09 HNMX09
		D080-F27-Z10	●			10	27	50	1.40	
		D100-F32-Z10	●	100	110	10	32	50	2.00	
		D100-F32-Z14	●			14	32	50	2.00	
		D125-F40-Z12	●	125	135	12	40	63	3.80	
		D125-F40-Z15	●			15	40	63	3.80	
		D160-F40-Z15	●	160	170	15	40	63	5.30	
		D160-F40-Z20	●			20	40	63	5.30	

● stock standard

Spare Parts

WEDGE



WEDGE SCREW



WRENCH



NT-HN09 D □□□	NT-WD090	NT-SC090	NT-WR030
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- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

SE □□	4FACEPLUS Facing 45° - positive					ISO513	HC-PVD				HC-CVD	HW	HT														
	Size	IC	S	D1	AN		JP5520	JP5530	JP7525	JP9535	JC7515	JC7530	JW6520	JW4525													
<p>4 edges</p>						P	80 250	60 230					160 350														
	13	13.40	3.97	4.40	20°	M	60 160	60 150		60 200			100 240														
						K			100 240	120 350	100 300		160 380														
						N							200 1000														
						S				40 100																	
					H																						
GRADE APPLICATION AREA		Light cut, stable machining				+																					
main application		Variable condition, general machining				-																					
applicable		Heavy cut, unstable machining				+																					

SHARP	SC P M S		SEET	13T3AGEN-SC	BS 1.7	a _p ▶ f _z ▶	0.50 0.08	2.00 0.14	3.50 0.20	● ● ●																	
GENERAL	GP P M	SEET	13T3AGEN-GP	BS 1.2	a _p ▶ f _z ▶	1.00 0.10	2.50 0.20	4.00 0.30	● ● ●																		
		SEMT	13T3AGEN-GP	BS 1.2	a _p ▶ f _z ▶	1.00 0.10	2.50 0.20	4.00 0.30	● ● ●																		
	GG K	SEET	13T3AGSN-GG	BS 1.3	a _p ▶ f _z ▶	1.00 0.12	2.50 0.22	4.00 0.32		●	▽																
		SEMT	13T3AGSN-GG	BS 1.3	a _p ▶ f _z ▶	1.00 0.12	2.50 0.22	4.00 0.32		▲																	
REINFORCED	TE P	SEET	13T3AGSN-TE	BS 1.2	a _p ▶ f _z ▶	1.50 0.14	3.00 0.25	4.50 0.36	● ●																		
		SEMT	13T3AGSN-TE	BS 1.2	a _p ▶ f _z ▶	1.50 0.14	3.00 0.25	4.50 0.36	● ●																		
	GH K	SEET	13T3AGSN-GH	BS 1.3	a _p ▶ f _z ▶	1.50 0.16	3.00 0.28	4.50 0.40		●																	
		SEMT	13T3AGSN-GH	BS 1.3	a _p ▶ f _z ▶	1.50 0.16	3.00 0.28	4.50 0.40		▲																	
	Flat K	SEEW	13T3AGSN	BS 2.0	a _p ▶ f _z ▶	1.50 0.20	3.00 0.30	4.50 0.40																			
WIPER	WU P K	SEET	13T3-WU	BS 7.5	a _p ▶ f _z ▶	0.50 0.08	1.00 0.16	1.50 0.24	● ▲																		

● stock standard, ▲ upcoming introduction, ▽ stock exhaustion

SE □□	4FACEPLUS Facing 45° - positive					ISO513	HC-PVD				HC-CVD		HW	HT					
							JP5520	JP5530	JP7525	JP9535	JC7515	JC7530	JU6520	JU4525					
	Size	IC	S	D1	AN		P	80 250	60 230					160 350					
	13	13.40	3.97	4.40	20°	M	60 160	60 150	60 200				100 240	160 380					
						K		100 240	120 350	100 300			200 1000						
						N													
						S			40 100										
						H													
	GRADE APPLICATION AREA	Light cut, stable machining																	
<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: #f4a460; margin-right: 5px;"></div> main application </div>	Variable condition, general machining				+ Hardness	- Toughness													
<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: #f4a460; margin-right: 5px;"></div> applicable </div>	Heavy cut, unstable machining																		
ALUMINIUM AL TV polished surface 	SEET	13T3AGFN-AL	BS 2.2	a_p ▶ 0.50 f_z ▶ 0.10	2.50 0.22	4.50 0.35						●							
	● stock standard																		

TURNING

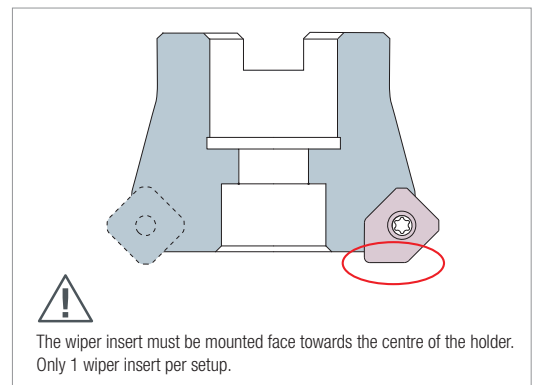
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



TURNING

THREADING

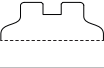
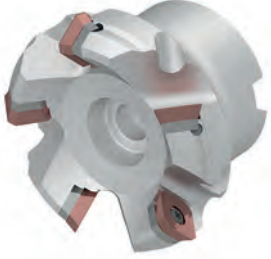
GROOVING

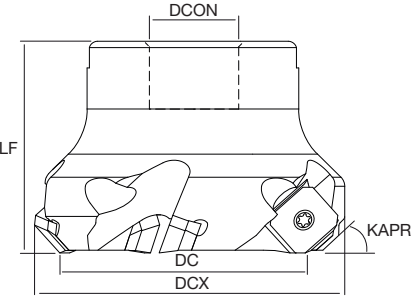
MILLING

DRILLING


ACCESSORIES

ARBOR



FACING



P

M

K

N

S

4FACEPLUS
Facing (KAPR 45°)

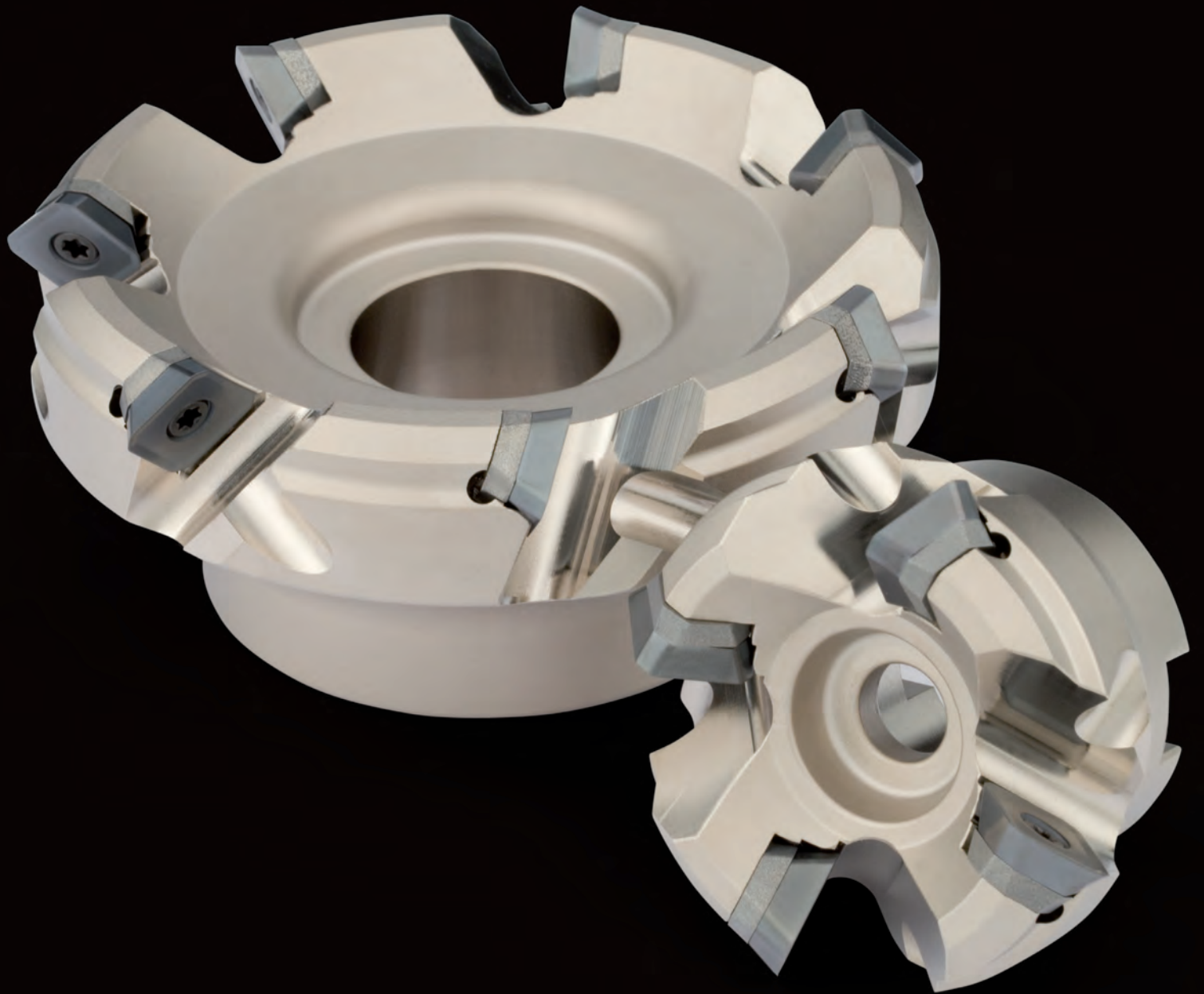
	DC	DCX	Z	DCON	LF	KG	MIID
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ARBOR	NT-SE13	●							SEET13 SEMT13
			DC	DCX	Z	DCON	LF	KG	
	D050-F22-Z4	●	50	63	4	22	40	0.50	
	D050-F22-Z5	●			5	22	40	0.50	
	D063-F22-Z5	●	63	76	5	22	50	0.70	
	D063-F22-Z6	●			6	22	50	0.70	
	D080-F27-Z6	●	80	93	6	27	50	1.20	
	D080-F27-Z8	●			8	27	50	1.20	
	D100-F32-Z7	●	100	113	7	32	50	1.80	
	D100-F32-Z10	●			10	32	50	1.80	
	D125-F40-Z8	●	125	138	8	40	63	3.00	
	D125-F40-Z12	●			12	40	63	3.00	
	D160-F40-Z10	●	160	173	10	40	63	5.00	
	D200-F60-Z12	●	200	213	12	60	63	8.00	

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
					

NT-SE13 D□□□	NT-SH004	NT-SR002	NT-WR035	NT-ST040	NT-FTB15
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TURNING

THREADING

GROOVING

MILLING

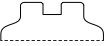
DRILLING

ACCESSORIES


	<h1>OFKT</h1> <h2>OKTOPLUS</h2> Facing 43° - positive					ISO513	HC-PVD	HC-CVD	HW																	
							JP8525	JP9525	JC7530	JU6520																
	Size	IC	S	D1	AN	P	80 250																			
	05	12.70	3.97	4.40	26°	M	70 220																			
							K		100 300																	
							N			200 1000																
							S																			
							H																			
GRADE APPLICATION AREA	Light cut, stable machining																									
main application	Variable condition, general machining					+																				
applicable	Heavy cut, unstable machining					-																				
GENERAL		OFKT 05T305-GP	RE 0.5 BS 1.1	a_p ▶ 1.00 f_z ▶ 0.07	2.00 0.16	3.00 0.25	●	●	●																	
ALUMINIUM	<p>polished surface</p>	OFKT 05T305-AL	RE 0.5 BS 1.1	a_p ▶ 0.50 f_z ▶ 0.10	1.50 0.15	2.50 0.20			●																	


● stock standard

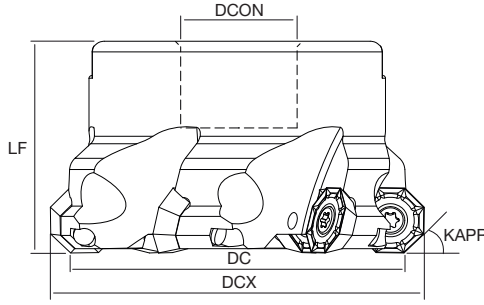
ARBOR




INTERNAL COOLANT







FACING



43°

P M K

N

OKTOPLUS - OF
Facing (KAPR 43°)

	DC	DCX	Z	DCON	LF	KG	MIID	
--	----	-----	---	------	----	----	------	--

	NT-OF05H	D050-F22-Z5	●	50	58	5	22	40	0.45	OFKT05
ARBOR		D063-F22-Z6	●	63	71	6	22	40	0.65	
		D080-F27-Z7	●	80	88	7	27	50	1.00	
		D100-F32-Z8	●	100	108	8	32	50	1.60	

● stock standard

Spare Parts	<p>INSERT SCREW</p> 	<p>INSERT WRENCH</p> 
NT-OF05H D□□□	NT-ST024	NT-FTB15

- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

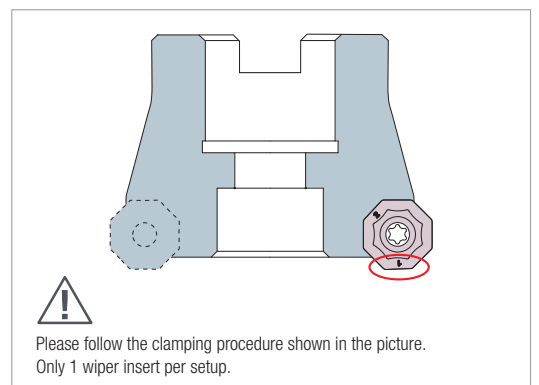
DRILLING

ACCESSORIES

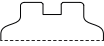
<div style="font-size: 2em; font-weight: bold;">OD-T</div> 8 edges	<div style="font-weight: bold;">OKTOPLUS</div> Facing 43° - positive					ISO513 P M K N S H	HC-PVD				HC-CVD	HW															
	Size	IC	S	D1	AN		JP5520	JP5530	JP7525	JP9535	JG7515	JW6520															
	06	15.875	5.56	5.50	15°		80 250 60 160	60 230 60 150		60 200 100 240	120 350																

	GRADE APPLICATION AREA		+ Hardness		- Toughness																						
<div style="font-weight: bold;">SHARP</div> SC P M S	ODKT 060508-SC	RE 0.8 BS 1.8	$a_p \triangleright$ $f_2 \triangleright$	0.50 0.08	1.50 0.15	2.50 0.22	●	●		●																	
<div style="font-weight: bold;">GENERAL</div> GP P M K	ODKT 060508-GP	RE 0.8 BS 1.8	$a_p \triangleright$ $f_2 \triangleright$	1.00 0.10	2.00 0.21	3.00 0.32	●	●	●	●																	
	ODMT 060508-GP	RE 0.8 BS 1.8	$a_p \triangleright$ $f_2 \triangleright$	1.00 0.10	2.00 0.21	3.00 0.32	●	●	●	●	●																
<div style="font-weight: bold;">REINFORCED</div> TE P K	ODKT 060508-TE	RE 0.8 BS 1.8	$a_p \triangleright$ $f_2 \triangleright$	1.50 0.14	2.50 0.26	3.50 0.38	●	●																			
	ODMT 060508-TE	RE 0.8 BS 1.8	$a_p \triangleright$ $f_2 \triangleright$	1.50 0.14	2.50 0.26	3.50 0.38	●	●	●		●																
<div style="font-weight: bold;">WIPER</div> WU P K 2 edges	ODKT 060508-WU	RE 0.8 BS 6.4	$a_p \triangleright$ $f_2 \triangleright$	0.50 0.08	1.00 0.16	1.50 0.24	●	●	▲																		
<div style="font-weight: bold;">ALUMINIUM</div> AL N polished surface	ODKT 060508-AL	RE 0.8 BS 1.8	$a_p \triangleright$ $f_2 \triangleright$	0.50 0.10	2.00 0.22	3.50 0.35							●														


● stock standard, ▲ upcoming introduction


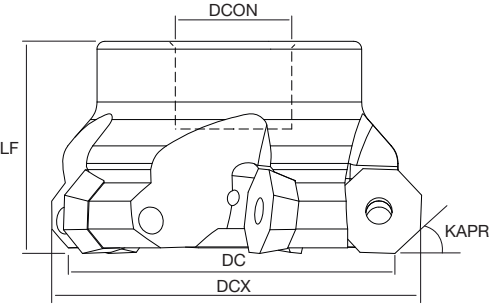


ARBOR




INTERNAL COOLANT



FACING



43°

P
M
K

N
S

OKTOPLUS - OD
Facing (KAPR 43°)

	DC	DCX	Z	DCON	LF	KG	MIID
--	----	-----	---	------	----	----	------

ARBOR	NT-OD06H	D050-F22-Z4	●	50	60	4	22	40	0.40	ODKT06 ODMT06	
			D063-F22-Z5	●	63	73	5	22	40		0.60
			D080-F27-Z6	●	80	90	6	27	50		1.10
			D100-F32-Z7	●	100	110	7	32	50		1.60
			D125-F40-Z8	●	125	135	8	40	63		2.70
			D160-F40-Z10	●	160	170	10	40	63		4.20

● stock standard

Spare Parts

INSERT SCREW	INSERT WRENCH
	

NT-OD06H D ₀₀₀	NT-ST021	NT-FTB20
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- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING

THREADING

GROOVING

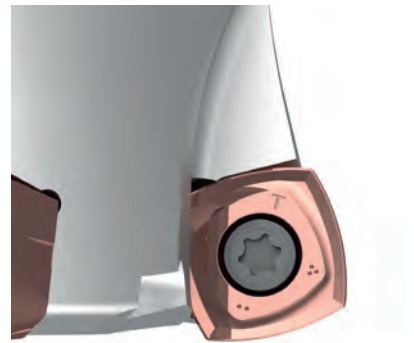
MILLING

DRILLING

ACCESSORIES

SEHX		ISO Facing 45° - positive					ISO513		HC-PVD		HC-CVD		HW	HT										
		Size	IC	S	D1	AN	P	JP5520	JP8525	JP9525	JC7530	JC8530	JW6520	JW4525										
		12	12.70	4.76	5.50	20°	P	80 250	80 250			100 320	160 350											
							M	60 160		70 220				100 240										
							K				100 300			160 380										
							N						200 1000											
							S																	
							H																	
GRADE APPLICATION AREA		Light cut, stable machining				+																		
main application		Variable condition, general machining				-																		
applicable		Heavy cut, unstable machining				+																		
SHARP	SC P M		SEHX 1204AFEN-SC	BS 2.5	a_{p1} ▶ 0.50 f_{z1} ▶ 0.08	2.00 0.15	3.50 0.22	●						●										
	GENERAL	GP P M		SEHX 1204AFSN-GP	BS 1.8	a_{p1} ▶ 1.00 f_{z1} ▶ 0.10	2.50 0.20	4.00 0.30	●	●			●											
	REINFORCED	Flat K		SEHX 1204AFSN	BS 1.8	a_{p1} ▶ 1.50 f_{z1} ▶ 0.20	3.00 0.30	4.50 0.40				●												
ALUMINIUM	AL N		SEHX 1204AFFN-AL	BS 2.5	a_{p1} ▶ 0.50 f_{z1} ▶ 0.10	2.50 0.22	4.50 0.35					●												

