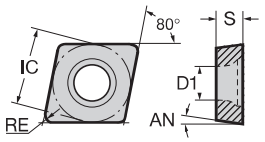
TURNING

TURNING Carbide

CC

CARBIDE
Positive

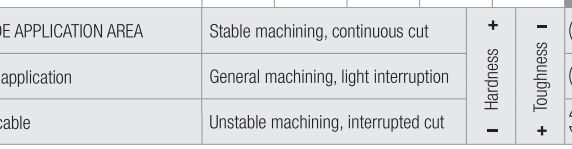


2 edges

Size	IC	S	D1	AN
MICRO CC	3.50	1.40	1.90	7°
0602□□	6.35	2.38	2.80	7°
09T3□□	9.525	3.97	4.40	7°
1204□□	12.70	4.76	5.50	7°

ISO513	HC-CVD							HC-PVD			HW		HT				
	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020			
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400			
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	+ Hardness −	− Toughness +
main application	General machining, light interruption		
applicable	Unstable machining, interrupted cut		



FINISHING

GB P M N

MICROBORING, ground chipbreaker

			a_p ▸			f_n ▸			
MICRO	CC.R01-GBL	RE 0.1	0.05	**0.20**	0.35	0.02	**0.04**	0.06	○
	CC.R02-GBL	RE 0.2	0.05	**0.20**	0.35	0.03	**0.05**	0.07	● ● ○
	CC.R04-GBL	RE 0.4	0.05	**0.20**	0.35	0.04	**0.06**	0.08	● ● ○

PPF P M

ground chipbreaker, picture: right-hand

			a_p ▸			f_n ▸			
CCET	060202R/L-PPF	RE 0.2	0.10	**0.40**	0.70	0.04	**0.07**	0.10	●
	060204R/L-PPF	RE 0.4	0.10	**0.40**	0.70	0.04	**0.08**	0.12	●
CCET	09T302R/L-PPF	RE 0.2	0.10	**0.50**	0.90	0.04	**0.08**	0.12	●
	09T304R/L-PPF	RE 0.4	0.10	**0.50**	0.90	0.04	**0.09**	0.14	●

PFU P M S

sharp edge

			a_p ▸			f_n ▸			
CCMT	060202-PFU	RE 0.2	0.20	**0.80**	1.40	0.04	**0.08**	0.12	● ● ● ● ○
	060204-PFU	RE 0.4	0.20	**0.80**	1.40	0.05	**0.11**	0.17	● ● ● ● ● ● ●
CCMT	09T302-PFU	RE 0.2	0.30	**1.00**	1.70	0.05	**0.10**	0.15	● ● ● ● ○
	09T304-PFU	RE 0.4	0.30	**1.00**	1.70	0.06	**0.14**	0.22	● ● ● ● ● ● ●
	09T308-PFU	RE 0.8	0.30	**1.00**	1.70	0.08	**0.16**	0.24	● ● ● ● ○

MEDIUM

PPM P M

ground chipbreaker, picture: right-hand

			a_p ▸			f_n ▸			
CCET	09T304R/L-PPM	RE 0.4	0.50	**1.50**	2.50	0.04	**0.07**	0.10	● ●

PMU P M K

general purpose

			a_p ▸			f_n ▸			
CCMT	060202-PMU	RE 0.2	0.50	**1.50**	2.50	0.05	**0.10**	0.15	○ ● ● ● ○
	060204-PMU	RE 0.4	0.50	**1.50**	2.50	0.06	**0.13**	0.20	● ● ● ● ● ● ● ●
	060208-PMU	RE 0.8	0.50	**1.50**	2.50	0.08	**0.16**	0.24	● ○ ● ● ●
CCMT	09T302-PMU	RE 0.2	0.60	**1.80**	3.00	0.06	**0.13**	0.20	● ● ● ● ○
	09T304-PMU	RE 0.4	0.60	**1.80**	3.00	0.07	**0.16**	0.25	● ● ● ● ● ● ● ●
	09T308-PMU	RE 0.8	0.60	**1.80**	3.00	0.08	**0.19**	0.30	● ● ● ● ● ● ● ● ○
CCMT	120404-PMU	RE 0.4	0.80	**2.20**	3.60	0.08	**0.17**	0.26	● ● ● ● ●
	120408-PMU	RE 0.8	0.80	**2.20**	3.60	0.10	**0.22**	0.32	● ○ ● ● ●
	120412-PMU	RE 1.2	0.80	**2.20**	3.60	0.12	**0.24**	0.36	● ○ ○ ○

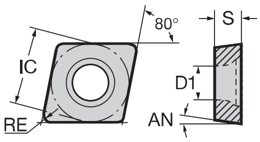
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 86

HOLDERS INTERNAL p. 89

CC

CARBIDE
Positive



2 edges

Size	IC	S	D1	AN
MICRO CC	3.50	1.40	1.90	7°
0602□□	6.35	2.38	2.80	7°
09T3□□	9.525	3.97	4.40	7°
1204□□	12.70	4.76	5.50	7°

ISO513	HC-CVD							HC-PVD			HW		HT	
	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400
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		Hardness	Toughness
main application	Stable machining, continuous cut	+	−
applicable	General machining, light interruption		
	Unstable machining, interrupted cut	−	+

	Type	Designation	RE		a_p / f_n min	a_p / f_n	a_p / f_n max	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
MEDIUM – PMN N	CCGX	060202-PMN	RE 0.2	a_p f_n	0.30 0.05	**1.50** **0.10**	2.70 0.15											●			
		060204-PMN	RE 0.4	a_p f_n	0.30 0.06	**1.50** **0.13**	2.70 0.20										●	●	●		
		060208-PMN	RE 0.8	a_p f_n	0.30 0.08	**1.50** **0.16**	2.70 0.24										○	○	●		
	CCGX	09T302-PMN	RE 0.2	a_p f_n	0.50 0.06	**2.00** **0.11**	3.50 0.16										○	●			
		09T304-PMN	RE 0.4	a_p f_n	0.50 0.08	**2.00** **0.16**	3.50 0.24										●	●	●		
		09T308-PMN	RE 0.8	a_p f_n	0.50 0.10	**2.00** **0.20**	3.50 0.30										○	○	●		
	CCGX	120402-PMN	RE 0.2	a_p f_n	0.50 0.08	**3.00** **0.14**	5.50 0.20										○	●			
		120404-PMN	RE 0.4	a_p f_n	0.50 0.10	**3.00** **0.20**	5.50 0.30										○	●	●		
		120408-PMN	RE 0.8	a_p f_n	0.50 0.15	**3.00** **0.25**	5.50 0.35										○	●	●		
ROUGHING – PRU P K	CCMT	09T304-PRU	RE 0.4	a_p f_n	1.50 0.10	**2.50** **0.19**	3.50 0.28	●				●									
		09T308-PRU	RE 0.8	a_p f_n	1.50 0.12	**2.50** **0.22**	3.50 0.32	●				●									
	CCMT	120408-PRU	RE 0.8	a_p f_n	1.50 0.14	**3.00** **0.26**	4.50 0.38	●				●									
		120412-PRU	RE 1.2	a_p f_n	1.50 0.16	**3.00** **0.28**	4.50 0.40	●				●									

polished surface

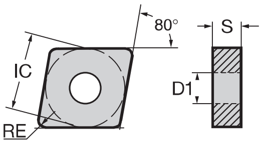
reinforced edge

● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 86
HOLDERS INTERNAL p. 91

CN

CARBIDE
Negative



4 edges

Size	IC	S	D1
MICRO CN	7.50	3.18	3.60
0903□□	9.525	3.18	3.81
1204□□	12.70	4.76	5.16
1606□□	15.87	6.35	6.35
1906□□	19.05	6.35	7.94

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
	HC-CVD								HC-PVD				HW	HT
P			200 380	180 360	140 300	100 240			80 220	60 180				200 380
M							150 280	120 240	80 160	60 120	100 220	80 200		160 280
K	180 380	150 300								80 170				200 400
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