● stock standard



MILLING High Feed

HF4PLUS .224

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

SPMT		HF4PLUS High Feed - positive					ISO513	HC-PVD													
		Size	IC	S	D1	AN		P	JP5520 80 250	JP5530 60 230	JP7525 60 150	JP9535 60 200									
<p>4 edges</p>		07	7.80	2.80	3.50	11°	M	60 160	60 150	60 200											
							K			100 240											
							N														
							S														
							H														
GRADE APPLICATION AREA		Light cut, stable machining				+															
■ main application		Variable condition, general machining				-															
■ applicable		Heavy cut, unstable machining				+															
SHARP	SC P M S		SPMT 07T210R-SC	RE1.0	a_p ▶ 0.20 f_p ▶ 0.50	0.80 1.40 0.90 1.30															
GENERAL	GP P M K		SPMT 07T210R-GP	RE1.0	a_p ▶ 0.20 f_p ▶ 0.60	0.80 1.40 1.00 1.40															

● stock standard

IMPORTANT NOTICE FOR CNC PROGRAMMING

		SPMT07T210
	Rp THEORETICAL RADIUS FOR CNC PROGRAMMING	2.00
	K UNCUT PORTION	0.68

<h1>SDMT</h1>		HF4PLUS High Feed - positive					ISO513	HC-PVD											
		Size	IC	S	D1	AN		JP5520	JP5530	JP7525	JP9535								
	10	10.00	4.76	4.00	15°	P	80 250	60 230											
	12	12.70	5.56	4.40	15°	M	60 160	60 150	60 200										
						K			100 240										
						N													
						S													
						H													
GRADE APPLICATION AREA		Light cut, stable machining			+		-												
main application		Variable condition, general machining			Hardness		Toughness												
applicable		Heavy cut, unstable machining			-		+												

SHARP	SC P M S	SDMT	100410R-SC	RE1.0	a_p	0.30	1.00	1.70												
						f_z	0.50	1.00	1.50	●		●								
GENERAL	GP P M K	SDMT	100410R-GP	RE1.0	a_p	0.30	1.00	1.70	●	●	●									
		SDMT	120512R-GP	RE1.2	a_p	0.50	1.20	2.00	●	●	●	●								
REINFORCED	TE P K	SDMT	100410R-TE	RE1.0	a_p	0.30	1.00	1.70	●		●									
		SDMT	120512R-TE	RE1.2	a_p	0.50	1.20	2.00	●	●										

● stock standard

IMPORTANT NOTICE FOR CNC PROGRAMMING

		SDMT100410	SDMT120512
	Rp THEORETICAL RADIUS FOR CNC PROGRAMMING	3.00	4.00
	K UNCUT PORTION	0.76	0.85

TURNING

THREADING

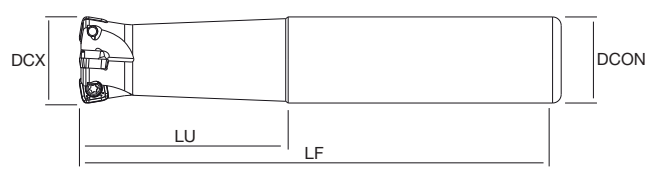
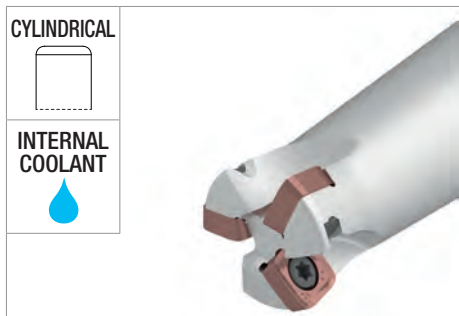
GROOVING

MILLING

DRILLING

ACCESSORIES

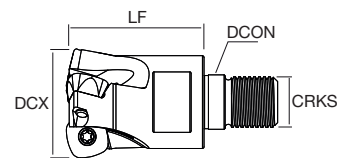
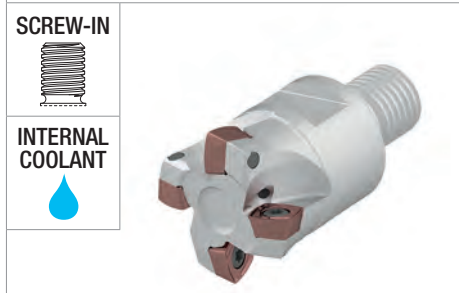
TURNING



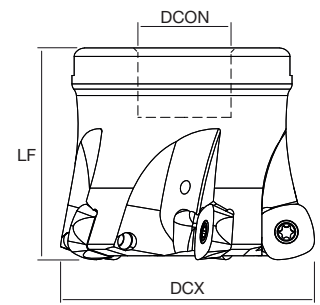
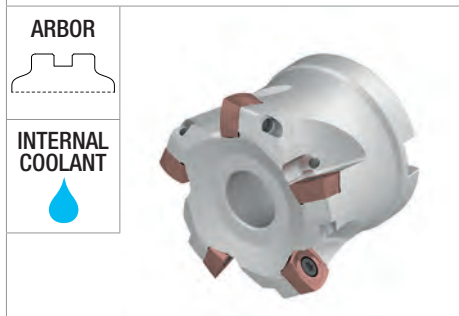
HIGH FEED

P M K
S

THREADING



GROOVING





MILLING

HF4PLUS High Feed				DCX		DCON	LF	LU	CRKS		MIID
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DRILLING

TYPE	MODEL	DCX	Z	DCON	LF	LU	CRKS	KG	MIID	
CYLINDRICAL	NT-SP07HF	D020-S20-Z3	●	20	3	20	130	50	-	0.30
		D025-S25-Z4	●	25	4	25	140	60	-	0.50
		D032-S32-Z5	●	32	5	32	150	70	-	1.00
SCREW-IN	NT-SP07HF	D020-M10-Z2	●	20	2	10.5	30	-	M10	0.10
		D020-M10-Z3	●		3	10.5	30	-	M10	0.10
		D025-M12-Z3	●	25	3	12.5	35	-	M12	0.15
		D025-M12-Z4	●		4	12.5	35	-	M12	0.15
		D032-M16-Z4	●	32	4	17	40	-	M16	0.30
		D032-M16-Z5	●		5	17	40	-	M16	0.30
		D035-M16-Z5	●	35	5	17	40	-	M16	0.30
		D042-M16-Z6	●	42	6	17	40	-	M16	0.35
	NT-SD10HF	D035-M16-Z4	●	35	4	17	40	-	M16	0.30
		D042-M16-Z5	●	42	5	17	40	-	M16	0.35
NT-SD12HF	D032-M16-Z2	●	32	2	17	43	-	M16	0.25	
	D035-M16-Z3	●	35	3	17	43	-	M16	0.25	
	D040-M16-Z4	●	40	4	17	43	-	M16	0.25	
	D042-M16-Z4	●	42	4	17	43	-	M16	0.25	
ARBOR	NT-SP07HF	D040-F16-Z5	●	40	5	16	40	-	-	0.25
		D040-F16-Z6	●		6	16	40	-	-	0.25
	D042-F16-Z5	●	42	5	16	40	-	-	0.25	
	D042-F16-Z6	●		6	16	40	-	-	0.25	
	D050-F22-Z7	●	50	7	22	50	-	-	0.55	
	D052-F22-Z7	●	52	7	22	50	-	-	0.55	

● stock standard

HF4PLUS High Feed				DCX		DCON	LF	LU	CRKS		MIID
ARBOR	NT-SD10HF	D050-F22-Z6	●	50	6	22	50	-	-	0.55	SDMT10
		D052-F22-Z6	●	52	6	22	50	-	-	0.55	
		D063-F27-Z7	●	63	7	27	50	-	-	0.75	
		D066-F27-Z7	●	66	7	27	50	-	-	0.80	
		D080-F27-Z8	●	80	8	27	50	-	-	1.10	
	NT-SD12HF	D042-F16-Z4	●	42	4	16	40	-	-	0.25	SDMT12
		D050-F22-Z4	●	50	4	22	50	-	-	0.45	
		D050-F22-Z5	●		5	22	50	-	-	0.45	
		D052-F22-Z4	●	52	4	22	50	-	-	0.45	
		D052-F22-Z5	●		5	22	50	-	-	0.45	
		D063-F22-Z4	●	63	4	22	50	-	-	0.70	
		D063-F27-Z4	●		4	27	50	-	-	0.70	
		D063-F22-Z5	●		5	22	50	-	-	0.70	
		D063-F27-Z5	●		5	27	50	-	-	0.70	
		D066-F27-Z6	●		66	6	27	50	-	-	
		D080-F27-Z6	●	80	6	27	50	-	-	1.10	
		D080-F27-Z7	●		7	27	50	-	-	1.10	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-SP07HF DCX ≤ 25	NT-ST034	NT-FTB10
NT-SP07HF DCX > 25	NT-ST033	
NT-SD10HF D□□□	NT-ST036	NT-FTB15
NT-SD12HF D□□□	NT-ST024	NT-FTB15

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



MILLING Copying

ROUNDPLUS .230

TURNING

THREADING

GROOVING

MILLING




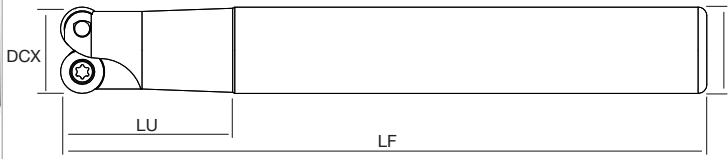




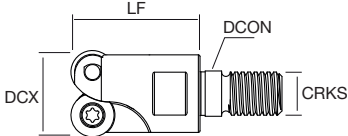



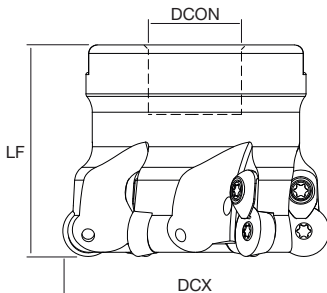


DRILLING

ACCESSORIES

RD	ROUNDPLUS Copying - positive					ISO513	HC-PVD				HT
	Size	IC	S	D1	AN		JP5520	JP5530	JP7525	JP9535	
	05	5.00	1.51	2.20	15°	P	80 250	60 230			160 350
	07	7.00	2.38	2.80	15°	M	60 160	60 150		60 200	100 240
	10	10.00	3.18	3.80	15°	K			100 240		160 380
	12	12.00	4.76	4.40	15°	N					
	16	16.00	4.76	5.00	15°	S				40 100	
	H										
GRADE APPLICATION AREA	Light cut, stable machining										
main application	Variable condition, general machining										
applicable	Heavy cut, unstable machining										
						+					
						-					

SHARP	SC	RDET	1003M0-SC	RE 5.0	a _p ▶ f _z ▶	0.50 0.10	2.00 0.22	3.50 0.34	▽	▽												
			1204M0-SC	RE 6.0	a _p ▶ f _z ▶	0.50 0.15	2.50 0.30	4.50 0.45	●	●												
			1604M0-SC	RE 8.0	a _p ▶ f _z ▶	1.00 0.22	3.00 0.44	5.00 0.62	●	●												
GENERAL	GP	RDET	1003M0-GP	RE 5.0	a _p ▶ f _z ▶	0.50 0.12	2.00 0.25	3.50 0.38	●	●	●											
			1204M0-GP	RE 6.0	a _p ▶ f _z ▶	0.50 0.18	2.50 0.35	4.50 0.52	●	●	●											
			1604M0-GP	RE 8.0	a _p ▶ f _z ▶	1.00 0.25	3.00 0.45	5.00 0.65	●	●	●											
		RDMT	1204M0-GP	RE 6.0	a _p ▶ f _z ▶	0.50 0.18	2.50 0.35	4.50 0.52	●	●												
REINFORCED	TES	RDEW	0501M0-TES	RE 2.5	a _p ▶ f _z ▶	0.30 0.08	1.00 0.15	1.70 0.22	●	●	●	○										
			0702M0-TES	RE 3.5	a _p ▶ f _z ▶	0.30 0.08	1.50 0.16	2.70 0.24	●		○	▽										
	TE	RDEW	0702M0-TE	RE 3.5	a _p ▶ f _z ▶	0.30 0.08	1.50 0.19	2.70 0.30	●	●	●											
			1003M0-TE	RE 5.0	a _p ▶ f _z ▶	0.50 0.14	2.00 0.27	3.50 0.40	●	●	●											
			1204M0-TE	RE 6.0	a _p ▶ f _z ▶	0.50 0.20	2.50 0.40	4.50 0.60	●	●	●											
1604M0-TE			RE 8.0	a _p ▶ f _z ▶	1.00 0.30	3.00 0.50	5.00 0.70	●	●	●												
	RDMW	1604M0-TE	RE 8.0	a _p ▶ f _z ▶	1.00 0.30	3.00 0.50	5.00 0.70	●	●													
TE-D6	RDEW	1204M0-TE-D6	RE 6.0	a _p ▶ f _z ▶	0.50 0.20	2.50 0.40	4.50 0.60	●	●													
		RDMW	1204M0-TE-D6	RE 6.0	a _p ▶ f _z ▶	0.50 0.20	2.50 0.40	4.50 0.60	●													
	RDEW	1204M0-TE-D8	RE 6.0	a _p ▶ f _z ▶	0.50 0.20	2.50 0.40	4.50 0.60	●	●													
		RDMW	1204M0-TE-D8	RE 6.0	a _p ▶ f _z ▶	0.50 0.20	2.50 0.40	4.50 0.60	○	●												

● stock standard, ○ non-standard stock, ▽ stock exhaustion

<p>CYLINDRICAL</p>  <p>INTERNAL COOLANT</p> 			<p>COPYING</p>  <p>P M K</p> <p>S</p>	<p>TURNING</p>							
<p>SCREW-IN</p>  <p>INTERNAL COOLANT</p> 					<p>THREADING</p>						
<p>ARBOR</p>  <p>INTERNAL COOLANT</p> 						<p>GROOVING</p>					
<p>ROUNDPLUS - RD Copying</p>		<p>DCX</p>		<p>DCON</p>			<p>LF</p>	<p>LU</p>	<p>CRKS</p>		<p>MIID</p>

CYLINDRICAL	NT-RD05H	D009-S08-Z2-L100	●*	Z		DCON	LF	LU	CRKS	KG	MIID
				9	2						
		D010-S10-Z2-L100	●	10	2	10	100	18	-	0.10	RDEW05
		D011-S10-Z2-L100	●*	11	2	10	100	15	-	0.10	
		D012-S12-Z3-L100	●	12	3	12	100	22	-	0.10	
		D013-S12-Z3-L100	●*	13	3	12	100	18	-	0.10	
		D016-S16-Z4-L150	●*	16	4	16	150	30	-	0.25	
		D017-S16-Z4-L150	●*	17	4	16	150	20	-	0.25	
	NT-RD07H	D016-S16-Z2-L150	●	16	2	16	150	25	-	0.25	
		D017-S16-Z2-L150	●	17	2	16	150	20	-	0.25	
		D020-S20-Z3-L150	●*	20	3	20	150	35	-	0.40	
		D021-S20-Z3-L150	●*	21	3	20	150	25	-	0.40	
		D025-S25-Z5-L150	●*	25	5	25	150	40	-	0.60	
		D026-S25-Z5-L150	●*	26	5	25	150	25	-	0.60	
		D035-S32-Z6-L150	●*	35	6	32	150	30	-	1.00	
	NT-RD10H	D020-S20-Z2-L150	●	20	2	20	150	40	-	0.35	RDET10 RDEW10
		D021-S20-Z2-L150	●	21	2	20	150	25	-	0.35	
		D025-S25-Z3-L150	●	25	3	25	150	40	-	0.55	
		D026-S25-Z3-L150	●*	26	3	25	150	25	-	0.55	
		D030-S25-Z3-L150	●*	30	3	25	150	25	-	0.60	
		D032-S32-Z3-L150	●	32	3	32	150	40	-	0.90	
		D035-S32-Z4-L150	●*	35	4	32	150	35	-	0.90	

● stock standard



ITEMS MARKED WITH *

We will continue to supply the equivalent milling cutters without coolant holes until stock exhaustion

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES




ROUNDPLUS - RD Copying				DCX		DCON	LF	LU	CRKS		MIID	
SCREW-IN	NT-RD05H	D012-M06-Z2	●*	12	2	6.5	18	-	M6	0.10	RDEW05	
		D012-M06-Z3	●*		3	6.5	18	-	M6	0.10		
		D013-M06-Z2	●*	13	2	6.5	18	-	M6	0.10		
		D013-M06-Z3	●*		3	6.5	18	-	M6	0.10		
		D016-M08-Z4	●*	16	4	8.5	23	-	M8	0.10		
		D017-M08-Z4	●*	17	4	8.5	23	-	M8	0.10		
	SCREW-IN	NT-RD07H	D016-M08-Z2	●*	16	2	8.5	23	-	M8	0.10	RDEW07
			D016-M08-Z3	●*		3	8.5	23	-	M8	0.10	
			D017-M08-Z2	●*	17	2	8.5	23	-	M8	0.10	
			D017-M08-Z3	●*		3	8.5	23	-	M8	0.10	
			D020-M10-Z3	●	20	3	10.5	30	-	M10	0.10	
			D021-M10-Z2	●*	21	2	10.5	30	-	M10	0.10	
D021-M10-Z3			●*	3		10.5	30	-	M10	0.10		
D025-M12-Z4			●	25	4	12.5	35	-	M12	0.15		
D025-M12-Z5			●*		5	12.5	35	-	M12	0.15		
D026-M12-Z4			●*	26	4	12.5	35	-	M12	0.15		
D026-M12-Z5			●*		5	12.5	35	-	M12	0.15		
D035-M16-Z5			●*	35	5	17	43	-	M16	0.25		
D035-M16-Z6	●*	6	17		43	-	M16	0.25				
SCREW-IN	NT-RD10H	D020-M10-Z2	●	20	2	10.5	30	-	M10	0.10	RDET10 RDEW10	
		D021-M10-Z2	●*	21	2	10.5	30	-	M12	0.10		
		D025-M12-Z3	●	25	3	12.5	35	-	M12	0.15		
		D026-M12-Z3	●*	26	3	12.5	35	-	M12	0.15		
		D030-M12-Z3	●*	30	3	12.5	35	-	M12	0.20		
		D032-M16-Z3	●	32	3	17	43	-	M16	0.20		
		D035-M16-Z3	●	35	3	17	43	-	M16	0.25		
		D035-M16-Z4	●		4	17	43	-	M16	0.25		
		D040-M16-Z4	●	40	4	17	43	-	M16	0.30		
ARBOR	NT-RD10H	D042-F16-Z5	●	42	5	16	40	-	-	0.25	RDET10 RDEW10	
		D052-F22-Z6	●	52	6	22	40	-	-	0.45		
	NT-RD12H	D042-F16-Z4	●	42	4	16	50	-	-	0.30	RDET12 RDEW12 RDMT12 RDMW12	
		D050-F22-Z4	●*	50	4	22	50	-	-	0.40		
		D050-F22-Z5	●		5	22	50	-	-	0.40		
		D052-F22-Z4	●	52	4	22	50	-	-	0.45		
		D052-F22-Z5	●		5	22	50	-	-	0.45		
		D063-F22-Z5	●	63	5	22	50	-	-	0.65		
		D063-F22-Z6	●		6	22	50	-	-	0.65		
		D066-F22-Z6	●	66	6	22	50	-	-	0.80		
	NT-RD16H	D080-F27-Z6	▽*	80	6	27	50	-	-	1.00		
		D080-F27-Z7	●		7	27	50	-	-	1.00		
NT-RD16H	D063-F22-Z5	●	63	5	22	50	-	-	0.60	RDET16 RDEW16 RDMW16		
	D066-F22-Z5	▽*	66	5	22	50	-	-	0.60			
	D066-F27-Z5	●		5	27	50	-	-	0.60			
	D080-F27-Z5	●	80	5	27	50	-	-	0.90			
	D080-F27-Z6	●		6	27	50	-	-	0.90			
	D100-F32-Z7	●	100	7	32	50	-	-	1.60			
D125-F40-Z8	●	125	8	40	63	-	-	2.90				

● stock standard, ▽ stock exhaustion



ITEMS MARKED WITH *

We will continue to supply the equivalent milling cutters without coolant holes until stock exhaustion

Spare Parts	CLAMP SET	INSERT SCREW	INSERT WRENCH
			
NT-RD05H DCX ≤ 10	-	NT-ST026	NT-FTB06
NT-RD05H DCX > 10		NT-ST009	
NT-RD07H D₀₀₀	-	NT-ST018	NT-FTB08
NT-RD10H D₀₀₀ DCX ≤ 26	-	NT-ST012	NT-FTB15
NT-RD10H D₀₀₀ DCX = 30		NT-ST013	
NT-RD10H D₀₀₀ DCX ≥ 32			
NT-RD12H D₀₀₀	NT-CS014	NT-ST017	NT-FTB15
NT-RD16H D₀₀₀	NT-CS021	NT-ST023	NT-FTB20

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

TURNING


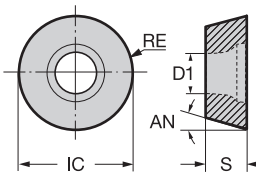






THREADING

GROOVING

MILLING

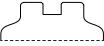
DRILLING

ACCESSORIES


		ROUNDPLUS Copying					ISO513	HC-PVD																	
								JP5520	JP5530	JP9535															
	Size	IC	S	D1	AN	P	80	60																	
	12	12.00	4.76	4.40	11°	M	250	230																	
							K	60	60	60															
							N	160	150	200															
							S			40															
						H			100																
GRADE APPLICATION AREA		Light cut, stable machining					+																		
■ main application		Variable condition, general machining					-																		
■ applicable		Heavy cut, unstable machining					+																		
SHARP			20-22°	RPET	1204M0-SC	RE 6.0	a_p ▶ 0.50 f_z ▶ 0.15	2.50 0.30	4.50 0.45	●	●														
				GENERAL			14-18°	RPET	1204M0-GP	RE 6.0	a_p ▶ 0.50 f_z ▶ 0.18	2.50 0.35	4.50 0.52	●	●	●									
								RPMT	1204M0-GP	RE 6.0	a_p ▶ 0.50 f_z ▶ 0.18	2.50 0.35	4.50 0.52	●	●										
REINFORCED			14-18°	RPEW	1204M0-TE	RE 6.0	a_p ▶ 0.50 f_z ▶ 0.20	2.50 0.40	4.50 0.60	○	●														
				RPMW	1204M0-TE	RE 6.0	a_p ▶ 0.50 f_z ▶ 0.20	2.50 0.40	4.50 0.60	●	●														


● stock standard, ○ non-standard stock

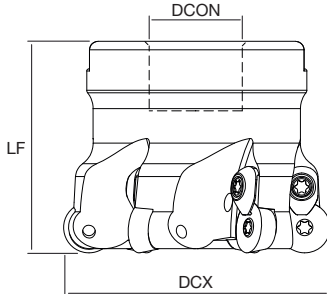
ARBOR




INTERNAL COOLANT







COPYING





360°

P

M

S

ROUNDPLUS - RP
Copying

	DCX		DCON	LF		MIID		
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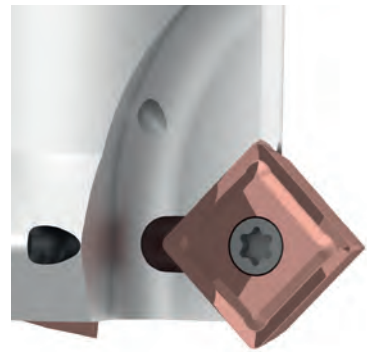
ARBOR	NT-RP12H	D042-F16-Z4	●	42	4	16	50	0.30	RPET12 RPEW12 RPMT12 RPMW12		
		D050-F22-Z5	●	50	5	22	50	0.45			
		D052-F22-Z5	●	52	5	22	50	0.50			
		D063-F22-Z6	●	63	6	22	50	0.70			
		D066-F22-Z6	●	66	6	22	50	0.80			
		D080-F27-Z7	●	80	7	27	50	1.00			

● stock standard

Spare Parts

CLAMP SET	INSERT SCREW	INSERT WRENCH
		
NT-RP12H D ₀₀₀	NT-CS013	NT-ST017

- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES



MILLING Chamfering

CHAMFERSQUARE .238

TURNING

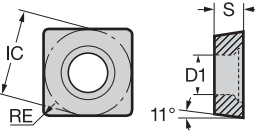

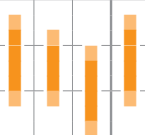


THREADING

GROOVING



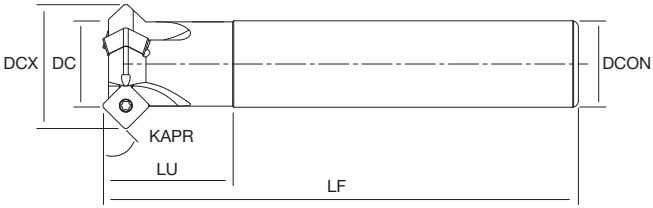





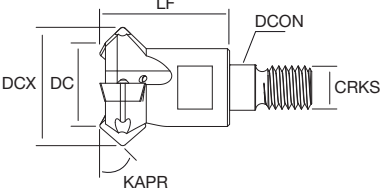


MILLING



DRILLING

ACCESSORIES

SP [□] X		CHAMFERSQUARE Chamfering					ISO513	HC-PVD			HW											
		Size	IC	S	D1	AN		JP5625	JP5530	JP9635		JW6520										
 <p>4 edges</p>		05	5.00	2.38	2.50	11°	P	80 250	60 230													
		07	7.94	3.97	2.80	11°	M	60 160	60 150	60 200												
		09	9.80	4.30	4.10	11°	K	80 200														
							N				200 1000											
							S				40 100											
GRADE APPLICATION AREA		Light cut, stable machining					+															
 main application		Variable condition, general machining					-															
 applicable		Heavy cut, unstable machining					+															
GENERAL	GP P M K S	SPMX 050204-GP	RE 0.4	f _z ▶ 0.08	0.10	0.12	●	●	●													
		SPMX 07T308-GP	RE 0.8	f _z ▶ 0.10	0.15	0.20	●	●	●													
		SPMX 090408-GP	RE 0.8	f _z ▶ 0.10	0.20	0.30	●	●	●													
ALUMINIUM	AL N	SPGX 050204-AL	RE 0.4	f _z ▶ 0.08	0.10	0.12				●												
		SPGX 07T308-AL	RE 0.8	f _z ▶ 0.10	0.15	0.20				●												
		SPGX 090408-AL	RE 0.8	f _z ▶ 0.10	0.20	0.30				●												

● stock standard

<p>CYLINDRICAL</p> 			<p>CHAMFERING</p>  <p>45°</p> 						
<p>INTERNAL COOLANT</p> 	<p>SCREW-IN</p>  								
<p>CHAMFERSQUARE Chamfering (KAPR 45°)</p>		<p>DC</p>	<p>DCX</p>		<p>DCON</p>	<p>LF</p>	<p>LU (CRKS)</p>		<p>MIID</p>

			DC	DCX		DCON	LF	LU (CRKS)		MIID
CYLINDRICAL	NT-CHS45	D12/19-S12-Z3-05	●	12	19	3	12	80	20	SP=X05
		D16/22-S16-Z4-05	●	16	22	4	16	100	25	SP=X07
		D20/30-S20-Z3-07	●	20	30	3	20	110	30	SP=X09
		D25/37-S25-Z3-09	●	25	37	3	25	120	35	SP=X09
		D32/44-S32-Z4-09	●	32	44	4	32	130	40	SP=X09
SCREW-IN	NT-CHS45	D12/19-M06-Z3-05	●	12	19	3	6.5	20	(M6)	SP=X05
		D16/22-M08-Z4-05	●	16	22	4	8.5	25	(M8)	SP=X07
		D20/30-M10-Z3-07	●	20	30	3	10.5	30	(M10)	SP=X09
		D25/37-M12-Z3-09	●	25	37	3	12.5	35	(M12)	SP=X09
		D32/44-M16-Z4-09	●	32	44	4	17	40	(M16)	SP=X09

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-CHS45 D12/19-S12-Z3-05	NT-ST059N	NT-FTB06
NT-CHS45 D16/22-S16-Z4-05	NT-ST062N	NT-FTB07
NT-CHS45 D20/30-S20-Z3-07	NT-ST063N	NT-FTB15
NT-CHS45 D25/37-S25-Z3-09	NT-ST059N	NT-FTB06
NT-CHS45 D32/44-S32-Z4-09	NT-ST062N	NT-FTB07
NT-CHS45 D12/19-M06-Z3-05	NT-ST063N	NT-FTB15
NT-CHS45 D16/22-M08-Z4-05		
NT-CHS45 D20/30-M10-Z3-07		
NT-CHS45 D25/37-M12-Z3-09		
NT-CHS45 D32/44-M16-Z4-09		

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



MILLING Advanced

TURNING

THREADING

GROOVING

MILLING

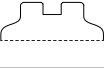
DRILLING


ACCESSORIES

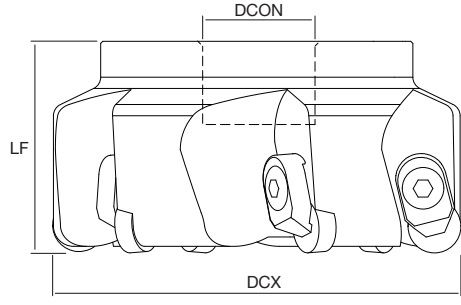
RN		CERAMIC - PCBN Negative				ISO513	CN		BH																	
							NSA6000	NBH500C	NBH900U	NBH950U																
	Size	IC	S			P																				
	120400	12.70	4.76			M																				
	120700	12.70	7.94			K		800 2000	800 1500	600 1000																
						N																				
						S		800 1200																		
						H			150 300	100 250	80 180															
GRADE APPLICATION AREA		Light cut, stable machining																								
■ main application		Variable condition, general machining																								
■ applicable		Heavy cut, unstable machining																								
CERAMIC	T01020 S	RNGN	120400-CC	-	a_p ▶ 0.50 f_z ▶ 0.06	1.50 0.15	2.50 0.24	●																		
		RNGN	120700-CC	-	a_p ▶ 0.50 f_z ▶ 0.06	1.50 0.15	2.50 0.24	●																		
PCBN	UE H	RNGN	120400S-UE	-	a_p ▶ 0.20 f_z ▶ 0.05	0.50 0.10	1.00 0.15	●	●	●																

● stock standard

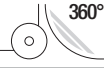
ARBOR









FACING
360°



S H

ROUND ADVANCED

	DCX		DCON	LF	 KG	MIID		
--	-----	---	------	----	--	------	--	--

ARBOR											
	NT-RN12	D050-F22-Z4	●	50	4	22	50	0.50	RNGN1204		
	D063-F22-Z4	●	63	4	22	50	0.70				
	D080-F27-Z5	●	80	5	27	50	1.20				
	D100-F32-Z6	●	100	6	32	50	1.60				
NT-RN12X	D050-F22-Z4	●	50	4	22	50	0.50	RNGN1207			
	D063-F22-Z4	●	63	4	22	50	0.70				
	D080-F27-Z5	●	80	5	27	50	1.20				
	D100-F32-Z6	●	100	6	32	50	1.60				

● stock standard

	CLAMP	CLAMP SCREW	SPRING	WRENCH
Spare Parts				
NT-RN12 D□□□	NT-CS028	NT-ST028	NT-SG028	NT-WR030

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

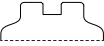

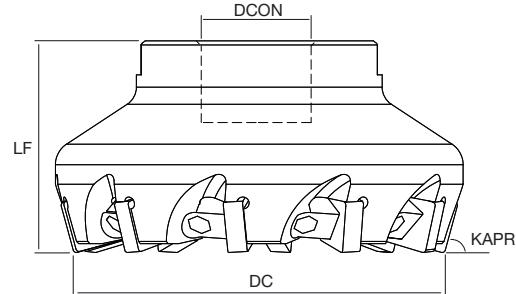



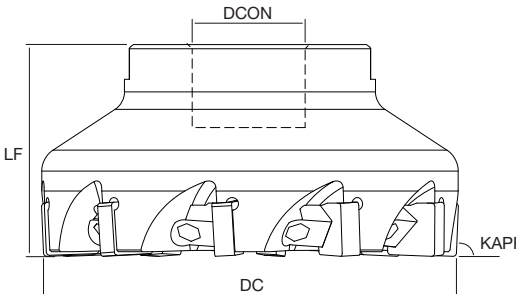



DRILLING

ACCESSORIES

<h1>SN</h1>	CERAMIC - PCBN			ISO513 CM CN BH MA6200 NSM400 NSM450 NBH500 NBH9000																	
	Negative				P																
	Size	IC	S		M																
	12	12.70	4.76		K	300	600	500	800	800											
					N	600	1200	1000	2000	1500											
					S																
			H																		
GRADE APPLICATION AREA	Light cut, stable machining			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
main application	Variable condition, general machining			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
applicable	Heavy cut, unstable machining			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		

T02020 K 	SNGN	120412-GP	RE 1.2	Roughing a_p	>1.00	●	●												
				f_z	0.15 0.20 0.25														
T02020 K 	SNMN	120416-GP	RE 1.6	Roughing a_p	>1.00	●													
				f_z	0.15 0.20 0.25														
T02020 K only for 75° milling cutter	SNXN	1204EN	BS 1.4	Finishing a_p	<1.00	○													
				f_z	0.05 0.10 0.15														
T02020 K only for 88° milling cutter	SNXN	1204HN	BS 1.8	Finishing a_p	<1.00	○													
				f_z	0.06 0.08 0.10														
S02020 K chip breaker, low cutting force	SNGX	120412-GS	RE 1.2	Roughing a_p	>1.00	●													
				f_z	0.10 0.15 0.20														
UE K solid	SNGN	120412S-UE	RE 1.2	Roughing a_p	>1.00			●	●										
				f_z	0.15 0.20 0.25														
EN K only for 75° milling cutter	SNXN	1204EN	BS 1.4	Finishing a_p	<1.00														
				f_z	0.05 0.10 0.15														
HN K only for 88° milling cutter	SNXN	1204HN	BS 1.8	Finishing a_p	<1.00														
				f_z	0.06 0.08 0.10														
				Roughing a_p	>1.00														
				f_z	0.10 0.15 0.20														

● stock standard

<p>ARBOR</p> 			<p>FACING</p>  <p>K</p>						
<p>ARBOR</p> 			<p>FACING</p>  <p>K</p>						
<p>SQUARE ADVANCED (KAPR 75° and 88°)</p>		<p>DC</p>		<p>DCON</p>	<p>LF</p>		<p>MIID</p>		

	NT-SN12-75°	D050-F22-Z5	●	50	5	22	40	0.50	SNGN12 SNGX12 SNMN12 SNXN12		
75°		D063-F22-Z6	●	63	6	22	40	0.70			
		D080-F27-Z8	●	80	8	27	50	1.40			
		D100-F32-Z10	●	100	10	32	50	1.80			
		D125-F40-Z12	●	125	12	40	63	4.00			
		NT-SN12-88°	D063-F22-Z6	●	63	6	22	40	0.70	SNGN12 SNGX12 SNMN12 SNXN12	
88°		D080-F27-Z8	●	80	8	27	50	1.40			
		D100-F32-Z10	●	100	10	32	50	1.80			
		D125-F40-Z12	●	125	12	40	63	4.00			

● stock standard

Spare Parts	WEDGE	WEDGE SCREW	WRENCH
			
NT-SN12 D□□□	NT-WD070	NT-SC060	NT-WR030

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

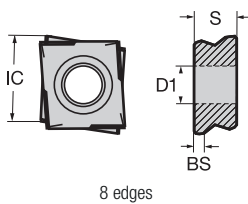

THREADING

GROOVING

MILLING

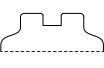

DRILLING

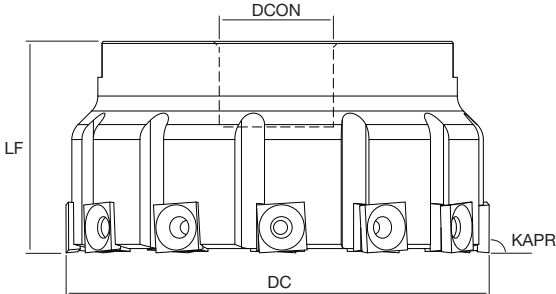
ACCESSORIES

SP	CERAMIC Tangential				ISO513	CN														
	Size	IC	S	D1		NSM350	NSM400													
 <p>8 edges</p>	12	11.70	5.50	5.10	P															
					M															
					K	600	600													
					N	1200	1200													
					S															
					H															
GRADE APPLICATION AREA	Light cut, stable machining				+															
main application	Variable condition, general machining				-															
applicable	Heavy cut, unstable machining				+															
CERAMIC		SPHX	1205PCTR-GP	BS 0.7	Finishing		a_p	<1.00												
					f_z	0.08	0.15	0.22												
					Roughing		a_p	>1.00												
					f_z	0.10	0.20	0.30												
								● ●												