Hardness + / − ; Toughness − / +

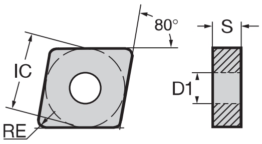
Application	Geometry	Type	Code	RE					JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
FINISHING	GB P M  MICRONEGA, picture: right-hand	MICRO	CN.R04-GB$^R/_L$	RE 0.4	a_p▸ f_n▸	0.20 0.05	**0.50** **0.10**	0.80 0.15									▽					
FINISHING	NSP P 	CNMG	090304-NSP	RE 0.4	a_p▸ f_n▸	0.30 0.06	**0.70** **0.12**	1.10 0.18				●	●									●
FINISHING	NSP P		090308-NSP	RE 0.8	a_p▸ f_n▸	0.30 0.08	**0.70** **0.16**	1.10 0.24				●	●									●
FINISHING	NSP P	CNMG	120404-NSP	RE 0.4	a_p▸ f_n▸	0.40 0.08	**1.20** **0.15**	2.00 0.22			●	●	●									●
FINISHING	NSP P		120408-NSP	RE 0.8	a_p▸ f_n▸	0.40 0.10	**1.20** **0.22**	2.00 0.34			●	●	●									●
FINISHING	NFM M 	CNMG	120404-NFM	RE 0.4	a_p▸ f_n▸	0.40 0.08	**1.20** **0.14**	2.00 0.20											●			
FINISHING	NFM M		120408-NFM	RE 0.8	a_p▸ f_n▸	0.40 0.10	**1.20** **0.20**	2.00 0.30											●			
MEDIUM	GM P M  MICRONEGA	MICRO	CN.R04-GM	RE 0.4	a_p▸ f_n▸	0.80 0.08	**1.60** **0.15**	2.40 0.22				○						●				▲
MEDIUM	GM P M		CN.R08-GM	RE 0.8	a_p▸ f_n▸	0.80 0.10	**1.60** **0.17**	2.40 0.24										▽				
MEDIUM	SS M  MICRONEGA, polished surface	MICRO	CN.R02-SS	RE 0.2	a_p▸ f_n▸	0.40 0.06	**1.20** **0.11**	2.00 0.16												●		
MEDIUM	SS M		CN.R04-SS	RE 0.4	a_p▸ f_n▸	0.40 0.08	**1.20** **0.14**	2.00 0.20												●		▲
MEDIUM	NMP P 	CNMG	120404-NMP	RE 0.4	a_p▸ f_n▸	1.50 0.12	**2.50** **0.20**	3.50 0.28				●	●									
MEDIUM	NMP P		120408-NMP	RE 0.8	a_p▸ f_n▸	1.50 0.16	**2.50** **0.25**	3.50 0.34				●	●									▽
MEDIUM	NMP P		120412-NMP	RE 1.2	a_p▸ f_n▸	1.50 0.20	**2.50** **0.30**	3.50 0.40				●	●									
MEDIUM	NMP P		120416-NMP	RE 1.6	a_p▸ f_n▸	1.50 0.25	**2.50** **0.35**	3.50 0.45				●	●									
MEDIUM	NMP P	CNMG	160608-NMP	RE 0.8	a_p▸ f_n▸	3.00 0.20	**4.50** **0.30**	6.00 0.40				●	●									
MEDIUM	NMP P		160612-NMP	RE 1.2	a_p▸ f_n▸	3.00 0.25	**4.50** **0.35**	6.00 0.45				●	●									
MEDIUM	NMP P		160616-NMP	RE 1.6	a_p▸ f_n▸	3.00 0.30	**4.50** **0.40**	6.00 0.50				●	●									

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

HOLDERS EXTERNAL p. 96
HOLDERS INTERNAL p. 102

CN

CARBIDE
Negative



4 edges

Size	IC	S	D1
MICRO CN	7.50	3.18	3.60
0903□□	9.525	3.18	3.81
1204□□	12.70	4.76	5.16
1606□□	15.87	6.35	6.35
1906□□	19.05	6.35	7.94

ISO513	JC7010 (HC-CVD)	JC7020 (HC-CVD)	JC8005 (HC-CVD)	JC8015 (HC-CVD)	JC8025 (HC-CVD)	JC8035 (HC-CVD)	JC9010 (HC-CVD)	JC9025 (HC-CVD)	JP5015 (HC-PVD)	JP5025 (HC-PVD)	JP9015 (HC-PVD)	JP9030 (HC-PVD)	JU6020 (HW)	JU4015 (HT)
P			200 380	180 360	140 300	100 240			80 220	60 180				200 380
M							150 280	120 240	80 160	60 120	100 220	80 200		160 280
K	180 380	150 300								80 170				200 400
N													500 1500	
S									40 80					
H														

GRADE APPLICATION AREA	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / − · Toughness − / +

MEDIUM

NMP P

NUP P M

NMU P

picture: right-hand

NMM M

Chipbreaker	Type	Designation	RE		min	rec.	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
NMP	CNMG	190612-NMP	RE 1.2	a_p f_n	4.00 0.30	**6.00** **0.40**	8.00 0.50				●	●									
NMP		190616-NMP	RE 1.6	a_p f_n	4.00 0.32	**6.00** **0.45**	8.00 0.58				○	○									
NUP	CNMG	090304-NUP	RE 0.4	a_p f_n	0.70 0.08	**1.50** **0.15**	2.30 0.22				●	●									●
NUP		090308-NUP	RE 0.8	a_p f_n	0.70 0.12	**1.50** **0.20**	2.30 0.28				●	●									●
NUP	CNMG	120404-NUP	RE 0.4	a_p f_n	1.00 0.10	**2.50** **0.20**	4.00 0.30			●	●	●			●						●
NUP		120408-NUP	RE 0.8	a_p f_n	1.00 0.15	**2.50** **0.25**	4.00 0.35			●	●	●			●						●
NUP		120412-NUP	RE 1.2	a_p f_n	1.00 0.18	**2.50** **0.30**	4.00 0.42			●	●	●			●						
NUP		120416-NUP	RE 1.6	a_p f_n	1.00 0.20	**2.50** **0.35**	4.00 0.50			●	●	○									
NUP	CNMG	160608-NUP	RE 0.8	a_p f_n	2.00 0.18	**4.50** **0.30**	7.00 0.42			●	○	○									
NUP		160612-NUP	RE 1.2	a_p f_n	2.00 0.22	**4.50** **0.35**	7.00 0.48			●	●	●									
NUP	CNMG	190608-NUP	RE 0.8	a_p f_n	3.00 0.22	**6.00** **0.35**	9.00 0.48				○	○									
NUP		190612-NUP	RE 1.2	a_p f_n	3.00 0.25	**6.00** **0.40**	9.00 0.55				○	○									
NUP		190616-NUP	RE 1.6	a_p f_n	3.00 0.30	**6.00** **0.45**	9.00 0.60				○	○									
NMU	CNMG	120408R/L-NMU	RE 0.8	a_p f_n	1.00 0.20	**2.50** **0.30**	4.00 0.40					○									
NMM	CNMG	090304-NMM	RE 0.4	a_p f_n	0.70 0.13	**1.50** **0.20**	2.30 0.27								●				●		
NMM		090308-NMM	RE 0.8	a_p f_n	0.70 0.18	**1.50** **0.25**	2.30 0.32								●				●		
NMM	CNMG	120404-NMM	RE 0.4	a_p f_n	1.00 0.15	**2.50** **0.25**	4.00 0.35							●	●			○	●		▽
NMM		120408-NMM	RE 0.8	a_p f_n	1.00 0.20	**2.50** **0.30**	4.00 0.40							●	●			●	●		▽
NMM		120412-NMM	RE 1.2	a_p f_n	1.00 0.25	**2.50** **0.35**	4.00 0.45							●	●			●	●		
NMM		120416-NMM	RE 1.6	a_p f_n	1.00 0.30	**2.50** **0.40**	4.00 0.50								○				○		
NMM	CNMG	160608-NMM	RE 0.8	a_p f_n	2.00 0.25	**4.50** **0.35**	7.00 0.45								●				○		
NMM		160612-NMM	RE 1.2	a_p f_n	2.00 0.30	**4.50** **0.40**	7.00 0.50								●			▽	●		
NMM		160616-NMM	RE 1.6	a_p f_n	2.00 0.35	**4.50** **0.45**	7.00 0.55								●			▽	●		

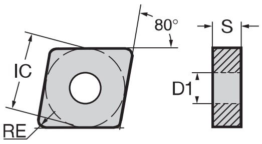
● stock standard, ○ non-standard stock, ▽ stock exhaustion

HOLDERS EXTERNAL p. 97
HOLDERS INTERNAL p. 104

nikkoTOOLS

CN

CARBIDE
Negative



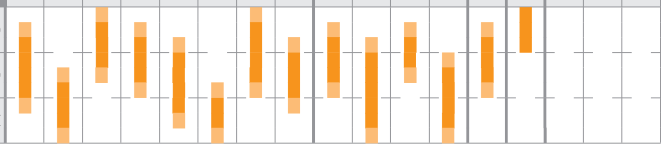
4 edges

Size	IC	S	D1
MICRO CN	7.50	3.18	3.60
0903□□	9.525	3.18	3.81
1204□□	12.70	4.76	5.16
1606□□	15.87	6.35	6.35
1906□□	19.05	6.35	7.94

ISO513	JC7010 (HC-CVD)	JC7020 (HC-CVD)	JC8005 (HC-CVD)	JC8015 (HC-CVD)	JC8025 (HC-CVD)	JC8035 (HC-CVD)	JC9010 (HC-CVD)	JC9025 (HC-CVD)	JP5015 (HC-PVD)	JP5025 (HC-PVD)	JP9015 (HC-PVD)	JP9030 (HC-PVD)	JU6020 (HW)	JU4015 (HT)
P			200 380	180 360	140 300	100 240			80 220	60 180				200 380
M							150 280	120 240	80 160	60 120	100 220	80 200		160 280
K	180 380	150 300								80 170				200 400
N													500 1500	
S									40 80					
H														

GRADE APPLICATION AREA	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness: + / – ; Toughness: – / +



Application	Chipbreaker	ISO	Designation	RE		min	std	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
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								○				○		
MEDIUM	NMM M		190616-NMM	RE 1.6	a_p / f_n	3.00 / 0.40	6.00 / 0.50	9.00 / 0.60								●				○		
MEDIUM	NMK K	CNMG	120404-NMK	RE 0.4	a_p / f_n	0.50 / 0.10	2.00 / 0.20	3.50 / 0.30	●	○												
MEDIUM	NMK K		120408-NMK	RE 0.8	a_p / f_n	0.50 / 0.15	2.00 / 0.25	3.50 / 0.35	●	●												
MEDIUM	NMK K		120412-NMK	RE 1.2	a_p / f_n	0.50 / 0.20	2.00 / 0.30	3.50 / 0.40	●	●												
MEDIUM	NMK K		120416-NMK	RE 1.6	a_p / f_n	0.50 / 0.25	2.00 / 0.35	3.50 / 0.45	●	○												
MEDIUM	NMK K	CNMG	160608-NMK	RE 0.8	a_p / f_n	2.00 / 0.25	4.00 / 0.35	6.00 / 0.45	●	○												
MEDIUM	NMK K		160612-NMK	RE 1.2	a_p / f_n	2.00 / 0.30	4.00 / 0.40	6.00 / 0.50	●	○												
MEDIUM	NMK K		160616-NMK	RE 1.6	a_p / f_n	2.00 / 0.35	4.00 / 0.45	6.00 / 0.55	●	○												
MEDIUM	NMK K	CNMG	190612-NMK	RE 1.2	a_p / f_n	3.00 / 0.35	5.00 / 0.45	7.00 / 0.55	○	○												
MEDIUM	NMK K		190616-NMK	RE 1.6	a_p / f_n	3.00 / 0.40	5.00 / 0.50	7.00 / 0.60	○	○												
MEDIUM	NWU P K (wiper edge)	CNMG	120408-NWU	RE 0.8	a_p / f_n	0.80 / 0.20	2.00 / 0.40	3.20 / 0.60	●				●									●
MEDIUM	NWU P K (wiper edge)		120412-NWU	RE 1.2	a_p / f_n	0.80 / 0.25	2.00 / 0.45	3.20 / 0.65	●				●									●
MEDIUM	NMN N (polished surface)	CNGG	120404-NMN	RE 0.4	a_p / f_n	0.50 / 0.10	2.00 / 0.20	3.50 / 0.30													●	
MEDIUM	NMN N (polished surface)		120408-NMN	RE 0.8	a_p / f_n	0.50 / 0.15	2.00 / 0.25	3.50 / 0.35													●	
MEDIUM	NMN N (polished surface)		120412-NMN	RE 1.2	a_p / f_n	0.50 / 0.20	2.00 / 0.30	3.50 / 0.40													●	
ROUGHING	NRP P	CNMG	120408-NRP	RE 0.8	a_p / f_n	2.00 / 0.25	4.00 / 0.35	6.00 / 0.45			●	●	●	●								
ROUGHING	NRP P		120412-NRP	RE 1.2	a_p / f_n	2.00 / 0.30	4.00 / 0.40	6.00 / 0.50			●	●	●	●								
ROUGHING	NRP P		120416-NRP	RE 1.6	a_p / f_n	2.00 / 0.35	4.00 / 0.45	6.00 / 0.55			●	●	●	●								
ROUGHING	NRP P	CNMG	160612-NRP	RE 1.2	a_p / f_n	4.00 / 0.35	6.00 / 0.50	8.00 / 0.65			●	●	●	●								
ROUGHING	NRP P		160616-NRP	RE 1.6	a_p / f_n	4.00 / 0.40	6.00 / 0.55	8.00 / 0.70			●	●	●	●								



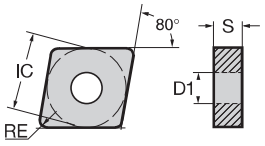


● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 97
HOLDERS INTERNAL p. 104

CN

CARBIDE
Negative



4 edges

Size	IC	S	D1
MICRO CN	7.50	3.18	3.60
0903□□	9.525	3.18	3.81
1204□□	12.70	4.76	5.16
1606□□	15.87	6.35	6.35
1906□□	19.05	6.35	7.94

ISO513	HC-CVD								HC-PVD				HW	HT
	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
P			200 380	180 360	140 300	100 240			80 220	60 180				200 380
M							150 280	120 240	80 160	60 120	100 220	80 200		160 280
K	180 380	150 300								80 170				200 400
N													500 1500	
S									40 80					
H														

GRADE APPLICATION AREA	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / − ; Toughness − / +

ROUGHING

NRP P

			a_p	f_n	JC8025	JC8035
CNMG	190612-NRP	RE 1.2	6.00 **8.00** 10.0	0.40 **0.55** 0.70	●	●
	190616-NRP	RE 1.6	6.00 **8.00** 10.0	0.45 **0.60** 0.75	●	●
	190624-NRP	RE 2.4	6.00 **8.00** 10.0	0.50 **0.65** 0.80	●	●

NTP P

			a_p	f_n	JC8015	JC8025	JC8035
CNMG	160612-NTP	RE 1.2	5.00 **7.00** 9.00	0.40 **0.55** 0.70	▽		
CNMG	190612-NTP	RE 1.2	7.00 **9.00** 11.0	0.45 **0.60** 0.75	▽	▽	
	190616-NTP	RE 1.6	7.00 **9.00** 11.0	0.50 **0.65** 0.80	▽	▽	

NRK K

			a_p	f_n	JC7010	JC7020
CNMG	120408-NRK	RE 0.8	1.50 **4.00** 6.50	0.20 **0.30** 0.40	●	●
	120412-NRK	RE 1.2	1.50 **4.00** 6.50	0.25 **0.35** 0.45	●	●
	120416-NRK	RE 1.6	1.50 **4.00** 6.50	0.30 **0.40** 0.50	●	●
CNMG	160612-NRK	RE 1.2	3.00 **6.00** 9.00	0.40 **0.55** 0.70	●	●
	160616-NRK	RE 1.6	3.00 **6.00** 9.00	0.45 **0.60** 0.75	●	●
CNMG	190612-NRK	RE 1.2	5.00 **8.00** 11.0	0.45 **0.60** 0.75	○	○
	190616-NRK	RE 1.6	5.00 **8.00** 11.0	0.50 **0.65** 0.80	○	○

Flat K

			a_p	f_n	JC7010	JC7020
CNMA	120404	RE 0.4	2.00 **4.00** 6.00	0.15 **0.25** 0.35	○	○
	120408	RE 0.8	2.00 **4.00** 6.00	0.25 **0.35** 0.45	●	○
	120412	RE 1.2	2.00 **4.00** 6.00	0.35 **0.45** 0.55	●	○
	120416	RE 1.6	2.00 **4.00** 6.00	0.45 **0.55** 0.65	○	○
CNMA	160612	RE 1.2	4.00 **7.00** 10.0	0.45 **0.60** 0.75	●	○
	160616	RE 1.6	4.00 **7.00** 10.0	0.50 **0.65** 0.80	●	○
CNMA	190612	RE 1.2	6.00 **9.00** 12.0	0.50 **0.65** 0.80	○	○
	190616	RE 1.6	6.00 **9.00** 12.0	0.55 **0.70** 0.85	●	○

HEAVY ROUGHING

MRP P

2 edges, single side

			a_p	f_n	JC8025	JC8035
CNMM	190616-MRP	RE 1.6	6.00 **9.00** 12.0	0.60 **0.75** 0.90	○	○
	190624-MRP	RE 2.4	6.00 **9.00** 12.0	0.65 **0.80** 0.95	●	●
CNMM	250924-MRP	RE 2.4	8.00 **12.0** 16.0	0.70 **0.85** 1.00	●	●

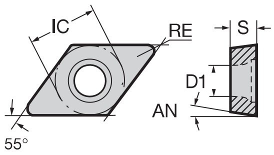
● stock standard, ○ non-standard stock, ▽ stock exhaustion