● stock standard

ARBOR





TANGENTIAL



K

TANGENTIAL ADVANCED
(KAPR 90°)

	DC		DCON	LF		MIID		
--	----	---	------	----	---	------	--	--

ARBOR	NT-SP12-TAN	D050-F22-Z5	●	50	5	22	50	0.40	SPHX12			
			D063-F22-Z7	●	63	7	22	50		0.60		
			D080-F27-Z8	●	80	8	27	50		1.20		
			D100-F32-Z12	●	100	12	32	50		2.00		
			D125-F40-Z15	●	125	15	40	50		3.40		

● stock standard

Spare Parts

INSERT SCREW



INSERT WRENCH



NT-SP12 D□□□	NT-ST027	NT-FTB15
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- TURNING
- THREADING
- GROOVING
- MILLING
- DRILLING
- ACCESSORIES

TURNING

THREADING

GROOVING



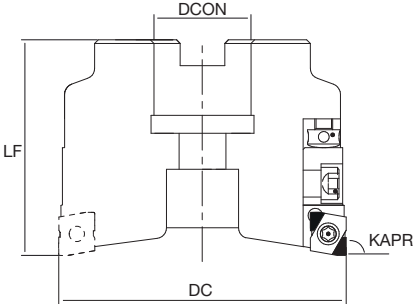



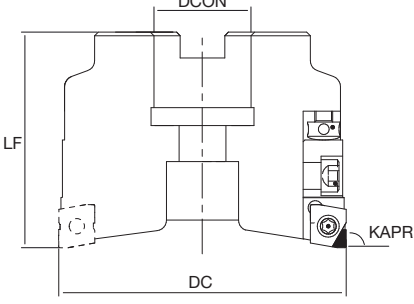


MILLING

DRILLING

ACCESSORIES

<h1>XP</h1>		DIAMOND - PCBN					ISO513	DP			BH														
		Size	IC	S	D1	AN		ND120	ND150	MBH450U															
<p>DIAMOND 1 edge - PCBN 2 edges</p>		08	7.91	2.38	3.60	11°	P																		
								M																	
								K				600 1000													
								N	500 2000	500 2500															
								S																	
								H				80 200													
GRADE APPLICATION AREA		Light cut, stable machining					+																		
■ main application		Variable condition, general machining					-																		
■ applicable		Heavy cut, unstable machining					+																		
DIAMOND	SLANT TIP N	<p>tip with carbide backed, tip angle: 3°</p>	XPGT	080204F-1C	RE 0.4 BS 2.5	a _p ▶ 0.50 f _z ▶ 0.05	2.00 0.15	3.50 0.25	●	●															
					080208F-1C	RE 0.8 BS 2.5	a _p ▶ 0.50 f _z ▶ 0.05	2.00 0.15	3.50 0.25	●	●														
PCBN	FLAT TIP K	<p>tip with carbide backed</p>	XPGW	080204S-UE-2C	RE 0.4 BS 2.5	a _p ▶ 0.50 f _z ▶ 0.05	1.00 0.10	1.50 0.15			●														
					080208S-UE-2C	RE 0.8 BS 2.5	a _p ▶ 0.50 f _z ▶ 0.05	1.00 0.10	1.50 0.15			●													

● stock standard

<p>ARBOR</p> 			<p>FACING</p>  <p>K</p>					
<p>STEEL BODY</p>								
<p>ARBOR</p> 			<p>FACING</p>  <p>N</p>					
<p>ALUMINIUM BODY</p>								
<p>ADJUSTABLE ADVANCED (KAPR 90°)</p>		<p>DC</p> 	<p>DCON</p>	<p>LF</p>	<p>KG</p>	<p>MIID</p>		

STEEL BODY	NT-XP08	D050-F16-Z5-ST	●	50	5	16	50	XPGW08		
		D063-F22-Z6-ST	●	63	6	22	50			
		D080-F27-Z7-ST	●	80	7	27	50			
		D100-F32-Z8-ST	●	100	8	32	50			
ALU BODY	NT-XP08	D063-F22-Z5-AL	●	63	5	22	50	XPGT08		
		D080-F27-Z7-AL	●	80	7	27	50			
		D100-F32-Z8-AL	●	100	8	32	50			
		D125-F40-Z10-AL	●	125	10	40	63			

● stock standard

Spare Parts	CARTRIDGE	CARTRIDGE SCREW	CARTRIDGE WRENCH	ADJUSTING SCREW	CHIP COVER	COVER SCREW	INSERT SCREW	INSERT WRENCH
								
NT-XP08 D050-F16-Z5-ST	NT-CRD-XP08	NT-CW040	NT-WR040	NT-AD040	-	-	NT-ST075	NT-FTB09
NT-XP08 D063-F22-Z6-ST					NT-CH030	NT-ST064		

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

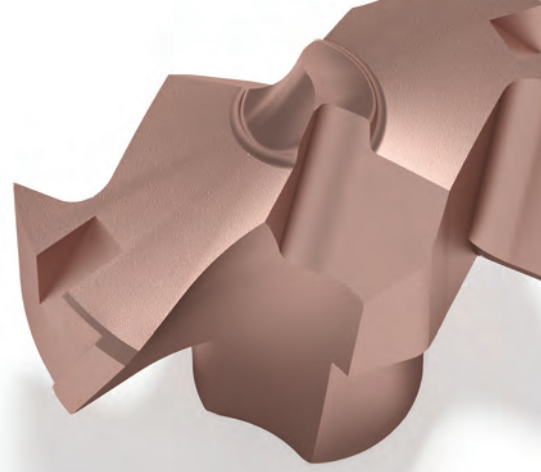


DRILLING

- DEXdrill .253
- DRSdrill .261
- DRSpilot .271
- SPOTdrill .277



DRILLING DEXdrill



DEXDRILL

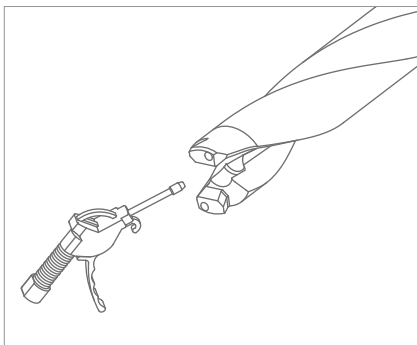
3XD
5XD

High performance drilling system with interchangeable heads

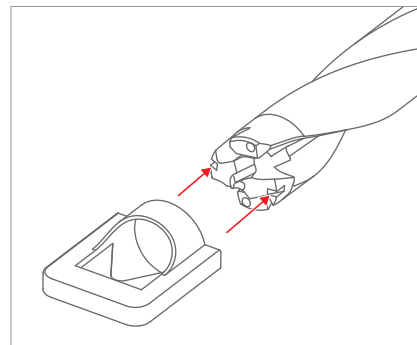
1. Where is DEXdrill applicable?

PLAIN SURFACE	CONCAVE SURFACE	STACKED PLATES	PIPES	SLANT SURFACE	HALF HOLE	HOLE EXPANSION

2. Drilling heads installation

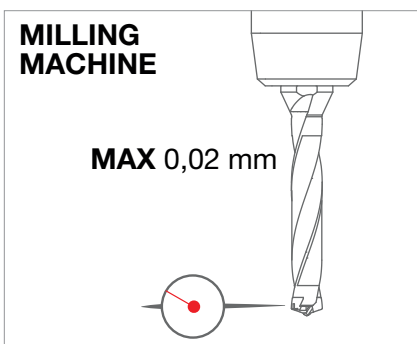


Clean pocket
with air blast.
Put insert into
drill holder.



Set wrench into
slots on insert
flanks.
Slowly turn
the wrench
clockwise until
stop.

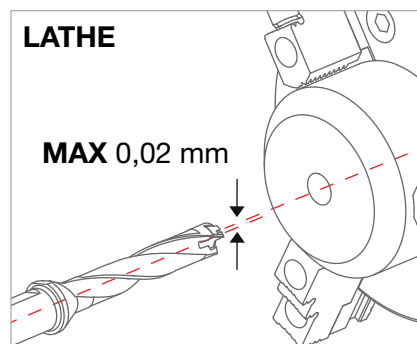
3. Operation recommendations



**MILLING
MACHINE**

MAX 0,02 mm

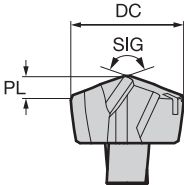





Center of
arbor deviation
must be under
0.02mm




LATHE

MAX 0,02 mm

Keep under
0.02mm
the maximum
deviation
between drill
and workpiece

<h1 style="font-size: 48px; margin: 0;">DEX</h1> 	Self-locking drilling head					ISO513	HC-PVD											
	DC tol.	SIG				P	40 160											
	k6	140°				M												
						K	80 180	100 200										
						N												
					S													
					H													
GRADE APPLICATION AREA		Stable machining			+	-	-	+										
		General machining			-	+	+	-										
		Unstable machining			+	-	-	+										

<p style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin: 0;">GENERAL</p> 	GP P K	DC 17.60 DEX1760-GP	PL 3.20	$f_n \blacktriangleright$ 0.20	0.28	0.36	●														
		DC 17.70 DEX1770-GP	PL 3.22	$f_n \blacktriangleright$ 0.20	0.28	0.36	●														
		DC 17.80 DEX1780-GP	PL 3.24	$f_n \blacktriangleright$ 0.20	0.28	0.36	●														
		DC 17.90 DEX1790-GP	PL 3.26	$f_n \blacktriangleright$ 0.20	0.28	0.36	●														
		DC 18.00 DEX1800-GP	PL 3.28	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.10 DEX1810-GP	PL 3.29	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.20 DEX1820-GP	PL 3.31	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.30 DEX1830-GP	PL 3.33	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.40 DEX1840-GP	PL 3.35	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.50 DEX1850-GP	PL 3.37	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.60 DEX1860-GP	PL 3.38	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.70 DEX1870-GP	PL 3.40	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.80 DEX1880-GP	PL 3.42	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 18.90 DEX1890-GP	PL 3.44	$f_n \blacktriangleright$ 0.22	0.30	0.40	●														
		DC 19.00 DEX1900-GP	PL 3.46	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.10 DEX1910-GP	PL 3.48	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.20 DEX1920-GP	PL 3.49	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.30 DEX1930-GP	PL 3.51	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.40 DEX1940-GP	PL 3.53	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.50 DEX1950-GP	PL 3.55	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.60 DEX1960-GP	PL 3.57	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.70 DEX1970-GP	PL 3.59	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.80 DEX1980-GP	PL 3.60	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 19.90 DEX1990-GP	PL 3.62	$f_n \blacktriangleright$ 0.24	0.32	0.42	●														
		DC 20.00 DEX2000-GP	PL 3.64	$f_n \blacktriangleright$ 0.26	0.35	0.44	●														
		DC 20.10 DEX2010-GP	PL 3.66	$f_n \blacktriangleright$ 0.26	0.35	0.44	●														
		DC 20.20 DEX2020-GP	PL 3.68	$f_n \blacktriangleright$ 0.26	0.35	0.44	●														
		DC 20.30 DEX2030-GP	PL 3.69	$f_n \blacktriangleright$ 0.26	0.35	0.44	●														

● stock standard

ACCESSORIES

DRILLING

MILLING

GROOVING

THREADING

TURNING

TURNING

THREADING

GROOVING

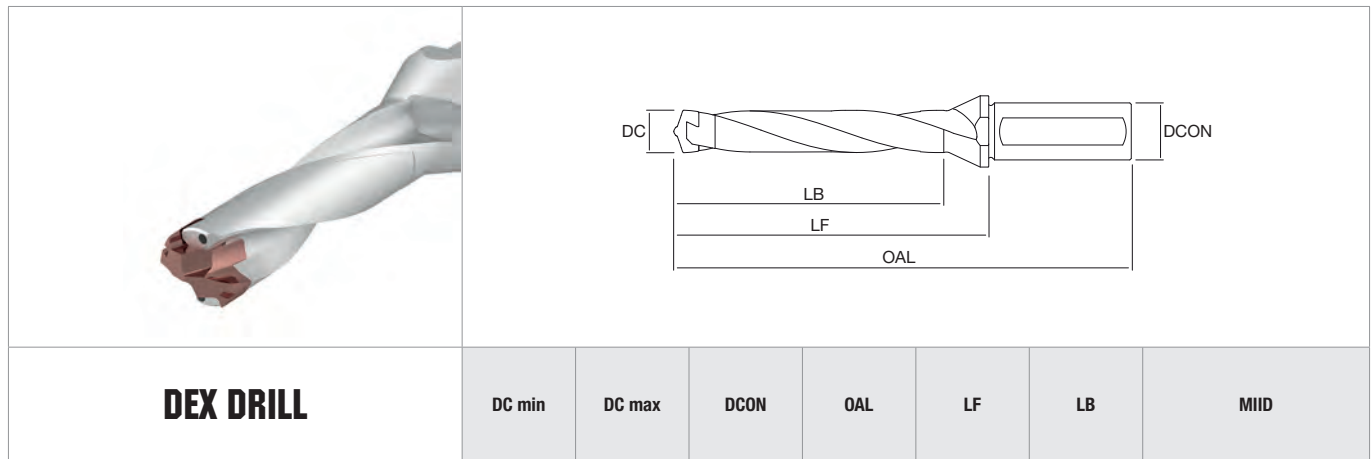
MILLING

DRILLING

ACCESSORIES

DEX		Self-locking drilling head				ISO513		HC-PVD															
						JP5625	JP7625	P	M	K	N	S	H										
DC tol.		SIG																					
		k6	140°																				
GRADE APPLICATION AREA		Stable machining				+		-		○		○											
■ main application		General machining				-		+		○		○											
■ applicable		Unstable machining				-		+		○		○											
GENERAL			DC 20.40	DEX2040-GP	PL 3.71	$f_n \triangleright$	0.26	0.35	0.44	●													
			DC 20.50	DEX2050-GP	PL 3.73	$f_n \triangleright$	0.26	0.35	0.44	●													
			DC 20.60	DEX2060-GP	PL 3.75	$f_n \triangleright$	0.26	0.35	0.44	●													
			DC 20.70	DEX2070-GP	PL 3.77	$f_n \triangleright$	0.26	0.35	0.44	●													
			DC 20.80	DEX2080-GP	PL 3.79	$f_n \triangleright$	0.26	0.35	0.44	●													
			DC 20.90	DEX2090-GP	PL 3.80	$f_n \triangleright$	0.26	0.35	0.44	●													
			DC 20.90	DEX2090-GP	PL 3.80	$f_n \triangleright$	0.26	0.35	0.44	●													
REINFORCED			DC 12.00	DEX1200-TE	PL 2.18	$f_n \triangleright$	0.24	0.28	0.34	●													
			DC 12.50	DEX1250-TE	PL 2.27	$f_n \triangleright$	0.24	0.28	0.34	●													
			DC 13.00	DEX1300-TE	PL 2.37	$f_n \triangleright$	0.26	0.30	0.36	●													
			DC 13.50	DEX1350-TE	PL 2.46	$f_n \triangleright$	0.26	0.30	0.36	●													
			DC 14.00	DEX1400-TE	PL 2.55	$f_n \triangleright$	0.28	0.32	0.38	●													
			DC 14.50	DEX1450-TE	PL 2.64	$f_n \triangleright$	0.28	0.32	0.38	●													
			DC 15.00	DEX1500-TE	PL 2.73	$f_n \triangleright$	0.30	0.34	0.40	●													
			DC 15.50	DEX1550-TE	PL 2.82	$f_n \triangleright$	0.30	0.34	0.40	●													
			DC 16.00	DEX1600-TE	PL 2.91	$f_n \triangleright$	0.32	0.36	0.42	●													
			DC 16.50	DEX1650-TE	PL 3.00	$f_n \triangleright$	0.32	0.36	0.42	●													
			DC 17.00	DEX1700-TE	PL 3.09	$f_n \triangleright$	0.34	0.38	0.44	●													
			DC 17.50	DEX1750-TE	PL 3.18	$f_n \triangleright$	0.34	0.38	0.44	●													
			DC 18.00	DEX1800-TE	PL 3.28	$f_n \triangleright$	0.36	0.40	0.46	●													
			DC 18.50	DEX1850-TE	PL 3.37	$f_n \triangleright$	0.36	0.40	0.46	●													
			DC 19.00	DEX1900-TE	PL 3.46	$f_n \triangleright$	0.38	0.42	0.48	●													
			DC 19.50	DEX1950-TE	PL 3.55	$f_n \triangleright$	0.38	0.42	0.48	●													
			DC 20.00	DEX2000-TE	PL 3.64	$f_n \triangleright$	0.40	0.44	0.50	●													
DC 20.50	DEX2050-TE	PL 3.73	$f_n \triangleright$	0.40	0.44	0.50	●																

● stock standard



DEX DRILL			DC min	DC max	DCON	OAL	LF	LB	MIID	
3xD	NT-DEX-3D	D12-S16F	●	12.00	12.99	16	108	60	48	DEX1200 ÷ DEX1290
		D13-S16F	●	13.00	13.99	16	112	64	51	DEX1300 ÷ DEX1390
		D14-S16F	●	14.00	14.99	16	117	69	55	DEX1400 ÷ DEX1490
		D15-S20F	●	15.00	15.99	20	123	73	58	DEX1500 ÷ DEX1590
		D16-S20F	●	16.00	16.99	20	127	77	61	DEX1600 ÷ DEX1690
		D17-S20F	●	17.00	17.99	20	132	82	65	DEX1700 ÷ DEX1790
		D18-S25F	●	18.00	18.99	25	142	86	68	DEX1800 ÷ DEX1890
		D19-S25F	●	19.00	19.99	25	146	90	71	DEX1900 ÷ DEX1990
D20-S25F	●	20.00	20.99	25	150	94	74	DEX2000 ÷ DEX2090		
5xD	NT-DEX-5D	D12-S16F	●	12.00	12.99	16	134	86	74	DEX1200 ÷ DEX1290
		D13-S16F	●	13.00	13.99	16	140	92	79	DEX1300 ÷ DEX1390
		D14-S16F	●	14.00	14.99	16	147	99	85	DEX1400 ÷ DEX1490
		D15-S20F	●	15.00	15.99	20	155	105	90	DEX1500 ÷ DEX1590
		D16-S20F	●	16.00	16.99	20	161	111	95	DEX1600 ÷ DEX1690
		D17-S20F	●	17.00	17.99	20	168	118	101	DEX1700 ÷ DEX1790
		D18-S25F	●	18.00	18.99	25	180	124	106	DEX1800 ÷ DEX1890
		D19-S25F	●	19.00	19.99	25	186	130	111	DEX1900 ÷ DEX1990
D20-S25F	●	20.00	20.99	25	192	136	116	DEX2000 ÷ DEX2090		