HOLDERS EXTERNAL p. 97

HOLDERS INTERNAL p. 104

DC

CARBIDE
Positive

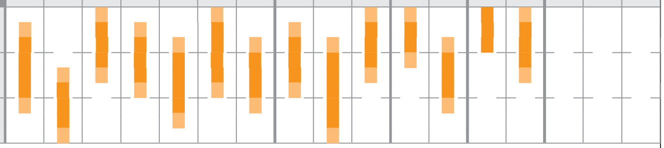


2 edges

Size	IC	S	D1	AN
0702□□	6.35	2.38	2.80	7°
11T3□□	9.525	3.97	4.40	7°
1504□□	12.70	4.76	5.50	7°

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
	HC-CVD							HC-PVD			HW		HT	
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400
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		Hardness / Toughness
main application	Stable machining, continuous cut	Hardness + / Toughness −
applicable	General machining, light interruption	
	Unstable machining, interrupted cut	Hardness − / Toughness +



	Chipbreaker	Type	Designation	RE		min	rec	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
FINISHING	PPF P M	DCET	070202R/L-PPF	RE 0.2	a_p ►	0.10	**0.40**	0.70									●				●	
					f_n ►	0.04	**0.07**	0.10														
			070204R/L-PPF	RE 0.4	a_p ►	0.10	**0.40**	0.70									●				●	
					f_n ►	0.04	**0.08**	0.12														
		DCET	11T302R/L-PPF	RE 0.2	a_p ►	0.10	**0.50**	0.90									●				●	
					f_n ►	0.04	**0.08**	0.12														
	ground chipbreaker, picture: right-hand		11T304R/L-PPF	RE 0.4	a_p ►	0.10	**0.50**	0.90									●				●	
					f_n ►	0.04	**0.09**	0.14														
	PFU P M S	DCMT	070202-PFU	RE 0.2	a_p ►	0.20	**0.80**	1.40				●	●		●	●	●				●	○
					f_n ►	0.04	**0.08**	0.12														
			070204-PFU	RE 0.4	a_p ►	0.20	**0.80**	1.40				●	●		●	●	●				●	●
					f_n ►	0.05	**0.11**	0.17														
		DCMT	11T302-PFU	RE 0.2	a_p ►	0.30	**1.00**	1.70				●	●		●	●	●				●	○
					f_n ►	0.05	**0.10**	0.15														
			11T304-PFU	RE 0.4	a_p ►	0.30	**1.00**	1.70			●	●	●		●	●	●				●	●
					f_n ►	0.06	**0.14**	0.22														
	sharp edge		11T308-PFU	RE 0.8	a_p ►	0.30	**1.00**	1.70			●	●	●		●	●	●				●	○
					f_n ►	0.08	**0.16**	0.24														
MEDIUM	PPM P M	DCET	070204R/L-PPM	RE 0.4	a_p ►	0.40	**1.00**	1.60									●				●	
					f_n ►	0.03	**0.06**	0.09														
		DCET	11T302R/L-PPM	RE 0.2	a_p ►	0.50	**1.50**	2.50									●				●	
					f_n ►	0.04	**0.06**	0.08														
	ground chipbreaker, picture: right-hand		11T304R/L-PPM	RE 0.4	a_p ►	0.50	**1.50**	2.50									●				●	
					f_n ►	0.04	**0.07**	0.10														
	PMU P M K	DCMT	070202-PMU	RE 0.2	a_p ►	0.50	**1.50**	2.50				●	●		○						●	○
					f_n ►	0.05	**0.10**	0.15														
			070204-PMU	RE 0.4	a_p ►	0.50	**1.50**	2.50	●			●	●		●		●				●	●
					f_n ►	0.06	**0.13**	0.20														
			070208-PMU	RE 0.8	a_p ►	0.50	**1.50**	2.50	●			○	●		○						●	
					f_n ►	0.08	**0.16**	0.24														
		DCMT	11T302-PMU	RE 0.2	a_p ►	0.60	**1.80**	3.00				●	●		●						●	○
					f_n ►	0.06	**0.13**	0.20														
			11T304-PMU	RE 0.4	a_p ►	0.60	**1.80**	3.00	●			●	●	●	●		●				●	●
					f_n ►	0.07	**0.16**	0.25														
			11T308-PMU	RE 0.8	a_p ►	0.60	**1.80**	3.00	●			●	●	●	●		●				●	○
					f_n ►	0.08	**0.19**	0.30														
		DCMT	150404-PMU	RE 0.4	a_p ►	0.80	**2.20**	3.60	○				●									
					f_n ►	0.08	**0.17**	0.26														
			150408-PMU	RE 0.8	a_p ►	0.80	**2.20**	3.60	○			●	●		●							
					f_n ►	0.10	**0.22**	0.32														
	general purpose		150412-PMU	RE 1.2	a_p ►	0.80	**2.20**	3.60					●		○							
					f_n ►	0.12	**0.24**	0.36														
	PMN N	DCGX	070202-PMN	RE 0.2	a_p ►	0.30	**1.50**	2.70											●			
					f_n ►	0.05	**0.10**	0.15														
			070204-PMN	RE 0.4	a_p ►	0.30	**1.50**	2.70										○	○	●		
					f_n ►	0.06	**0.13**	0.20														
			070208-PMN	RE 0.8	a_p ►	0.30	**1.50**	2.70										○	○	●		
					f_n ►	0.08	**0.16**	0.24														
		DCGX	11T302-PMN	RE 0.2	a_p ►	0.50	**2.00**	3.50										○	●			
					f_n ►	0.06	**0.11**	0.16														
			11T304-PMN	RE 0.4	a_p ►	0.50	**2.00**	3.50										●	●	●		
					f_n ►	0.08	**0.16**	0.24														
	polished surface		11T308-PMN	RE 0.8	a_p ►	0.50	**2.00**	3.50										●	●	●		
					f_n ►	0.10	**0.20**	0.30														



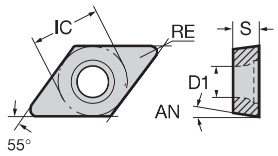


● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 107
HOLDERS INTERNAL p. 111

DC

CARBIDE
Positive



2 edges

Size	IC	S	D1	AN
0702□□	6.35	2.38	2.80	7°
11T3□□	9.525	3.97	4.40	7°
1504□□	12.70	4.76	5.50	7°

ISO513	JC7010 (HC-CVD)	JC7020 (HC-CVD)	JC8005 (HC-CVD)	JC8015 (HC-CVD)	JC8025 (HC-CVD)	JC9010 (HC-CVD)	JC9025 (HC-CVD)	JP5015 (HC-PVD)	JP5025 (HC-PVD)	JP6010 (HC-PVD)	JU6010 (HW)	JU6020 (HW)	JU4015 (HT)	JP4020 (HT)
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400
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		Hardness	Toughness
	Stable machining, continuous cut	+	–
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut	–	+

ROUGHING

PRU P K

reinforced edge

					JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
DCMT	11T304-PRU	RE 0.4	a_p ▸ 1.50 **2.50** 3.50	f_n ▸ 0.10 **0.19** 0.28	●				●									
	11T308-PRU	RE 0.8	a_p ▸ 1.50 **2.50** 3.50	f_n ▸ 0.12 **0.22** 0.32	●				●									

● stock standard

HOLDERS EXTERNAL p. 107

HOLDERS INTERNAL p. 111

TURNING

THREADING

GROOVING

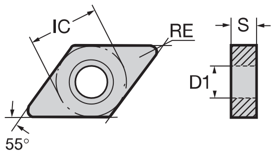
MILLING

DRILLING

ACCESSORIES

DN

CARBIDE Negative

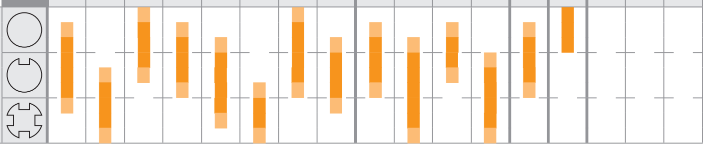


4 edges

Size	IC	S	D1
MICRO DN	7.00	3.18	3.60
1104□□	9.525	4.76	3.81
1506□□	12.70	6.35	5.16

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
	HC-CVD								HC-PVD				HW	HT
P			200 380	180 360	140 300	100 240			80 220	60 180				200 380
M							150 280	120 240	80 160	60 120	100 220	80 200		160 280
K	180 380	150 300								80 170				200 400
N													500 1500	
S									40 80					
H														

GRADE APPLICATION AREA		Hardness	Toughness
	Stable machining, continuous cut	+	−
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut	−	+



	Chipbreaker	Type	Designation	RE		min	opt	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
FINISHING	GB P M  MICRONEGA, picture: right-end	MICRO	DN.R04-GB R/L	RE 0.4	a_p ▸ f_n ▸	0.20 0.05	**0.50** **0.10**	0.80 0.15									▽					
	NSP P 	DNMG	110404-NSP	RE 0.4	a_p ▸ f_n ▸	0.30 0.06	**0.70** **0.12**	1.10 0.18				●	●									●
			110408-NSP	RE 0.8	a_p ▸ f_n ▸	0.30 0.08	**0.70** **0.16**	1.10 0.24				●	●									●
		DNMG	150604-NSP	RE 0.4	a_p ▸ f_n ▸	0.40 0.08	**1.20** **0.15**	2.00 0.22			●	●	●									●
			150608-NSP	RE 0.8	a_p ▸ f_n ▸	0.40 0.10	**1.20** **0.22**	2.00 0.34			●	●	●									●
	NFP P 	DNMG	110408-NFP	RE 0.8	a_p ▸ f_n ▸	0.50 0.07	**1.00** **0.14**	1.50 0.21				▽	▽									
	NFM M 	DNMG	110404-NFM	RE 0.4	a_p ▸ f_n ▸	0.30 0.05	**0.70** **0.10**	1.10 0.15											●			
			110408-NFM	RE 0.8	a_p ▸ f_n ▸	0.30 0.07	**0.70** **0.15**	1.10 0.23											●			
		DNMG	150604-NFM	RE 0.4	a_p ▸ f_n ▸	0.40 0.08	**1.20** **0.14**	2.00 0.20											●			
			150608-NFM	RE 0.8	a_p ▸ f_n ▸	0.40 0.10	**1.20** **0.20**	2.00 0.30											●			
MEDIUM	GM P M  MICRONEGA	MICRO	DN.R04-GM	RE 0.4	a_p ▸ f_n ▸	0.80 0.08	**1.60** **0.15**	2.40 0.22				○						●				▲
			DN.R08-GM	RE 0.8	a_p ▸ f_n ▸	0.80 0.10	**1.60** **0.17**	2.40 0.24										▽				
	SS M  MICRONEGA polished surface	MICRO	DN.R02-SS	RE 0.2	a_p ▸ f_n ▸	0.40 0.06	**1.20** **0.11**	2.00 0.16												●		
			DN.R04-SS	RE 0.4	a_p ▸ f_n ▸	0.40 0.08	**1.20** **0.14**	2.00 0.20												●		▲
	NMU P M  picture: right-hand	DNMG	150604R/L-NMU	RE 0.4	a_p ▸ f_n ▸	1.00 0.15	**2.50** **0.25**	4.00 0.35					●			●						
			150608R/L-NMU	RE 0.8	a_p ▸ f_n ▸	1.00 0.20	**2.50** **0.30**	4.00 0.40					●			●						

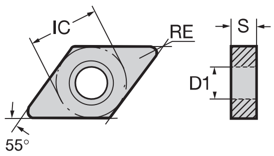
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

HOLDERS EXTERNAL ▶ p. 119

HOLDERS INTERNAL ▶ p. 123

DN

CARBIDE
Negative



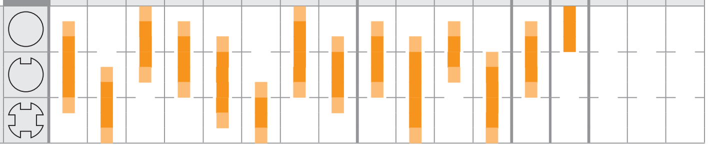
4 edges

Size	IC	S	D1
MICRO DN	7.00	3.18	3.60
1104□□	9.525	4.76	3.81
1506□□	12.70	6.35	5.16

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
	HC-CVD								HC-PVD				HW	HT
P			200 380	180 360	140 300	100 240			80 220	60 180				200 380
M							150 280	120 240	80 160	60 120	100 220	80 200		160 280
K	180 380	150 300								80 170				200 400
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

Hardness + / − ; Toughness − / +



MEDIUM

Chipbreaker	Type	Designation	RE	a_p	f_n	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
NMP P 	DNMG	110404-NMP	RE 0.4	1.00 **1.50** 2.00	0.10 **0.15** 0.20				●	●									
		110408-NMP	RE 0.8	1.00 **1.50** 2.00	0.15 **0.20** 0.25	●			●	●									
	DNMG	150604-NMP	RE 0.4	1.50 **2.50** 3.50	0.12 **0.20** 0.28				●	●									
		150608-NMP	RE 0.8	1.50 **2.50** 3.50	0.16 **0.25** 0.34				●	●									
		150612-NMP	RE 1.2	1.50 **2.50** 3.50	0.20 **0.30** 0.40				●	●									
		150616-NMP	RE 1.6	1.50 **2.50** 3.50	0.25 **0.35** 0.45				●	●									
NUP P M 	DNMG	110404-NUP	RE 0.4	0.70 **1.50** 2.30	0.08 **0.15** 0.22				●	●									●
		110408-NUP	RE 0.8	0.70 **1.50** 2.30	0.12 **0.20** 0.28				●	●									●
		110412-NUP	RE 1.2	0.70 **1.50** 2.30	0.15 **0.25** 0.35				●	●									
	DNMG	150604-NUP	RE 0.4	1.00 **2.50** 4.00	0.10 **0.20** 0.30			●	●	●			●						●
		150608-NUP	RE 0.8	1.00 **2.50** 4.00	0.15 **0.25** 0.35			●	●	●			●						●
		150612-NUP	RE 1.2	1.00 **2.50** 4.00	0.18 **0.30** 0.42			●	●	●			●						
NMM M 	DNMG	110404-NMM	RE 0.4	0.70 **1.50** 2.30	0.13 **0.20** 0.27								●				○		
		110408-NMM	RE 0.8	0.70 **1.50** 2.30	0.18 **0.25** 0.32								●				●		
	DNMG	150604-NMM	RE 0.4	1.00 **2.50** 4.00	0.15 **0.25** 0.35								●				●		
		150608-NMM	RE 0.8	1.00 **2.50** 4.00	0.20 **0.30** 0.40							●	●				●		
		150612-NMM	RE 1.2	1.00 **2.50** 4.00	0.25 **0.35** 0.45								●				●		
NMK K 	DNMG	150604-NMK	RE 0.4	0.50 **2.00** 3.50	0.10 **0.20** 0.30	●	○												
		150608-NMK	RE 0.8	0.50 **2.00** 3.50	0.15 **0.25** 0.35	●	○												
		150612-NMK	RE 1.2	0.50 **2.00** 3.50	0.20 **0.30** 0.40	○	○												
NMN N  polished surface	DNGG	150604-NMN	RE 0.4	0.50 **2.00** 3.50	0.10 **0.20** 0.30													●	
		150608-NMN	RE 0.8	0.50 **2.00** 3.50	0.15 **0.25** 0.35													●	

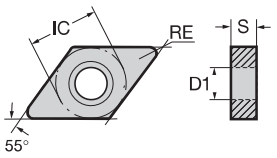
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 120

HOLDERS INTERNAL p. 125

DN

CARBIDE
Negative



4 edges

Size	IC	S	D1
MICRO DN	7.00	3.18	3.60
1104□□	9.525	4.76	3.81
1506□□	12.70	6.35	5.16

ISO513	HC-CVD								HC-PVD				HW	HT
	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
P			200 380	180 360	140 300	100 240			80 220	60 180				200 380
M							150 280	120 240	80 160	60 120	100 220	80 200		160 280
K	180 380	150 300								80 170				200 400
N													500 1500	
S									40 80					
H														

GRADE APPLICATION AREA	Stable machining, continuous cut	Hardness + / −	Toughness − / +
main application	General machining, light interruption		
applicable	Unstable machining, interrupted cut		

ROUGHING

				a_p ▸			f_n ▸			JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP5015	JP5025	JP9015	JP9030	JU6020	JU4015
NRP P	DNMG	150608-NRP	RE 0.8	2.00	**4.00**	6.00	0.25	**0.35**	0.45			●	●	●	●								
		150612-NRP	RE 1.2	2.00	**4.00**	6.00	0.30	**0.40**	0.50			●	●	●	●								
		150616-NRP	RE 1.6	2.00	**4.00**	6.00	0.35	**0.45**	0.55				●	●	●								
NTP P	DNMG	150612-NTP	RE 1.2	3.00	**5.00**	7.00	0.35	**0.45**	0.55					▽									
NRK K	DNMG	150608-NRK	RE 0.8	1.50	**4.00**	6.50	0.20	**0.30**	0.40	●	○												
		150612-NRK	RE 1.2	1.50	**4.00**	6.50	0.25	**0.35**	0.45	●	○												
Flat K	DNMA	150608	RE 0.8	2.00	**4.00**	6.00	0.25	**0.35**	0.45	●	○												
		150612	RE 1.2	2.00	**4.00**	6.00	0.35	**0.45**	0.55	●	○												

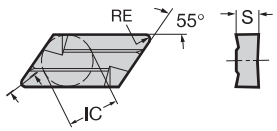
● stock standard, ○ non-standard stock, ▽ stock exhaustion