● stock standard



DC ≤ 17	NT-WR1217
DC > 18	NT-WR1820

CUTTING SPEED [m/min]

	MATERIALS (HARDNESS/Rm)	W.-Nr	DIN	AISI-ASTM	TRADE MARK	JP5625	JP7625
P1	Free cutting steel and structural steel (< 500 N/mm ²)	1.0715	9 SMn 28	1213	AVP	100÷160	
		1.0765	36 SMnPb 14	A29	PR80		
P2	Carbon steel and low alloy steel (500-700 N/mm ²)	1.7147	20 MnCr 5	5120	-	80÷140	
		1.0511	C 40	1040	-		
P3	Medium alloy steel and heat treated steel (600-800 N/mm ²)	1.1201	42 CrMo 4	4142, 4140	-	60÷100	
		1.6511	36 CrNiMo 4	9840	-		
P4	High alloy steel (800-1000 N/mm ²)	1.1663	C 125 W	W1	-	50÷90	
		1.3505	100 Cr 6	52100	-		
P5	Tool steel (900-1200 N/mm ²)	1.2080	X 210 Cr 12	D3	K100	40÷80	
		1.2379	X 155 CrV Mo 12 1	-	K110		
K1	Grey cast iron (150-250 HB)	0.6020	GG-20	A48 30 B	-	80÷180	100÷200
		0.6025	GG-25	A48 35 B	-		
K2	Nodular cast iron (150-350 HB)	0.7050	GGG-50	A536 80-55-6	-	80÷140	100÷160
		0.7070	GGG-70	A536 100-70-03	-		

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



DRILLING DRsdrill

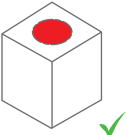
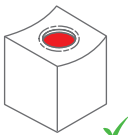
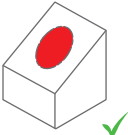
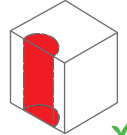
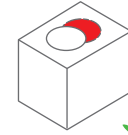
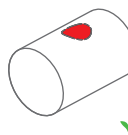
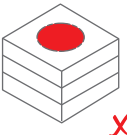
DRSDRILL

2XD
3XD
4XD
5XD

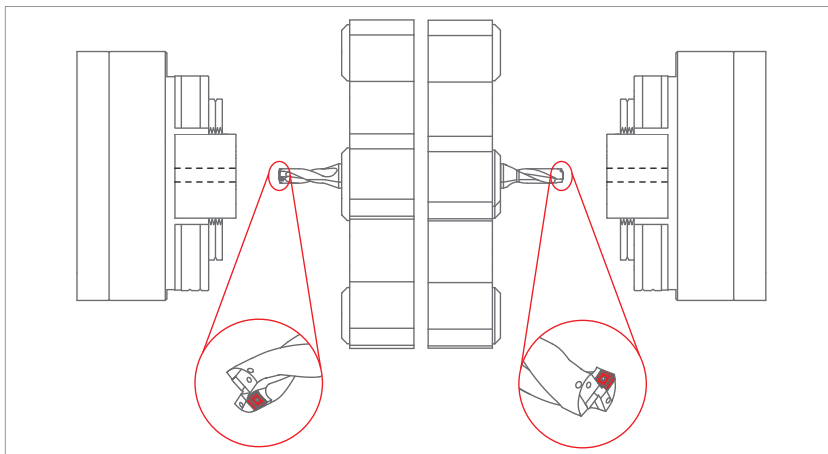
High performance drills for universal use



1. Where is DRSdrill applicable?

PLAIN SURFACE	CONCAVE SURFACE	SLANT SURFACE	HALF HOLE	HOLE EXPANSION	PIPES	STACKED PLATES
						

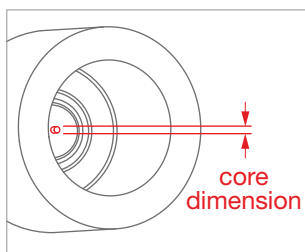
2. Lathe installation



It's recommended to set the outer insert facing the operator as shown in the drawing, both for main and sub-spindle to gain the best results.

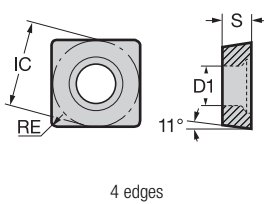
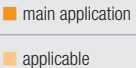
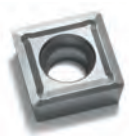
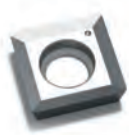
Following this suggestion, generally, the inner insert will be set below the center which is the recommended situation for optimal operation.

3. Quick check of the center height



To check if the machine axis is correctly aligned, a test hole should be drilled checking the remaining core on the hole bottom.

Center-height adjustment is necessary when **no core** remains or if the core diameter is larger than 1mm.

<h1>SP[□]X</h1>		DRS					ISO513	HC-PVD				HW									
		4 edges drilling inserts						JP5625	JP5530	JP9635	JW6520										
	Size	IC	S	D1	RE	P	80	80													
							M	300	300	50											
							K	120	120	250											
							N	250	250		200										
							S				400										
							H														
GRADE APPLICATION AREA		Stable machining					+														
		General machining					-														
		Unstable machining					+														
GENERAL 	GP P M K S	SPMX 050204-GP	2xD	f_n	▶	0.04	0.08	0.12													
			3xD	f_n	▶	0.04	0.07	0.10	●	●	●										
			4xD	f_n	▶	0.04	0.06	0.08													
			5xD	f_n	▶	0.04	0.05	0.06													
		SPMX 060204-GP	2xD	f_n	▶	0.06	0.10	0.14													
			3xD	f_n	▶	0.06	0.09	0.12	●	●	●										
			4xD	f_n	▶	0.05	0.07	0.10													
		SPMX 07T308-GP	5xD	f_n	▶	0.04	0.06	0.08													
			2xD	f_n	▶	0.06	0.11	0.16													
			3xD	f_n	▶	0.06	0.10	0.14	●	●	●										
		SPMX 090408-GP	4xD	f_n	▶	0.06	0.09	0.12													
			5xD	f_n	▶	0.05	0.07	0.09													
			2xD	f_n	▶	0.08	0.14	0.20													
		SPMX 110408-GP	3xD	f_n	▶	0.08	0.13	0.18	●	●	●										
			4xD	f_n	▶	0.06	0.11	0.16													
			5xD	f_n	▶	0.06	0.09	0.12													
		SPMX 140512-GP	2xD	f_n	▶	0.10	0.17	0.24													
			3xD	f_n	▶	0.10	0.16	0.22	●	●	●										
			4xD	f_n	▶	0.08	0.14	0.20													
ALUMINIUM  <p>polished surface</p>	AL N	SPGX 050204-AL	2xD	f_n	▶	0.06	0.09	0.12													
			3xD	f_n	▶	0.06	0.09	0.12													
			4xD	f_n	▶	0.04	0.07	0.10													
			5xD	f_n	▶	0.04	0.06	0.08													
		SPGX 060204-AL	2xD	f_n	▶	0.08	0.12	0.16													
			3xD	f_n	▶	0.08	0.12	0.16													
			4xD	f_n	▶	0.06	0.09	0.12													
		SPGX 07T308-AL	5xD	f_n	▶	0.06	0.08	0.10													
			2xD	f_n	▶	0.10	0.14	0.18													
			3xD	f_n	▶	0.10	0.14	0.18													
		SPGX 090408-AL	4xD	f_n	▶	0.08	0.11	0.14													
			5xD	f_n	▶	0.08	0.10	0.12													
			2xD	f_n	▶	0.10	0.15	0.20													
		SPGX 110408-AL	3xD	f_n	▶	0.10	0.15	0.20													
			4xD	f_n	▶	0.09	0.12	0.15													
			5xD	f_n	▶	0.09	0.11	0.13													
		SPGX 140512-AL	2xD	f_n	▶	0.11	0.16	0.21													
			3xD	f_n	▶	0.11	0.16	0.21													
			4xD	f_n	▶	0.10	0.14	0.18													

● stock standard

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

TURNING

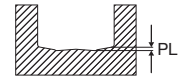
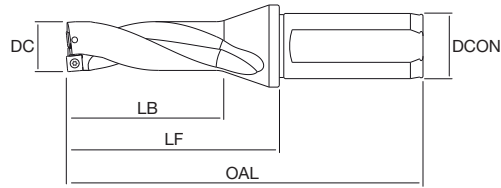
THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES



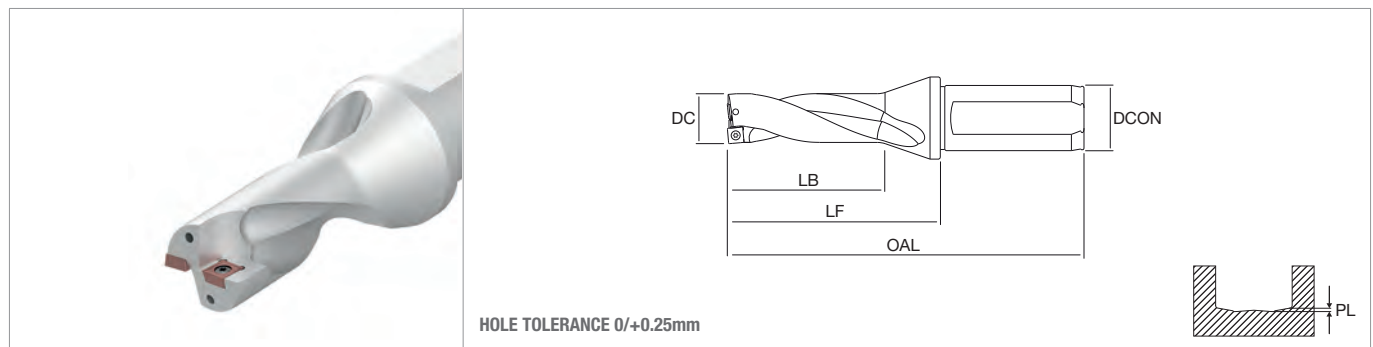
HOLE TOLERANCE 0/+0.20mm

DRS 2XD			DC	DCON	OAL	LF	LB	ADJLX max. radial offset	PL hole bottom shape	MIID	
05	NT-DRS-2D	D13.00-S20-05	●	13	20	94	44	26	0.50	0.40	SPMX05 SPGX05
		D14.00-S20-05	●	14	20	96	46	28	0.50	0.40	
		D15.00-S20-05	●	15	20	99	49	30	0.50	0.40	
06	NT-DRS-2D	D16.00-S25-06	●	16	25	108	52	32	0.50	0.50	SPMX06 SPGX06
		D17.00-S25-06	●	17	25	110	54	34	0.50	0.50	
		D18.00-S25-06	●	18	25	113	57	36	0.50	0.50	
		D19.00-S25-06	●	19	25	115	59	38	0.50	0.50	
		D20.00-S25-06	●	20	25	119	63	40	0.50	0.50	
		D21.00-S25-06	●	21	25	121	65	42	0.25	0.50	
07	NT-DRS-2D	D22.00-S25-07	●	22	25	123	67	44	0.50	0.50	SPMX07 SPGX07
		D23.00-S32-07	●	23	32	131	71	46	0.50	0.50	
		D24.00-S32-07	●	24	32	134	74	48	0.50	0.50	
		D25.00-S32-07	●	25	32	137	77	50	0.50	0.50	
		D26.00-S32-07	●	26	32	139	79	52	0.25	0.60	
		D27.00-S32-07	●	27	32	141	81	54	0.25	0.60	
09	NT-DRS-2D	D28.00-S32-09	●	28	32	144	84	56	0.50	0.80	SPMX09 SPGX09
		D29.00-S32-09	●	29	32	146	86	58	0.50	0.80	
		D30.00-S32-09	●	30	32	151	91	60	0.50	0.80	
		D31.00-S32-09	●	31	32	154	94	62	0.25	0.80	
		D32.00-S32-09	●	32	32	156	96	64	0.25	0.80	
		D33.00-S32-09	●	33	32	159	99	66	0.25	0.80	
11	NT-DRS-2D	D34.00-S40-11	●	34	40	171	101	68	0.50	0.90	SPMX11 SPGX11
		D35.00-S40-11	●	35	40	174	104	70	0.50	0.90	
		D36.00-S40-11	●	36	40	177	107	72	0.50	0.90	
		D37.00-S40-11	●	37	40	180	110	74	0.50	0.90	
		D38.00-S40-11	●	38	40	183	113	76	0.50	0.90	
		D39.00-S40-11	●	39	40	185	115	78	0.50	0.90	
		D40.00-S40-11	●	40	40	188	118	80	0.25	0.90	
		D41.00-S40-11	●	41	40	191	121	82	0.25	0.90	
14	NT-DRS-2D	D42.00-S40-14	●	42	40	193	123	84	0.50	1.00	SPMX14 SPGX14
		D43.00-S40-14	●	43	40	196	126	86	0.50	1.00	
		D44.00-S40-14	●	44	40	198	128	88	0.50	1.00	
		D45.00-S40-14	●	45	40	202	132	90	0.50	1.00	
		D46.00-S40-14	●	46	40	205	135	92	0.50	1.00	
		D47.00-S40-14	●	47	40	207	137	94	0.50	1.00	
		D48.00-S40-14	●	48	40	210	140	96	0.25	1.00	
		D49.00-S40-14	●	49	40	212	142	98	0.25	1.00	
		D50.00-S40-14	●	50	40	215	145	100	0.25	1.00	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH

NT-DRS-2D D _{00.00} -S ₀₀ -05	NT-ST059	NT-FTB06
NT-DRS-2D D _{00.00} -S ₀₀ -06	NT-ST061	NT-FTB06
NT-DRS-2D D _{00.00} -S ₀₀ -07	NT-ST062	NT-FTB07
NT-DRS-2D D _{00.00} -S ₀₀ -09	NT-ST063	NT-FTB15
NT-DRS-2D D _{00.00} -S ₀₀ -11	NT-ST064	NT-FTB15
NT-DRS-2D D _{00.00} -S ₀₀ -14	NT-ST066	NT-FTB20



DRS 3XD			DC	DCON	OAL	LF	LB	ADJLX max. radial offset	PL hole bottom shape	MIID
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05	NT-DRS-3D	D12.50-S20-05	●	12.5	20	107	57	39	0.50	0.40	SPMX05 SPGX05
		D13.00-S20-05	●	13	20	107	57	39	0.50	0.40	
		D13.50-S20-05	●	13.5	20	110	60	42	0.50	0.40	
		D14.00-S20-05	●	14	20	110	60	42	0.50	0.40	
		D14.50-S20-05	●	14.5	20	114	64	45	0.50	0.40	
06	NT-DRS-3D	D15.50-S25-06	●	15.5	25	124	68	48	0.50	0.50	SPMX06 SPGX06
		D16.00-S25-06	●	16	25	124	68	48	0.50	0.50	
		D16.50-S25-06	●	16.5	25	127	71	51	0.50	0.50	
		D17.00-S25-06	●	17	25	127	71	51	0.50	0.50	
		D17.50-S25-06	●	17.5	25	131	75	54	0.50	0.50	
		D18.00-S25-06	●	18	25	131	75	54	0.50	0.50	
		D18.50-S25-06	●	18.5	25	134	78	57	0.50	0.50	
		D19.00-S25-06	●	19	25	134	78	57	0.50	0.50	
		D19.50-S25-06	●	19.5	25	139	83	60	0.50	0.50	
		D20.00-S25-06	●	20	25	139	83	60	0.50	0.50	
		D20.50-S25-06	●	20.5	25	142	86	63	0.25	0.50	
		D21.00-S25-06	●	21	25	142	86	63	0.25	0.50	
		D21.50-S25-06	●	21.5	25	145	89	66	0.25	0.50	
07	NT-DRS-3D	D22.00-S25-07	●	22	25	145	89	66	0.50	0.50	SPMX07 SPGX07
		D22.50-S32-07	●	22.5	32	154	94	69	0.50	0.50	
		D23.00-S32-07	●	23	32	154	94	69	0.50	0.50	
		D23.50-S32-07	●	23.5	32	158	98	72	0.50	0.50	
		D24.00-S32-07	●	24	32	158	98	72	0.50	0.50	
		D24.50-S32-07	●	24.5	32	162	102	75	0.50	0.50	
		D25.00-S32-07	●	25	32	162	102	75	0.50	0.50	
		D25.50-S32-07	●	25.5	32	165	105	78	0.50	0.60	
		D26.00-S32-07	●	26	32	165	105	78	0.25	0.60	
		D26.50-S32-07	●	26.5	32	168	108	81	0.25	0.60	
		D27.00-S32-07	●	27	32	168	108	81	0.25	0.60	
09	NT-DRS-3D	D27.50-S32-07	●	27.5	32	172	112	84	0.25	0.60	SPMX09 SPGX09
		D28.00-S32-09	●	28	32	172	112	84	0.50	0.80	
		D28.50-S32-09	●	28.5	32	175	115	87	0.50	0.80	
		D29.00-S32-09	●	29	32	175	115	87	0.50	0.80	
		D29.50-S32-09	●	29.5	32	181	121	90	0.50	0.80	
		D30.00-S32-09	●	30	32	181	121	90	0.50	0.80	
		D31.00-S32-09	●	31	32	185	125	93	0.25	0.80	
D32.00-S32-09	●	32	32	188	128	96	0.25	0.80			
		D33.00-S32-09	●	33	32	192	132	99	0.25	0.80	

● stock standard

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING



MILLING

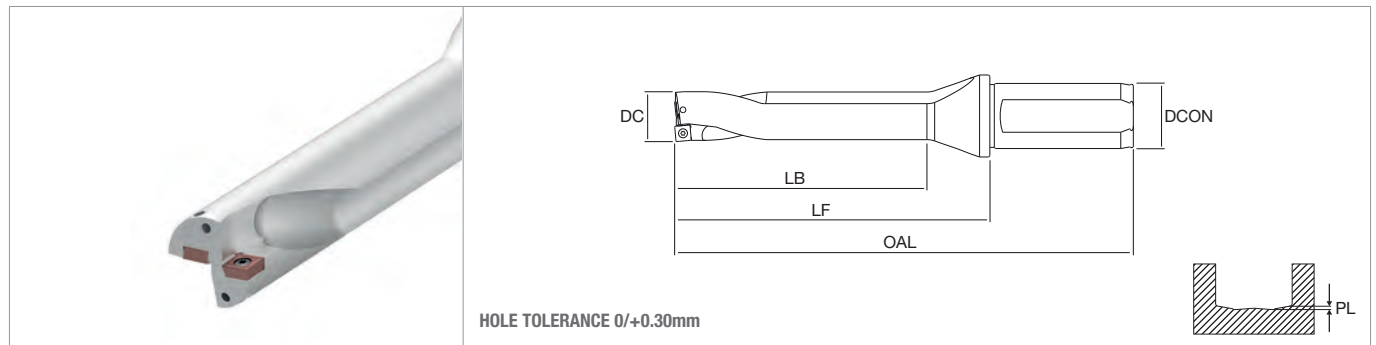
DRILLING

ACCESSORIES

DRS 3XD				DC	DCON	OAL	LF	LB	ADJLX max. radial offset	PL hole bottom shape	MIID
11	NT-DRS-3D	D34.00-S40-11	●	34	40	205	135	102	0.50	0.90	SPMX11 SPGX11
		D35.00-S40-11	●	35	40	209	139	105	0.50	0.90	
		D36.00-S40-11	●	36	40	213	143	108	0.50	0.90	
		D37.00-S40-11	●	37	40	217	147	111	0.50	0.90	
		D38.00-S40-11	●	38	40	221	151	114	0.50	0.90	
		D39.00-S40-11	●	39	40	224	154	117	0.50	0.90	
		D40.00-S40-11	●	40	40	228	158	120	0.25	0.90	
		D41.00-S40-11	●	41	40	232	162	123	0.25	0.90	
14	NT-DRS-3D	D42.00-S40-14	●	42	40	235	165	126	0.50	1.00	SPMX14 SPGX14
		D43.00-S40-14	●	43	40	239	169	129	0.50	1.00	
		D44.00-S40-14	●	44	40	242	172	132	0.50	1.00	
		D45.00-S40-14	●	45	40	247	177	135	0.50	1.00	
		D46.00-S40-14	●	46	40	251	181	138	0.50	1.00	
		D47.00-S40-14	●	47	40	254	184	141	0.50	1.00	
		D48.00-S40-14	●	48	40	258	188	144	0.25	1.00	
		D49.00-S40-14	●	49	40	261	191	147	0.25	1.00	
		D50.00-S40-14	●	50	40	265	195	150	0.25	1.00	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH
		
NT-DRS-3D D0000-S00-05	NT-ST059	NT-FTB06
NT-DRS-3D D0000-S00-06	NT-ST061	NT-FTB06
NT-DRS-3D D0000-S00-07	NT-ST062	NT-FTB07
NT-DRS-3D D0000-S00-09	NT-ST063	NT-FTB15
NT-DRS-3D D0000-S00-11	NT-ST064	NT-FTB15
NT-DRS-3D D0000-S00-14	NT-ST066	NT-FTB20



DRS 4XD			DC	DCON	OAL	LF	LB	ADJLX max. radial offset	PL hole bottom shape	MIID
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05	NT-DRS-4D	D12.50-S20-05	●	12.5	20	120	70	52	0.50	0.40	SPMX05 SPGX05
		D13.00-S20-05	●	13	20	120	70	52	0.50	0.40	
		D13.50-S20-05	●	13.5	20	124	74	56	0.50	0.40	
		D14.00-S20-05	●	14	20	124	74	56	0.50	0.40	
		D14.50-S20-05	●	14.5	20	129	79	60	0.50	0.40	
06	NT-DRS-4D	D15.50-S25-06	●	15.5	25	140	84	64	0.50	0.50	SPMX06 SPGX06
		D16.00-S25-06	●	16	25	140	84	64	0.50	0.50	
		D16.50-S25-06	●	16.5	25	144	88	68	0.50	0.50	
		D17.00-S25-06	●	17	25	144	88	68	0.50	0.50	
		D17.50-S25-06	●	17.5	25	149	93	72	0.50	0.50	
		D18.00-S25-06	●	18	25	149	93	72	0.50	0.50	
		D18.50-S25-06	●	18.5	25	153	97	76	0.50	0.50	
		D19.00-S25-06	●	19	25	153	97	76	0.50	0.50	
		D19.50-S25-06	●	19.5	25	159	103	80	0.50	0.50	
		D20.00-S25-06	●	20	25	159	103	80	0.50	0.50	
		D20.50-S25-06	●	20.5	25	163	107	84	0.25	0.50	
		D21.00-S25-06	●	21	25	163	107	84	0.25	0.50	
		D21.50-S25-06	●	21.5	25	167	111	88	0.25	0.50	
07	NT-DRS-4D	D22.00-S25-07	●	22	25	167	111	88	0.50	0.50	SPMX07 SPGX07
		D22.50-S32-07	●	22.5	32	177	117	92	0.50	0.50	
		D23.00-S32-07	●	23	32	177	117	92	0.50	0.50	
		D23.50-S32-07	●	23.5	32	182	122	96	0.50	0.50	
		D24.00-S32-07	●	24	32	182	122	96	0.50	0.50	
		D24.50-S32-07	●	24.5	32	187	127	100	0.50	0.50	
		D25.00-S32-07	●	25	32	187	127	100	0.50	0.50	
		D25.50-S32-07	●	25.5	32	191	131	104	0.50	0.60	
		D26.00-S32-07	●	26	32	191	131	104	0.25	0.60	
		D26.50-S32-07	●	26.5	32	195	135	108	0.25	0.60	
		D27.00-S32-07	●	27	32	195	135	108	0.25	0.60	
09	NT-DRS-4D	D28.00-S32-09	●	28	32	200	140	112	0.50	0.80	SPMX09 SPGX09
		D28.50-S32-09	●	28.5	32	204	144	116	0.50	0.80	
		D29.00-S32-09	●	29	32	204	144	116	0.50	0.80	
		D29.50-S32-09	●	29.5	32	211	151	120	0.50	0.80	
		D30.00-S32-09	●	30	32	211	151	120	0.50	0.80	
		D31.00-S32-09	●	31	32	216	156	124	0.25	0.80	
		D32.00-S32-09	●	32	32	220	160	128	0.25	0.80	
D33.00-S32-09	●	33	32	225	165	132	0.25	0.80			

● stock standard

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING

THREADING

GROOVING

MILLING

DRILLING

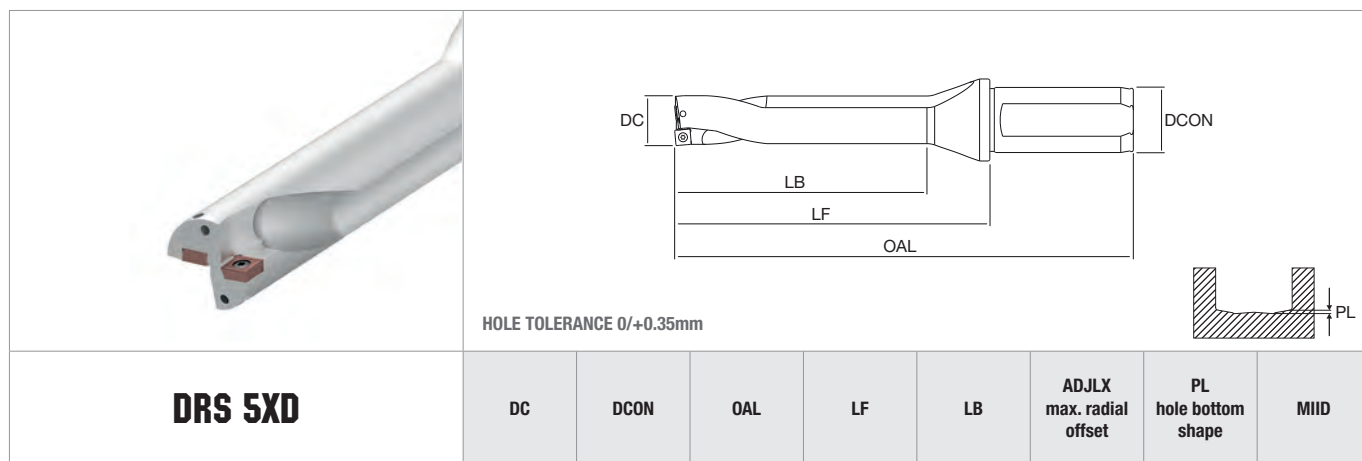
ACCESSORIES

DRS 4XD				DC	DCON	OAL	LF	LB	ADJLX max. radial offset	PL hole bottom shape	MIID
11	NT-DRS-4D	D34.00-S40-11	●	34	40	239	169	136	0.50	0.90	SPMX11 SPGX11
		D35.00-S40-11	●	35	40	244	174	140	0.50	0.90	
		D36.00-S40-11	●	36	40	249	179	144	0.50	0.90	
		D37.00-S40-11	●	37	40	254	184	148	0.50	0.90	
		D38.00-S40-11	●	38	40	259	189	152	0.50	0.90	
		D39.00-S40-11	●	39	40	263	193	156	0.50	0.90	
		D40.00-S40-11	●	40	40	268	198	160	0.25	0.90	
		D41.00-S40-11	●	41	40	273	203	164	0.25	0.90	
14	NT-DRS-4D	D42.00-S40-14	●	42	40	277	207	168	0.50	1.00	SPMX14 SPGX14
		D43.00-S40-14	●	43	40	282	212	172	0.50	1.00	
		D44.00-S40-14	●	44	40	286	216	176	0.50	1.00	
		D45.00-S40-14	●	45	40	292	222	180	0.50	1.00	
		D46.00-S40-14	●	46	40	297	227	184	0.50	1.00	
		D47.00-S40-14	●	47	40	301	231	188	0.50	1.00	
		D48.00-S40-14	●	48	40	306	236	192	0.25	1.00	
		D49.00-S40-14	●	49	40	310	240	196	0.25	1.00	
		D50.00-S40-14	●	50	40	315	245	200	0.25	1.00	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-DRS-4D D□□□□-S□□-05	NT-ST059	NT-FTB06
NT-DRS-4D D□□□□-S□□-06	NT-ST061	NT-FTB06
NT-DRS-4D D□□□□-S□□-07	NT-ST062	NT-FTB07
NT-DRS-4D D□□□□-S□□-09	NT-ST063	NT-FTB15
NT-DRS-4D D□□□□-S□□-11	NT-ST064	NT-FTB15
NT-DRS-4D D□□□□-S□□-14	NT-ST066	NT-FTB20



DRS 5XD			DC	DCON	OAL	LF	LB	ADJLX max. radial offset	PL hole bottom shape	MIID	
05	NT-DRS-5D	D13.00-S20-05	●	13	20	133	83	65	0.50	0.40	SPMX05 SPGX05
		D14.00-S20-05	●	14	20	138	88	70	0.50	0.40	
		D15.00-S20-05	●	15	20	144	94	75	0.50	0.40	
06	NT-DRS-5D	D16.00-S25-06	●	16	25	156	100	80	0.50	0.50	SPMX06 SPGX06
		D17.00-S25-06	●	17	25	161	105	85	0.50	0.50	
		D18.00-S25-06	●	18	25	167	111	90	0.50	0.50	
		D19.00-S25-06	●	19	25	172	116	95	0.50	0.50	
		D20.00-S25-06	●	20	25	179	123	100	0.50	0.50	
		D21.00-S25-06	●	21	25	184	128	105	0.25	0.50	
07	NT-DRS-5D	D22.00-S25-07	●	22	25	189	133	110	0.50	0.50	SPMX07 SPGX07
		D23.00-S32-07	●	23	32	200	140	115	0.50	0.50	
		D24.00-S32-07	●	24	32	206	146	120	0.50	0.50	
		D25.00-S32-07	●	25	32	212	152	125	0.50	0.50	
		D26.00-S32-07	●	26	32	217	157	130	0.25	0.60	
		D27.00-S32-07	●	27	32	222	162	135	0.25	0.60	
09	NT-DRS-5D	D28.00-S32-09	●	28	32	228	168	140	0.50	0.80	SPMX09 SPGX09
		D29.00-S32-09	●	29	32	233	173	145	0.50	0.80	
		D30.00-S32-09	●	30	32	241	181	150	0.50	0.80	
		D31.00-S32-09	●	31	32	247	187	155	0.25	0.80	
		D32.00-S32-09	●	32	32	252	192	160	0.25	0.80	
		D33.00-S32-09	●	33	32	258	198	165	0.25	0.80	
11	NT-DRS-5D	D34.00-S40-11	●	34	40	273	203	170	0.50	0.90	SPMX11 SPGX11
		D35.00-S40-11	●	35	40	279	209	175	0.50	0.90	
		D36.00-S40-11	●	36	40	285	215	180	0.50	0.90	
		D37.00-S40-11	●	37	40	291	221	185	0.50	0.90	
		D38.00-S40-11	●	38	40	297	227	190	0.50	0.90	
		D39.00-S40-11	●	39	40	302	232	195	0.50	0.90	
		D40.00-S40-11	●	40	40	308	238	200	0.25	0.90	
		D41.00-S40-11	●	41	40	314	244	205	0.25	0.90	
14	NT-DRS-5D	D42.00-S40-14	●	42	40	319	249	210	0.50	1.00	SPMX14 SPGX14
		D43.00-S40-14	●	43	40	325	255	215	0.50	1.00	
		D44.00-S40-14	●	44	40	330	260	220	0.50	1.00	
		D45.00-S40-14	●	45	40	337	267	225	0.50	1.00	
		D46.00-S40-14	●	46	40	343	273	230	0.50	1.00	
		D47.00-S40-14	●	47	40	348	278	235	0.50	1.00	
		D48.00-S40-14	●	48	40	354	284	240	0.25	1.00	
		D49.00-S40-14	●	49	40	359	289	245	0.25	1.00	
		D50.00-S40-14	●	50	40	365	295	250	0.25	1.00	

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH
		

NT-DRS-5D D _{00.00} -S ₀₀ -05	NT-ST059	NT-FTB06
NT-DRS-5D D _{00.00} -S ₀₀ -06	NT-ST061	NT-FTB06
NT-DRS-5D D _{00.00} -S ₀₀ -07	NT-ST062	NT-FTB07
NT-DRS-5D D _{00.00} -S ₀₀ -09	NT-ST063	NT-FTB15
NT-DRS-5D D _{00.00} -S ₀₀ -11	NT-ST064	NT-FTB15
NT-DRS-5D D _{00.00} -S ₀₀ -14	NT-ST066	NT-FTB20

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

DRSDRILL

CUTTING SPEED [m/min]

	MATERIALS	HARDNESS/Rm	W.-Nr	DIN	AISI-ASTM	TRADE MARK	JP5625	JP5530	JP9635	JU6520	
TURNING	P1	Free cutting steel and structural steel	< 500 N/mm ²	1.0715	9 SMn 28	1213	AVP	180÷300	180÷300		
				1.0765	36 SMnPb 14	A29	PR80				
TURNING	P2	Carbon steel and low alloy steel	500-700 N/mm ²	1.7147	20 MnCr 5	5120	-	140÷240	140÷240		
				1.0511	C 40	1040	-				
TURNING	P3	Medium alloy steel and heat treated steel	600-800 N/mm ²	1.1201	42 CrMo 4	4142, 4140	-	100÷220	100÷220		
				1.6511	36 CrNiMo 4	9840	-				
TURNING	P4	High alloy steel	800-1000 N/mm ²	1.1663	C 125 W	W1	-	100÷180	100÷180		
				1.3505	100 Cr 6	52100	-				
TURNING	P5	Tool steel	900-1200 N/mm ²	1.2080	X 210 Cr 12	D3	K100	80÷150	80÷150		
				1.2379	X 155 CrVMo 12 1	-	K110				
THREADING	M1	Ferritic stainless steel	400-700 N/mm ²	1.4016	X 6 Cr 17	430	-			120÷220	
				1.4104	X 12 CrMoS 17	430 F	-				
THREADING	M2	Austenitic stainless steel (good machinability)	500-750 N/mm ²	1.4305	X 10 CrNiS 18 9	303	-			80÷180	
				1.4301	X 6 CrNi 18 10	304, 304 H	-				
THREADING	M3	Austenitic stainless steel (medium machinability)	550-850 N/mm ²	1.4401	X 5 CrNiMo 17 12 2	316	-			60÷150	
				1.4462	X 2 CrNiMoN 22 5	F 51-329 A	DUPLEX				
THREADING	M4	Martensitic stainless steel	650-950 N/mm ²	1.4021	X 20 Cr 13	420	-			60÷150	
				1.4410	X 2 CrNiMoN 25 7 4	F 53-329 S1	SUPER DUPLEX				
THREADING	M5	PH stainless steel	800-1250 N/mm ²	1.4540	X 4 CrNiCuNb 16 4	XM-12	15-5-PH			50÷120	
				1.4542	X 5 CrNiNb 16 4	631	17-4-PH				
GROOVING	K1	Grey cast iron	150-250 HB	0.6020	GG-20	A48 30 B	-	180÷250	180÷250		
				0.6025	GG-25	A48 35 B	-				
GROOVING	K2	Nodular cast iron	150-350 HB	0.7050	GGG-50	A536 80-55-6	-	120÷180	120÷180		
				0.7070	GGG-70	A536 100-70-03	-				
GROOVING	N1	Aluminium alloys ≤ 12% Si		3.3547	AlMg4.5Mn	5083	Peraluman 440				250÷400
				3.2315	AlMgSi 1	6082	Anticorodal 100				
GROOVING	N2	Aluminium alloys > 12% Si		3.2582	GD-AISI12	A413.0					150÷300
					G-AISI6Cu4	319					
GROOVING	N3	Copper		2.0940-01	CuAl10Fe	CA952					200÷300
				2.1176	CuPb10Sn	CA937					
GROOVING	N4	Bronze and brass		2.0401	Cu Zn39Pb3		OT58				200÷300
							AMPCO 18				

TURNING

THREADING

GROOVING

MILLING

DRILLING

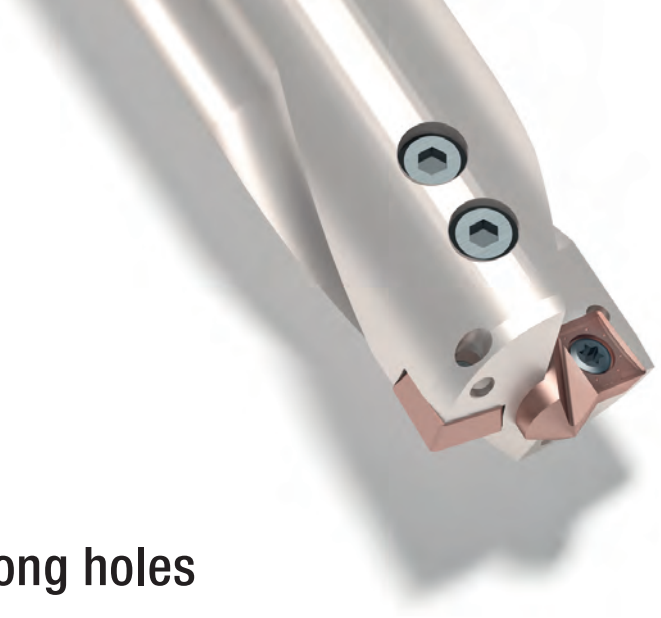
ACCESSORIES



DRILLING DRSpilot

DRSPILOT^{6XD}_{9XD}

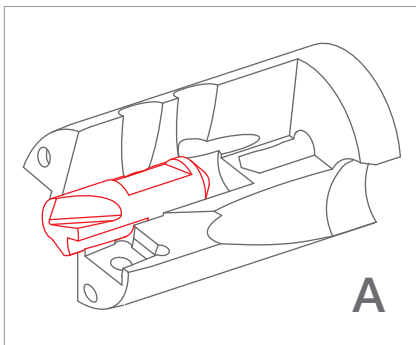
Perfect centering even on extra long holes



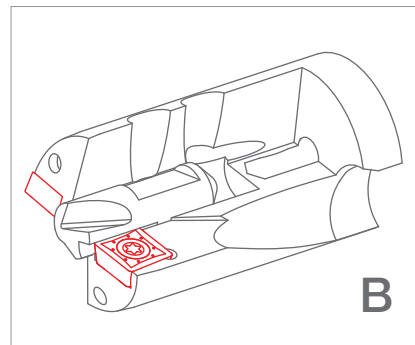
1. Where is DRSpilot applicable?