HOLDERS EXTERNAL p. 120

HOLDERS INTERNAL p. 125

KN

CARBIDE
Negative



2 edges

Size	IC	S
1604□□	9.525	4.76

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
	HC-CVD								HC-PVD		HW	HT
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	Hardness + / −	Toughness − / +
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut		

MEDIUM

11 P

picture: right-hand

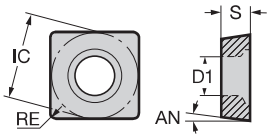
			a_p ▸			
KNUX	**160405$^{R}_{L}$-11**	RE 0.5	f_n ▸	1.00	**2.50**	4.00
				0.15	**0.25**	0.35
	160410$^{R}_{L}$-11	RE 1.0	a_p ▸	1.00	**2.50**	4.00
			f_n ▸	0.20	**0.30**	0.40

	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
KNUX 160405$^{R}_{L}$-11					●							
160410$^{R}_{L}$-11					●							

● stock standard

SC

CARBIDE
Positive



4 edges

Size	IC	S	D1	AN
09T3□□	9.525	3.97	4.40	7°
1204□□	12.70	4.76	5.50	7°

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
	HC-CVD							HC-PVD			HW		HT	
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400
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

Hardness + / − Toughness − / +

					a_p ▸ / f_n ▸				JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
MEDIUM	PMU P M K	SCMT	09T304-PMU	RE 0.4	a_p ▸	0.60	**1.80**	3.00	○			●	●	○	●						●	
					f_n ▸	0.07	**0.16**	0.25														
			09T308-PMU	RE 0.8	a_p ▸	0.60	**1.80**	3.00	●			●	●		●						○	
					f_n ▸	0.08	**0.19**	0.30														
		SCMT	120404-PMU	RE 0.4	a_p ▸	0.80	**2.20**	3.60				○	●									
					f_n ▸	0.08	**0.17**	0.26														
			120408-PMU	RE 0.8	a_p ▸	0.80	**2.20**	3.60	●			●	●		●							
					f_n ▸	0.10	**0.22**	0.32														
	PMN N	SCGX	09T304-PMN	RE 0.4	a_p ▸	0.50	**2.00**	3.50										○	○	●		
					f_n ▸	0.08	**0.16**	0.24														
			09T308-PMN	RE 0.8	a_p ▸	0.50	**2.00**	3.50										○	○	●		
					f_n ▸	0.10	**0.20**	0.30														
		SCGX	120404-PMN	RE 0.4	a_p ▸	0.50	**3.00**	5.50										○	○	●		
					f_n ▸	0.10	**0.20**	0.30														
			120408-PMN	RE 0.8	a_p ▸	0.50	**3.00**	5.50										○	○	●		
					f_n ▸	0.15	**0.25**	0.35														
ROUGHING	PRU P K	SCMT	09T308-PRU	RE 0.8	a_p ▸	1.50	**2.50**	3.50	●				●									
					f_n ▸	0.12	**0.22**	0.32														
		SCMT	120408-PRU	RE 0.8	a_p ▸	1.50	**3.00**	4.50	●				●									
					f_n ▸	0.14	**0.26**	0.38														


general purpose


polished surface


reinforced edge

● stock standard, ○ non-standard stock

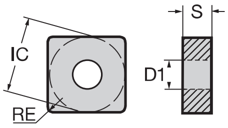
HOLDERS EXTERNAL p. 127

HOLDERS INTERNAL p. 128

nikkoTOOLS

SN

CARBIDE
Negative



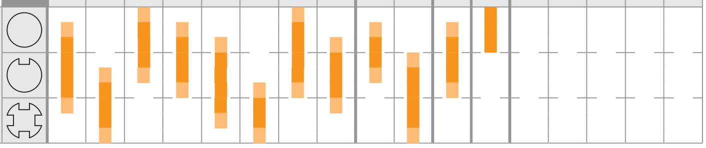
8 edges

Size	IC	S	D1
0903□□	9.525	3.18	3.81
1204□□	12.70	4.76	5.16
1906□□	19.05	6.35	7.94
2509□□	25.40	9.52	8.80

ISO513	JC7010 (HC-CVD)	JC7020 (HC-CVD)	JC8005 (HC-CVD)	JC8015 (HC-CVD)	JC8025 (HC-CVD)	JC8035 (HC-CVD)	JC9010 (HC-CVD)	JC9025 (HC-CVD)	JP9015 (HC-PVD)	JP9030 (HC-PVD)	JU6020 (HW)	JU4015 (HT)
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / – ; Toughness – / +



	Chipbreaker	Type	Designation	RE		min	std	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
FINISHING	NSP P	SNMG	120404-NSP	RE 0.4	a_p / f_n	0.40 / 0.08	**1.20** / **0.15**	2.00 / 0.22				●								
			120408-NSP	RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.22**	2.00 / 0.34				●								
	NFP P	SNMG	120404-NFP	RE 0.4	a_p / f_n	0.50 / 0.06	**1.50** / **0.12**	2.50 / 0.18				▽	▽							
			120408-NFP	RE 0.8	a_p / f_n	0.50 / 0.08	**1.50** / **0.17**	2.50 / 0.26				▽								
	NFM M	SNMG	120404-NFM	RE 0.4	a_p / f_n	0.40 / 0.08	**1.20** / **0.14**	2.00 / 0.20									●			
			120408-NFM	RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30									●			
MEDIUM	NMP P	SNMG	120404-NMP	RE 0.4	a_p / f_n	1.50 / 0.12	**2.50** / **0.20**	3.50 / 0.28				●	●							
			120408-NMP	RE 0.8	a_p / f_n	1.50 / 0.16	**2.50** / **0.25**	3.50 / 0.34				●	●							
			120412-NMP	RE 1.2	a_p / f_n	1.50 / 0.20	**2.50** / **0.30**	3.50 / 0.40				●	●							
			120416-NMP	RE 1.6	a_p / f_n	1.50 / 0.25	**2.50** / **0.35**	3.50 / 0.45				○	○							
	NUP P	SNMG	120404-NUP	RE 0.4	a_p / f_n	1.00 / 0.10	**2.50** / **0.20**	4.00 / 0.30				○	○							
			120408-NUP	RE 0.8	a_p / f_n	1.00 / 0.15	**2.50** / **0.25**	4.00 / 0.35				○	●							
			120412-NUP	RE 1.2	a_p / f_n	1.00 / 0.18	**2.50** / **0.30**	4.00 / 0.42				○	●							
			120416-NUP	RE 1.6	a_p / f_n	1.00 / 0.20	**2.50** / **0.35**	4.00 / 0.50				○	○							
	NMU P (picture: right-hand)	SNMG	120408R/L-NMU	RE 0.8	a_p / f_n	1.00 / 0.20	**2.50** / **0.30**	4.00 / 0.40					○							
	NMM M	SNMG	120404-NMM	RE 0.4	a_p / f_n	1.00 / 0.15	**2.50** / **0.25**	4.00 / 0.35								●		○		
			120408-NMM	RE 0.8	a_p / f_n	1.00 / 0.20	**2.50** / **0.30**	4.00 / 0.40								●		○		
			120412-NMM	RE 1.2	a_p / f_n	1.00 / 0.25	**2.50** / **0.35**	4.00 / 0.45								○		○		
			120416-NMM	RE 1.6	a_p / f_n	1.00 / 0.30	**2.50** / **0.40**	4.00 / 0.50								○		○		







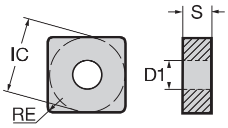
● stock standard, ○ non-standard stock, ▽ stock exhaustion

HOLDERS EXTERNAL p. 129
HOLDERS INTERNAL p. 133

nikkoTOOLS

SN

CARBIDE
Negative



8 edges

Size	IC	S	D1
0903□□	9.525	3.18	3.81
1204□□	12.70	4.76	5.16
1906□□	19.05	6.35	7.94
2509□□	25.40	9.52	8.80

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
	HC-CVD								HC-PVD		HW	HT
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		Hardness	Toughness
	Stable machining, continuous cut	+	−
main application	General machining, light interruption		
applicable	Unstable machining, interrupted cut	−	+