PLAIN SURFACE	CONCAVE SURFACE	PIPES	HALF HOLE	HOLE EXPANSION	SLANT SURFACE	STACKED PLATES

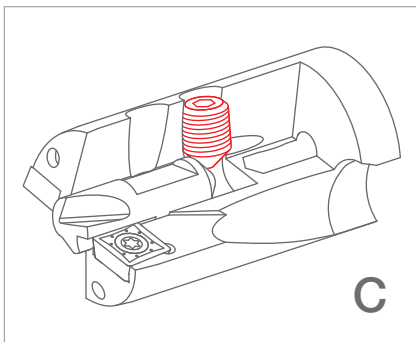
2. Installation of inserts and pilot drill



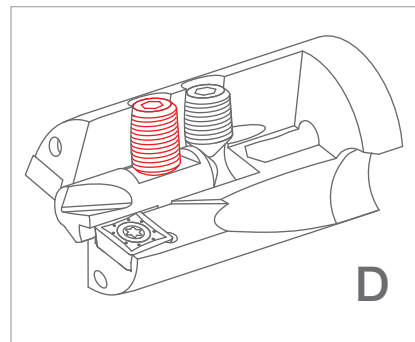
Insert DRSP pilot in the drilling body.



Install the SPMX/SPGX inserts.



Adjust the DRSP pilot height using the setting grain as shown in the drawing, following the table at pag.273.



Screw tight the locking grain.

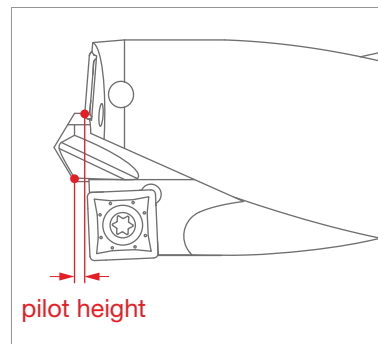
<h1>SP□X</h1> <p>4 edges</p>	DRS PILOT 4 edges drilling inserts					ISO513	HC-PVD		HW																
	Size	IC	S	D1	RE		P	JP5625 60 220	JP5530 60 220	JP9635 40 160	JW6520 150 300														
	05	5.00	2.38	2.50	0.40	M																			
	06	6.00	2.38	2.80	0.40	K	100 190	100 190																	
	07	7.94	3.97	2.80	0.80	N																			
						S																			
						H																			
	GRADE APPLICATION AREA		Stable machining				+	+	+	+															
■ main application		General machining				-	-	-	-																
■ applicable		Unstable machining				+	+	+	+																
GENERAL 	GP P M K	SPMX 050204-GP	6xD 9xD	f _n ▶ f _n ▶	0.08 0.06	0.10 0.08	0.12 0.10	●	●	●															
		SPMX 060204-GP	6xD 9xD	f _n ▶ f _n ▶	0.08 0.06	0.10 0.08	0.12 0.10	●	●	●															
		SPMX 07T308-GP	6xD 9xD	f _n ▶ f _n ▶	0.09 0.07	0.11 0.09	0.13 0.11	●	●	●															
	ALUMINIUM <p>polished surface</p>	AL N	SPGX 050204-AL	6xD 9xD	f _n ▶ f _n ▶	0.05 0.04	0.07 0.06	0.09 0.08				●													
			SPGX 060204-AL	6xD 9xD	f _n ▶ f _n ▶	0.05 0.04	0.07 0.06	0.09 0.08				●													
			SPGX 07T308-AL	6xD 9xD	f _n ▶ f _n ▶	0.06 0.05	0.08 0.07	0.10 0.09				●													

● stock standard

<h1>DRSP</h1>	DRS PILOT interchangeable centering drill				
	Size	DC	OAL	PL	SIG
	06	6	20	1.5	118°
	08	8	25	2.1	118°
GENERAL 	DRSP 06-GP HSS TIN				●
	DRSP 08-GP HSS TIN				●

● stock standard

HEIGHT ADJUSTEMENT



MATERIAL	6xD	9xD
P M K	1.0 mm	1.4 mm
N	1.5 mm	1.7 mm

TURNING

THREADING

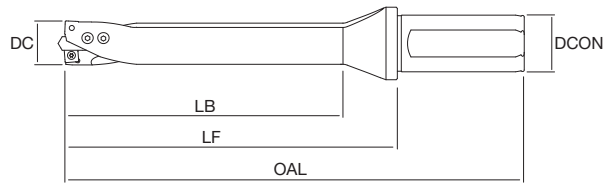
GROOVING

MILLING

DRILLING

ACCESSORIES

TURNING



THREADING

DRS PILOT 6XD

	DC	DCON	OAL	LF	LB	KG	MIID (insert)	MIID (pilot)
--	----	------	-----	----	----	----	---------------	--------------

GROOVING

05	NT-DRS-6D	D18.00-S25-05P6	●	18	25	191	135	112	SPMX05 SPGX05	DRSP06
		D19.00-S25-05P6	●	19	25	197	141	118		
06	NT-DRS-6D	D20.00-S25-06P6	●	20	25	203	147	124	SPMX06 SPGX06	DRSP06
		D21.00-S25-06P6	●	21	25	209	153	130		
		D22.00-S25-06P6	●	22	25	215	159	136		
		D23.00-S32-06P6	●	23	32	228	168	142		
		D24.00-S32-06P6	●	24	32	234	174	148		
		D25.00-S32-06P6	●	25	32	240	180	154		
07	NT-DRS-6D	D26.00-S32-07P8	●	26	32	246	186	160	SPMX07 SPGX07	DRSP08
		D27.00-S32-07P8	●	27	32	252	192	166		
		D28.00-S32-07P8	●	28	32	258	198	172		
		D29.00-S32-07P8	●	29	32	264	204	178		
		D30.00-S32-07P8	●	30	32	270	210	184		

● stock standard

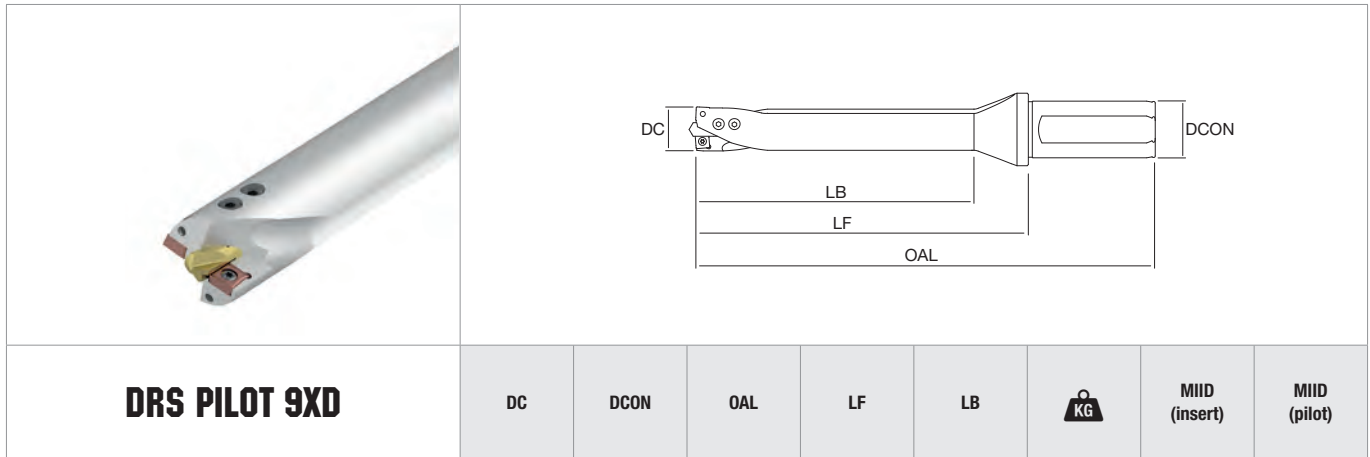
MILLING

Spare Parts	INSERT SCREW	INSERT WRENCH
NT-DRS-6D D _{00.00} -S ₀₀ -05P6	NT-ST059	NT-FTB06
NT-DRS-6D D _{00.00} -S ₀₀ -06P6	NT-ST061	NT-FTB06
NT-DRS-6D D _{00.00} -S ₀₀ -07P8	NT-ST062	NT-FTB07

Spare Parts	LOCKING GRAIN	SETTING GRAIN	GRAIN WRENCH
DC 18÷22	NT-ST042	NT-ST043	NT-WR025
DC 23÷25	NT-ST044	NT-ST045	
DC 26÷30	NT-ST046	NT-ST047	NT-WR030

DRILLING

ACCESSORIES



DRS PILOT 9XD				DC	DCON	OAL	LF	LB		MIID (insert)	MIID (pilot)
05	NT-DRS-9D	D18.00-S25-05P6	●	18	25	245	189	166		SPMX05 SPGX05	DRSP06
		D19.00-S25-05P6	●	19	25	254	198	175			
06	NT-DRS-9D	D20.00-S25-06P6	●	20	25	263	207	184		SPMX06 SPGX06	DRSP06
		D21.00-S25-06P6	●	21	25	272	216	193			
		D22.00-S25-06P6	●	22	25	281	225	202			
		D23.00-S32-06P6	●	23	32	297	237	211			
		D24.00-S32-06P6	●	24	32	306	246	220			
		D25.00-S32-06P6	●	25	32	315	255	229			
07	NT-DRS-9D	D26.00-S32-07P8	●	26	32	324	264	238		SPMX07 SPGX07	DRSP08
		D27.00-S32-07P8	●	27	32	333	273	247			
		D28.00-S32-07P8	●	28	32	342	282	256			
		D29.00-S32-07P8	●	29	32	351	291	265			
		D30.00-S32-07P8	●	30	32	360	300	274			

● stock standard

Spare Parts	INSERT SCREW	INSERT WRENCH
NT-DRS-9D D _{00.00} -S ₀₀ -05P6	NT-ST059	NT-FTB06
NT-DRS-9D D _{00.00} -S ₀₀ -06P6	NT-ST061	NT-FTB06
NT-DRS-9D D _{00.00} -S ₀₀ -07P8	NT-ST062	NT-FTB07

Spare Parts	LOCKING GRAIN	SETTING GRAIN	GRAIN WRENCH
DC 18÷22	NT-ST042	NT-ST043	NT-WR025
DC 23÷25	NT-ST044	NT-ST045	
DC 26÷30	NT-ST046	NT-ST047	NT-WR030

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

DRSPILLOT

CUTTING SPEED [m/min]

	MATERIALS	HARDNESS/Rm	W.-Nr	DIN	AISI-ASTM	TRADE MARK	JPS625	JP5530	JP9635	JU6520	
TURNING	P1	Free cutting steel and structural steel	< 500 N/mm ²	1.0715	9 SMn 28	1213	AVP	130÷220	130÷220		
				1.0765	36 SMnPb 14	A29	PR80				
TURNING	P2	Carbon steel and low alloy steel	500-700 N/mm ²	1.7147	20 MnCr 5	5120	-	100÷180	100÷180		
				1.0511	C 40	1040	-				
TURNING	P3	Medium alloy steel and heat treated steel	600-800 N/mm ²	1.1201	42 CrMo 4	4142, 4140	-	80÷170	80÷170		
				1.6511	36 CrNiMo 4	9840	-				
TURNING	P4	High alloy steel	800-1000 N/mm ²	1.1663	C 125 W	W1	-	80÷140	80÷140		
				1.3505	100 Cr 6	52100	-				
TURNING	P5	Tool steel	900-1200 N/mm ²	1.2080	X 210 Cr 12	D3	K100	60÷120	60÷120		
				1.2379	X 155 CrVMo 12 1	-	K110				
THREADING	M1	Ferritic stainless steel	400-700 N/mm ²	1.4016	X 6 Cr 17	430	-			90÷160	
				1.4104	X 12 CrMoS 17	430 F	-				
THREADING	M2	Austenitic stainless steel (good machinability)	500-750 N/mm ²	1.4305	X 10 CrNiS 18 9	303	-			60÷130	
				1.4301	X 6 CrNi 18 10	304, 304 H	-				
THREADING	M3	Austenitic stainless steel (medium machinability)	550-850 N/mm ²	1.4401	X 5 CrNiMo 17 12 2	316	-			50÷110	
				1.4462	X 2 CrNiMoN 22 5	F 51-329 A	DUPLEX				
THREADING	M4	Martensitic stainless steel	650-950 N/mm ²	1.4021	X 20 Cr 13	420	-			50÷110	
				1.4410	X 2 CrNiMoN 25 7 4	F 53-329 S1	SUPER DUPLEX				
GROOVING	M5	PH stainless steel	800-1250 N/mm ²	1.4540	X 4 CrNiCuNb 16 4	XM-12	15-5-PH			40÷100	
				1.4542	X 5 CrNiNb 16 4	631	17-4-PH				
GROOVING	K1	Grey cast iron	150-250 HB	0.6020	GG-20	A48 30 B	-	130÷190	130÷190		
				0.6025	GG-25	A48 35 B	-				
GROOVING	K2	Nodular cast iron	150-350 HB	0.7050	GGG-50	A536 80-55-6	-	100÷140	100÷140		
				0.7070	GGG-70	A536 100-70-03	-				
MILLING	N1	Aluminium alloys ≤ 12% Si		3.3547	AlMg4.5Mn	5083	Peraluman 440			200÷300	
				3.2315	AlMgSi 1	6082	Anticorodal 100				
MILLING	N2	Aluminium alloys > 12% Si		3.2582	GD-AISI12	A413.0				120÷240	
					G-AISI6Cu4	319					
MILLING	N3	Copper		2.0940-01	CuAl10Fe	CA952				150÷240	
				2.1176	CuPb10Sn	CA937					
MILLING	N4	Bronze and brass		2.0401	Cu Zn39Pb3		OT58			150÷240	
							AMPCO 18				

TURNING

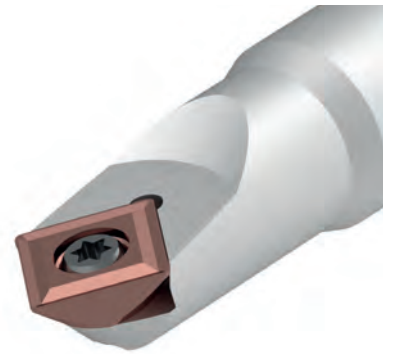
THREADING

GROOVING

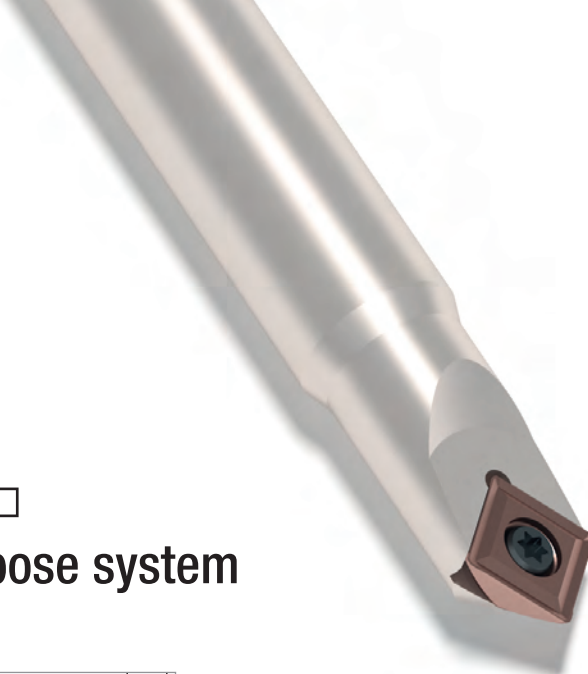
MILLING

DRILLING

ACCESSORIES

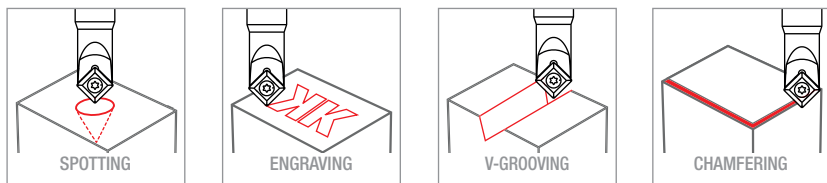


DRILLING SPOTdrill



SPOTDRILL

Multipurpose system



TURNING

THREADING

GROOVING





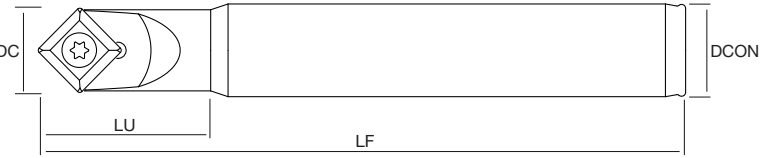





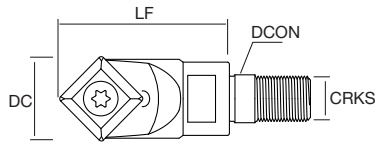


MILLING



DRILLING

ACCESSORIES

SPOT11	SPOTDRILL Multipurpose system				ISO513	COATED				UNCOATED								
	Size	IC	S	D1		HC-1SOP	HC-1SOM	HC-1SOK	HW-1SON									
					P	100 220												
	11	11	3.97	4.3	M		60 140											
					K			80 180										
					N				150 300									
					S													
					H													
GRADE APPLICATION AREA	Stable machining																	
main application	General machining																	
applicable	Unstable machining																	
GENERAL 	SPOT	11R03-GP	RE 0.3	$f_n \blacktriangleright$ 0.04 $f_n \blacktriangleright$ 0.08	0.07 0.15	0.10 0.22	●	●	●									
		11R08-GP	RE 0.8	$f_n \blacktriangleright$ 0.04 $f_n \blacktriangleright$ 0.08	0.07 0.15	0.10 0.22	●	●	●									
ALUMINIUM <p>polished surface</p>		11R04-AL	RE 0.4	$f_n \blacktriangleright$ 0.06 $f_n \blacktriangleright$ 0.14	0.09 0.22	0.12 0.30				●								
		11R08-AL	RE 0.8	$f_n \blacktriangleright$ 0.06 $f_n \blacktriangleright$ 0.14	0.09 0.22	0.12 0.30				●								

● stock standard f_n feed rate for chamfering

<p>CYLINDRICAL</p>  <p>DCX=14</p>  <p>DCN=2.4</p> 	 	<p>MULTI PURPOSE SYSTEM</p> 						
<p>SCREW-IN</p>  <p>DCX=14</p>  <p>DCN=2.4</p> 	 							
<p>SPOT DRILL Multipurpose system</p>								
	DC (DCX)		DCON	LF	LU	CRKS		MIID

	DC (DCX)		DCON	LF	LU	CRKS		MIID			
CYLINDRICAL	NT-SPOT	D14-S16-L100	●	15.4 (14)	1	16	100	30	-	0,13	SPOT11
SCREW-IN	NT-SPOT	D14-M08-L052	●	15.4 (14)	1	8.5	35	-	M8	0,03	SPOT11

● stock standard DCX = maximum cutting diameter DCON=minimum cutting diameter

Spare Parts	INSERT SCREW	INSERT WRENCH
		
NT-SPOT11 D□□□	NT-ST063	NT-FTB15

TURNING

THREADING

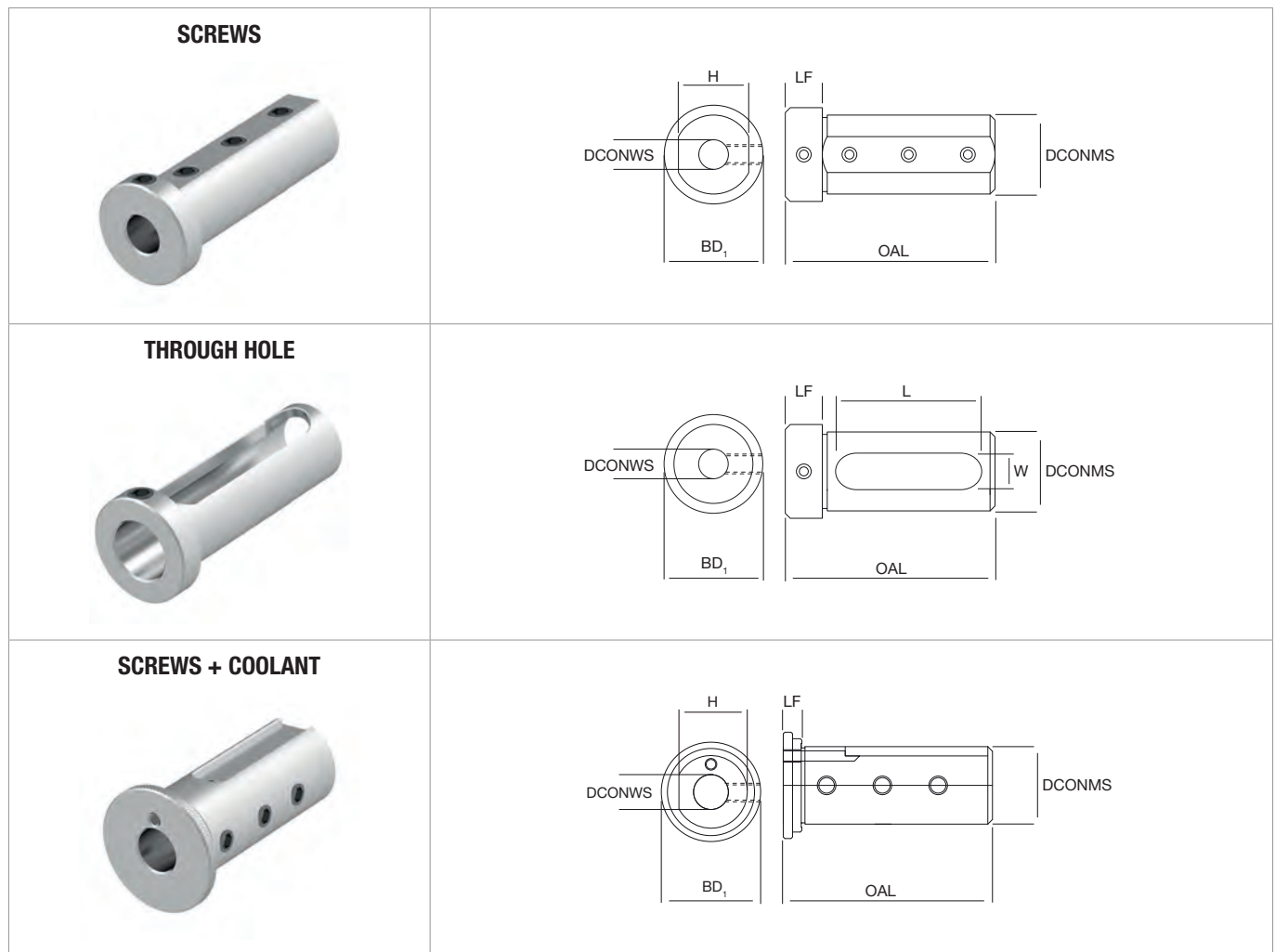
GROOVING

MILLING

DRILLING

ACCESSORIES

ACCESSORIES



NT-SLB Sleeves for boring bars			DCONWS	DCONMS	OAL	LF	BD ₁	H	L	W
--	--	--	--------	--------	-----	----	-----------------	---	---	---

SCREWS	NT-SLB S03	D16-L62	●	3	16	62	7	20	14.5	-	-
	NT-SLB S04	D16-L62	●	4	16	62	7	20	14.5	-	-
		D20-L67	●		20	67	7	27	17.5	-	-
		D32-L80	●		32	80	15	38	29.5	-	-
	NT-SLB S05	D16-L62	●	5	16	62	7	20	14.5	-	-
		D20-L67	●		20	67	7	27	17.5	-	-
		D32-L80	●		32	80	15	38	29.5	-	-
		D40-L100	●		40	100	15	46	38.0	-	-
	NT-SLB S06	D16-L62	●	6	16	62	7	20	14.5	-	-
		D20-L52	●		20	52	7	25	17.5	-	-
		D20-L67	●		20	67	7	27	17.5	-	-
		D32-L85	●		32	85	15	38	29.5	-	-
		D40-L100	●		40	100	15	46	38.0	-	-
	NT-SLB S07	D20-L67	●	7	20	67	7	27	17.5	-	-
		D32-L85	●		32	85	15	38	29.5	-	-
		D40-L100	●		40	100	15	46	38.0	-	-
	NT-SLB S08	D16-L62	●	8	16	62	7	20	14.5	-	-
		D20-L52	●		20	52	7	25	17.5	-	-
		D20-L67	●		20	67	7	27	17.5	-	-
		D32-L85	●		32	85	15	38	29.5	-	-
D40-L100		●	40		100	15	46	38.0	-	-	
D50-L100		●	50		100	15	58	48.0	-	-	

● stock standard

TURNING

THREADING

GROOVING

MILLING

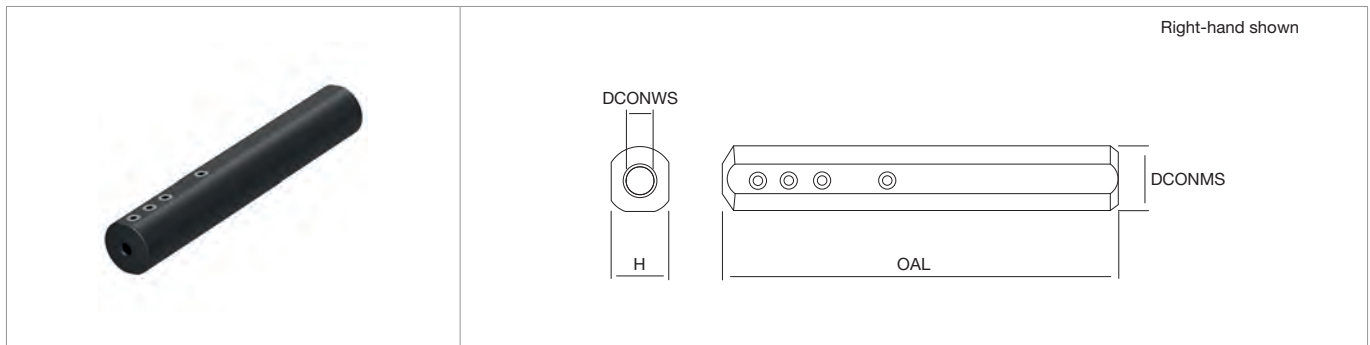
DRILLING

ACCESSORIES

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

NT-SLB Sleeves for boring bars			DCONWS	DCONMS	OAL	LF	BD ₁	H	L	W	
SCREWS	NT-SLB S10	D20-L52	●	10	20	52	7	25	17.5	-	-
		D20-L67	●		20	67	7	27	17.5	-	-
		D32-L100	●		32	100	15	38	29.5	-	-
		D40-L100	●		40	100	15	46	38.0	-	-
		D50-L100	●		50	100	15	58	48.0	-	-
	NT-SLB S12	D20-L52	●	12	20	52	7	25	17.5	-	-
		D20-L67	●		20	67	7	27	17.5	-	-
		D32-L100	●		32	100	15	38	29.5	-	-
		D40-L100	●		40	100	15	46	38.0	-	-
		D50-L100	●		50	100	15	58	48.0	-	-
	NT-SLB S14	D32-L100	●	14	32	100	15	38	29.5	-	-
		D40-L100	●		40	100	15	46	38.0	-	-
		D50-L100	●		50	100	15	58	48.0	-	-
	NT-SLB S15	D32-L100	●	15	32	100	15	38	29.5	-	-
		D40-L100	●		40	100	15	46	38.0	-	-
	NT-SLB S16	D32-L100	●	16	32	100	15	38	29.5	-	-
		D40-L100	●		40	100	15	46	38.0	-	-
		D50-L100	●		50	100	15	58	48.0	-	-
NT-SLB S18	D32-L100	●	18	32	100	15	38	29.5	-	-	
	D40-L100	●		40	100	15	46	38.0	-	-	
	D50-L100	●		50	100	15	58	48.0	-	-	
NT-SLB S20	D50-L100	●	20	50	100	15	58	48.0	-	-	
NT-SLB S25	D50-L100	●	25	50	100	15	58	48.0	-	-	
THROUGH HOLE	NT-SLB S10	D16-L62	●	10	16	62	7	20	-	50	11
	NT-SLB S12	D16-L62	●	12	16	62	7	20	-	50	11
	NT-SLB S14	D20-L67	●	14	20	67	7	27	-	55	13
		D25-L64	●		25	64	6	35	-	51	12
	NT-SLB S15	D20-L67	●	15	20	67	7	27	-	55	13
		D25-L64	●		25	64	6	35	-	51	12
	NT-SLB S16	D20-L52	●	16	20	52	7	25	-	40	11
		D20-L67	●		20	67	7	27	-	55	13
		D25-L64	●		25	64	6	35	-	51	12
	NT-SLB S17	D25-L64	●	17	25	64	6	35	-	51	12
	NT-SLB S18	D25-L64	●	18	25	64	6	35	-	51	12
	NT-SLB S20	D25-L64	●	20	25	64	6	35	-	51	12
		D32-L100	●		32	100	15	38	-	77	14
		D40-L100	●		40	100	15	46	-	77	14
	NT-SLB S22	D25-L64	●	22	25	64	6	35	-	51	12
		D32-L100	●		32	100	15	38	-	77	14
		D40-L100	●		40	100	15	46	-	77	14
	NT-SLB S25	D32-L100	●	25	32	100	15	38	-	77	14
D40-L100		●	40		100	15	46	-	77	14	
NT-SLB S32	D40-L100	●	32	40	100	15	46	-	77	14	
	D50-L100	●		50	100	15	58	-	77	14	
NT-SLB S40	D50-L100	●	40	50	100	15	58	-	77	14	
SCREWS + COOLANT	NT-SLB S04	D25-L64	●	4	25	64	6	35	23.5	-	-
	NT-SLB S05	D25-L64	●	5	25	64	6	35	23.5	-	-
	NT-SLB S06	D25-L64	●	6	25	64	6	35	23.5	-	-
	NT-SLB S07	D25-L64	●	7	25	64	6	35	23.5	-	-
	NT-SLB S08	D25-L64	●	8	25	64	6	35	23.5	-	-
	NT-SLB S09	D25-L64	●	9	25	64	6	35	23.5	-	-
	NT-SLB S10	D25-L64	●	10	25	64	6	35	23.5	-	-
	NT-SLB S11	D25-L64	●	11	25	64	6	35	23.5	-	-
	NT-SLB S12	D25-L64	●	12	25	64	6	35	23.5	-	-

● stock standard



NT-SLV
Sleeves for microboring bars

DCONWS	DCONMS	OAL	H				
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SCREWS	NT-SLV										
		S03-D16-L100	●	3	16	100	14				
		S04-D16-L100	●	4	16	100	14				
		S05-D16-L100	●	5	16	100	14				
		S06-D16-L100	●	6	16	100	14				

● stock standard

TURNING

THREADING

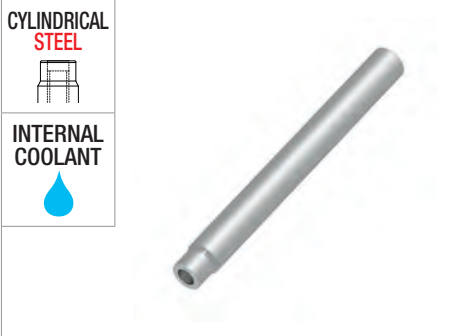
GROOVING

MILLING

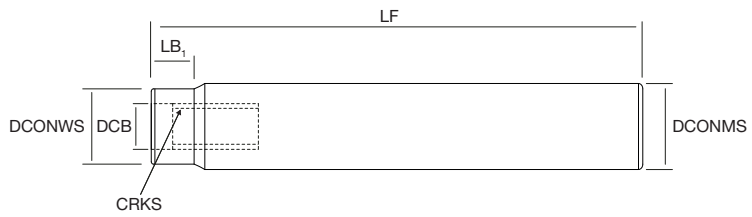
DRILLING

ACCESSORIES

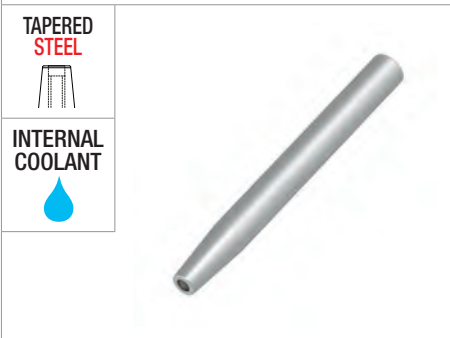
TURNING



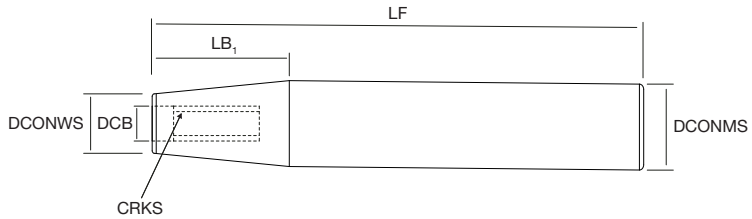
CYLINDRICAL STEEL
INTERNAL COOLANT



THREADING



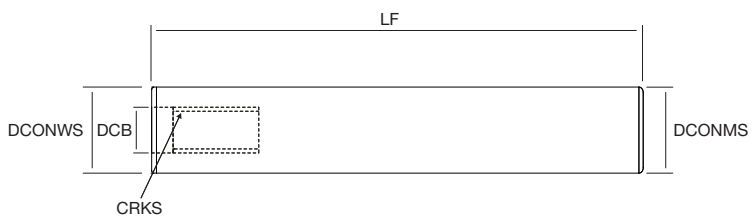
TAPERED STEEL
INTERNAL COOLANT



GROOVING



CYLINDRICAL CARBIDE
INTERNAL COOLANT



MILLING

NT-ARB

Arbor for screw-in milling cutters

DCONMS CRKS DCONWS DCB LF LB1

MATERIAL	MODEL	STOCK	DIMENSIONS								
			DCONMS	CRKS	DCONWS	DCB	LF	LB1			
STEEL CYLINDRICAL	NT-ARB	D12-M06-120	●	12	M6	11	6.5	120	10		
		D16-M08-150	●	16	M8	14	8.5	150	10		
		D16-M08-200	●	16	M8	14	8.5	200	10		
		D20-M10-150	●	20	M10	18	10.5	150	12		
		D20-M10-250	●	20	M10	18	10.5	250	12		
		D25-M12-200	●	25	M12	23	12.5	200	15		
		D25-M12-300	●	25	M12	23	12.5	300	15		
		D32-M16-200	●	32	M16	29	17	200	18		
STEEL TAPERED	NT-ARB	D16-M06-150T	●	16	M6	11	6.5	150	40		
		D16-M06-200T	●	16	M6	11	6.5	200	40		
		D20-M08-200T	●	20	M8	14	8.5	200	50		
		D20-M08-250T	●	20	M8	14	8.5	250	50		
		D25-M10-200T	●	25	M10	18	10.5	200	60		
		D25-M10-250T	●	25	M10	18	10.5	250	60		
		D32-M12-250T	●	32	M12	23	12.5	250	70		
		D32-M12-350T	●	32	M12	23	12.5	350	70		
CARBIDE CYLINDRICAL	NT-ARB-HM	D12-M06-100	●	12	M6	-	6.5	100	-		
		D12-M06-150	●	12	M6	-	6.5	150	-		
		D12-M06-200	●	12	M6	-	6.5	200	-		
		D16-M08-100	●	16	M8	-	8.5	100	-		
		D16-M08-150	●	16	M8	-	8.5	150	-		
		D16-M08-200	●	16	M8	-	8.5	200	-		
		D20-M10-100	●	20	M10	-	10.5	100	-		

● stock standard

NT-ARB Arbor for screw-in milling cutters			DCONMS	CRKS	DCONWS	DCB	LF	LB1		
CARBIDE CYLINDRICAL	D20-M10-150	●	20	M10	-	10.5	150	-		
	D20-M10-200	●	20	M10	-	10.5	200	-		
	D20-M10-300	●	20	M10	-	10.5	300	-		
	D25-M12-100	●	25	M12	-	12.5	100	-		
	D25-M12-150	●	25	M12	-	12.5	150	-		
	D25-M12-200	●	25	M12	-	12.5	200	-		
	D25-M12-300	●	25	M12	-	12.5	300	-		

● stock standard

TURNING

THREADING

GROOVING

MILLING

DRILLING

ACCESSORIES

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