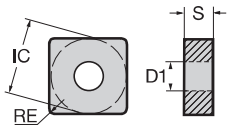
	Chipbreaker	Type	Insert	RE		min	mid	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
MEDIUM	NMM M 	SNMG	190612-NMM	RE 1.2	a_p ▸	3.00	**6.00**	9.00								○		○		
					f_n ▸	0.35	**0.45**	0.55												
			190616-NMM	RE 1.6	a_p ▸	3.00	**6.00**	9.00								○		○		
					f_n ▸	0.40	**0.50**	0.60												
	NMK K 	SNMG	120408-NMK	RE 0.8	a_p ▸	0.50	**2.00**	3.50	●	○										
					f_n ▸	0.15	**0.25**	0.35												
			120412-NMK	RE 1.2	a_p ▸	0.50	**2.00**	3.50	●	○										
					f_n ▸	0.20	**0.30**	0.40												
	NMN N  polished surface	SNGG	120404-NMN	RE 0.4	a_p ▸	0.50	**2.00**	3.50											●	
					f_n ▸	0.10	**0.20**	0.30												
			120408-NMN	RE 0.8	a_p ▸	0.50	**2.00**	3.50											●	
					f_n ▸	0.15	**0.25**	0.35												
			120412-NMN	RE 1.2	a_p ▸	0.50	**2.00**	3.50											●	
					f_n ▸	0.20	**0.30**	0.40												
ROUGHING	NRP P 	SNMG	120408-NRP	RE 0.8	a_p ▸	2.00	**4.00**	6.00					●	●						
					f_n ▸	0.25	**0.35**	0.45												
			120412-NRP	RE 1.2	a_p ▸	2.00	**4.00**	6.00					●	●						
					f_n ▸	0.30	**0.40**	0.50												
			120416-NRP	RE 1.6	a_p ▸	2.00	**4.00**	6.00					●	●						
					f_n ▸	0.35	**0.45**	0.55												
		SNMG	190612-NRP	RE 1.2	a_p ▸	6.00	**8.00**	10.0					○	○						
					f_n ▸	0.40	**0.55**	0.70												
			190616-NRP	RE 1.6	a_p ▸	6.00	**8.00**	10.0					●	●						
					f_n ▸	0.45	**0.60**	0.75												
			190624-NRP	RE 2.4	a_p ▸	6.00	**8.00**	10.0					●	●						
					f_n ▸	0.50	**0.65**	0.80												
	NTP P 	SNMG	120408-NTP	RE 0.8	a_p ▸	3.00	**5.00**	7.00				▽	▽							
					f_n ▸	0.30	**0.40**	0.50												
			120412-NTP	RE 1.2	a_p ▸	3.00	**5.00**	7.00				▽	▽							
					f_n ▸	0.35	**0.45**	0.55												
	NRK K 	SNMG	120408-NRK	RE 0.8	a_p ▸	1.50	**4.00**	6.50	●	○										
					f_n ▸	0.20	**0.30**	0.40												
			120412-NRK	RE 1.2	a_p ▸	1.50	**4.00**	6.50	●	○										
					f_n ▸	0.25	**0.35**	0.45												
			120416-NRK	RE 1.6	a_p ▸	1.50	**4.00**	6.50	●	●										
					f_n ▸	0.30	**0.40**	0.50												
		SNMG	190612-NRK	RE 1.2	a_p ▸	5.00	**8.00**	11.0	○	○										
					f_n ▸	0.45	**0.60**	0.75												
			190616-NRK	RE 1.6	a_p ▸	5.00	**8.00**	11.0	○	○										
					f_n ▸	0.50	**0.65**	0.80												

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

HOLDERS EXTERNAL ▸ p. 129
HOLDERS INTERNAL ▸ p. 133

SN

CARBIDE
Negative



8 edges

Size	IC	S	D1
0903□□	9.525	3.18	3.81
1204□□	12.70	4.76	5.16
1906□□	19.05	6.35	7.94
2509□□	25.40	9.52	8.80

ISO513	HC-CVD								HC-PVD		HW	HT
	JC7010	**JC7020**	**JC8005**	**JC8015**	**JC8025**	**JC8035**	**JC9010**	**JC9025**	**JP9015**	**JP9030**	**JU6020**	**JU4015**
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	Hardness + / −	Toughness − / +
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut		

ROUGHING

Flat K

4 edges, single side

		RE	a_p ▸			f_n ▸			HC-CVD								HC-PVD		HW	HT
									JC7010	**JC7020**	**JC8005**	**JC8015**	**JC8025**	**JC8035**	**JC9010**	**JC9025**	**JP9015**	**JP9030**	**JU6020**	**JU4015**
SNMA	**090308**	RE 0.8	1.00	**2.00**	3.00	0.22	**0.30**	0.38	○											
SNMA	**120408**	RE 0.8	2.00	**4.00**	6.00	0.25	**0.35**	0.45	●	○										
	120412	RE 1.2	2.00	**4.00**	6.00	0.35	**0.45**	0.55	●	○										
	120416	RE 1.6	2.00	**4.00**	6.00	0.45	**0.55**	0.65	●	○										

HEAVY ROUGHING

MRP P

4 edges, single side

		RE	a_p ▸			f_n ▸			HC-CVD								HC-PVD		HW	HT
									JC7010	**JC7020**	**JC8005**	**JC8015**	**JC8025**	**JC8035**	**JC9010**	**JC9025**	**JP9015**	**JP9030**	**JU6020**	**JU4015**
SNMM	**190616-MRP**	RE 1.6	6.00	**9.00**	12.0	0.60	**0.75**	0.90					○	○						
	190624-MRP	RE 2.4	6.00	**9.00**	12.0	0.65	**0.80**	0.95					●	●						
SNMM	**250924-MRP**	RE 2.4	8.00	**12.0**	16.0	0.70	**0.85**	1.00					●	●						

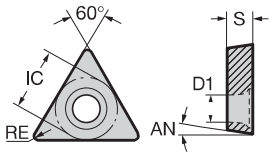
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 129

HOLDERS INTERNAL p. 133

TC

CARBIDE
Positive

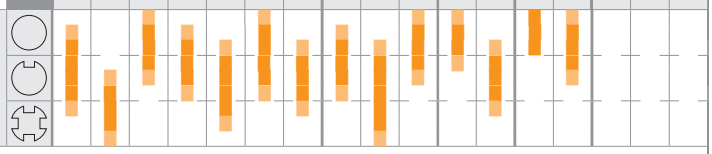


3 edges

Size	IC	S	D1	AN
0902□□	5.56	2.38	2.50	7°
1102□□	6.35	2.38	2.80	7°
16T3□□	9.525	3.97	4.40	7°
2204□□	12.70	4.76	5.50	7°

ISO513	HC-CVD							HC-PVD			HW		HT				
	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020			
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400			
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	Hardness + / −	Toughness − / +
main application	General machining, light interruption		
applicable	Unstable machining, interrupted cut		



					a_p ▸ f_n ▸				HC-CVD						HC-PVD			HW		HT			
									JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020	
FINISHING	PFU P M S	TCMT	110202-PFU	RE 0.2		0.20	**0.80**	1.40 0.12				●	●		●	●	●				●	○	
	sharp edge		110204-PFU	RE 0.4		0.20 0.05	**0.80** **0.11**	1.40 0.17				●	●		●	●	●				●	●	
MEDIUM	PMU P M K	TCMT	090204-PMU	RE 0.4		0.50 0.05	**1.00** **0.09**	1.50 0.13	●			●	●		●						●		
			110202-PMU	RE 0.2		0.50 0.05	**1.50** **0.10**	2.50 0.15				○	●		●		▽				●	○	
			110204-PMU	RE 0.4		0.50 0.06	**1.50** **0.13**	2.50 0.20	●			●	●	●	●		●				●	●	
			110208-PMU	RE 0.8		0.50 0.08	**1.50** **0.16**	2.50 0.24	●			●	●		●						●		
		TCMT	16T304-PMU	RE 0.4		0.60 0.07	**1.80** **0.16**	3.00 0.25	●			●	●		●		●				●		
			16T308-PMU	RE 0.8		0.60 0.08	**1.80** **0.19**	3.00 0.30	●	●		●	●		●		●				●		
			16T312-PMU	RE 1.2		0.60 0.10	**1.80** **0.22**	3.00 0.34	●				○										
	general purpose	TCMT	220408-PMU	RE 0.8		0.80 0.10	**2.20** **0.22**	3.60 0.32	○				●										
	PMN N	TCGX	090204-PMN	RE 0.4		0.30 0.05	**1.00** **0.11**	1.70 0.17										○	○	●			
		TCGX	110202-PMN	RE 0.2		0.30 0.05	**1.50** **0.10**	2.70 0.15										○	●				
			110204-PMN	RE 0.4		0.30 0.06	**1.50** **0.13**	2.70 0.20										○	○	●			
			110208-PMN	RE 0.8		0.30 0.08	**1.50** **0.16**	2.70 0.24										○	○	●			
		TCGX	16T302-PMN	RE 0.2		0.50 0.06	**2.00** **0.11**	3.50 0.16										○	●				
			16T304-PMN	RE 0.4		0.50 0.08	**2.00** **0.16**	3.50 0.24										○	○	●			
	polished surface		16T308-PMN	RE 0.8		0.50 0.10	**2.00** **0.20**	3.50 0.30										○	○	●			
ROUGHING	PRU P K	TCMT	16T304-PRU	RE 0.4		1.50 0.10	**2.50** **0.19**	3.50 0.28	●				●										
	reinforced edge		16T308-PRU	RE 0.8		1.50 0.12	**2.50** **0.22**	3.50 0.32	●				●										

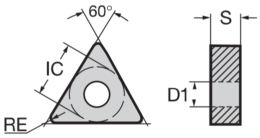
● stock standard, ○ non-standard stock, ▽ stock exhaustion

HOLDERS EXTERNAL p. 135

HOLDERS INTERNAL p. 138

TN

CARBIDE
Negative



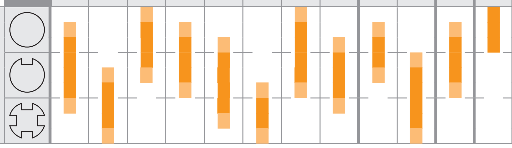
6 edges

Size	IC	S	D1
1604□□	9.525	4.76	3.81
2204□□	12.70	4.76	5.16

ISO513	JC7010 (HC-CVD)	JC7020 (HC-CVD)	JC8005 (HC-CVD)	JC8015 (HC-CVD)	JC8025 (HC-CVD)	JC8035 (HC-CVD)	JC9010 (HC-CVD)	JC9025 (HC-CVD)	JP9015 (HC-PVD)	JP9030 (HC-PVD)	JU6020 (HW)	JU4015 (HT)
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / − ; Toughness − / +



FINISHING

NSP P

Type	Designation	RE		min	rec.	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
TNMG	160404-NSP	RE 0.4	a_p / f_n	0.40 / 0.08	**1.20** / **0.15**	2.00 / 0.22			●	●	●							●
	160408-NSP	RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.22**	2.00 / 0.34			●	●	●							●

NFP P

Type	Designation	RE		min	rec.	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
TNMG	160408-NFP	RE 0.8	a_p / f_n	0.50 / 0.08	**1.50** / **0.17**	2.50 / 0.26				▽								

NFM M

Type	Designation	RE		min	rec.	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
TNMG	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									●			

MEDIUM

NMP P

Type	Designation	RE		min	rec.	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
TNMG	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				●	●							
TNMG	220408-NMP	RE 0.8	a_p / f_n	3.00 / 0.20	**4.50** / **0.30**	6.00 / 0.40				○	●							
	220412-NMP	RE 1.2	a_p / f_n	3.00 / 0.25	**4.50** / **0.35**	6.00 / 0.45				●	●							

NUP P M

Type	Designation	RE		min	rec.	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
TNMG	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			●	●	●			●				
TNMG	220408-NUP	RE 0.8	a_p / f_n	2.00 / 0.18	**4.50** / **0.30**	7.00 / 0.42				○	○							
	220412-NUP	RE 1.2	a_p / f_n	2.00 / 0.22	**4.50** / **0.35**	7.00 / 0.48				○	○							
	220416-NUP	RE 1.6	a_p / f_n	2.00 / 0.24	**4.50** / **0.40**	7.00 / 0.56				○	○							

NMU P M

picture: right-hand

Type	Designation	RE		min	rec.	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
TNMG	160404R/L-NMU	RE 0.4	a_p / f_n	1.00 / 0.15	**2.50** / **0.25**	4.00 / 0.35				○	●			●				
	160408R/L-NMU	RE 0.8	a_p / f_n	1.00 / 0.20	**2.50** / **0.30**	4.00 / 0.40				○	●			●				

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

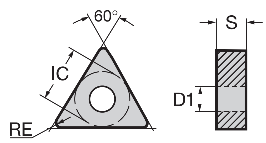
HOLDERS EXTERNAL p. 142

HOLDERS INTERNAL p. 145

nikkoTOOLS

TN

CARBIDE
Negative



6 edges

Size	IC	S	D1
1604□□	9.525	4.76	3.81
2204□□	12.70	4.76	5.16

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
	HC-CVD								HC-PVD		HW	HT
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / − ; Toughness − / +

	Chipbreaker	Type	Code	RE					JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
MEDIUM	NMM M 	TNMG	160404-NMM	RE 0.4	a_p ▸	1.00	**2.50**	4.00							●	●	●	●		▽
					f_n ▸	0.15	**0.25**	0.35												
			160408-NMM	RE 0.8	a_p ▸	1.00	**2.50**	4.00							●	●	●	●		▽
					f_n ▸	0.20	**0.30**	0.40												
			160412-NMM	RE 1.2	a_p ▸	1.00	**2.50**	4.00							●	●		○		
					f_n ▸	0.25	**0.35**	0.45												
		TNMG	220408-NMM	RE 0.8	a_p ▸	2.00	**4.50**	7.00								○		○		
					f_n ▸	0.25	**0.35**	0.45												
			220412-NMM	RE 1.2	a_p ▸	2.00	**4.50**	7.00								○		○		
					f_n ▸	0.30	**0.40**	0.50												
			220416-NMM	RE 1.6	a_p ▸	2.00	**4.50**	7.00								○		○		
					f_n ▸	0.35	**0.45**	0.55												
	NMK K 	TNMG	160404-NMK	RE 0.4	a_p ▸	0.50	**2.00**	3.50	●	○										
					f_n ▸	0.10	**0.20**	0.30												
			160408-NMK	RE 0.8	a_p ▸	0.50	**2.00**	3.50	●	○										
					f_n ▸	0.15	**0.25**	0.35												
			160412-NMK	RE 1.2	a_p ▸	0.50	**2.00**	3.50	●	○										
					f_n ▸	0.20	**0.30**	0.40												
			160416-NMK	RE 1.6	a_p ▸	0.50	**2.00**	3.50	○	○										
					f_n ▸	0.25	**0.35**	0.45												
		TNMG	220408-NMK	RE 0.8	a_p ▸	2.00	**4.00**	6.00	○	○										
					f_n ▸	0.25	**0.35**	0.45												
			220412-NMK	RE 1.2	a_p ▸	2.00	**4.00**	6.00	●	○										
					f_n ▸	0.30	**0.40**	0.50												
			220416-NMK	RE 1.6	a_p ▸	2.00	**4.00**	6.00	●	○										
					f_n ▸	0.35	**0.45**	0.55												
	NMN N  polished surface	TNGG	160404-NMN	RE 0.4	a_p ▸	0.50	**2.00**	3.50											●	
					f_n ▸	0.10	**0.20**	0.30												
			160408-NMN	RE 0.8	a_p ▸	0.50	**2.00**	3.50											●	
					f_n ▸	0.15	**0.25**	0.35												
			160412-NMN	RE 1.2	a_p ▸	0.50	**2.00**	3.50											●	
					f_n ▸	0.20	**0.30**	0.40												
ROUGHING	NRP P 	TNMG	160408-NRP	RE 0.8	a_p ▸	2.00	**4.00**	6.00					●	●						
					f_n ▸	0.25	**0.35**	0.45												
			160412-NRP	RE 1.2	a_p ▸	2.00	**4.00**	6.00					●	●						
					f_n ▸	0.30	**0.40**	0.50												
		TNMG	220412-NRP	RE 1.2	a_p ▸	4.00	**6.00**	8.00					●	●						
					f_n ▸	0.35	**0.50**	0.65												
			220416-NRP	RE 1.6	a_p ▸	4.00	**6.00**	8.00					●	●						
					f_n ▸	0.40	**0.55**	0.70												
	NRK K 	TNMG	160408-NRK	RE 0.8	a_p ▸	1.50	**4.00**	6.50	●	○										
					f_n ▸	0.20	**0.30**	0.40												
			160412-NRK	RE 1.2	a_p ▸	1.50	**4.00**	6.50	●	○										
					f_n ▸	0.25	**0.35**	0.45												
		TNMG	220408-NRK	RE 0.8	a_p ▸	3.00	**6.00**	9.00	○	○										
					f_n ▸	0.35	**0.50**	0.65												
			220412-NRK	RE 1.2	a_p ▸	3.00	**6.00**	9.00	○	○										
					f_n ▸	0.40	**0.55**	0.70												
			220416-NRK	RE 1.6	a_p ▸	3.00	**6.00**	9.00	○	○										
					f_n ▸	0.45	**0.60**	0.75												

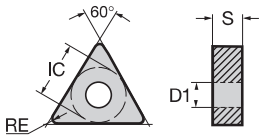
● stock standard, ○ non-standard stock, ▽ stock exhaustion

HOLDERS EXTERNAL p. 142

HOLDERS INTERNAL p. 145

TN

CARBIDE
Negative



6 edges

Size	IC	S	D1
1604□□	9.525	4.76	3.81
2204□□	12.70	4.76	5.16

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
	HC-CVD								HC-PVD		HW	HT
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	Hardness + / −	Toughness − / +
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut		

ROUGHING

Flat K

				a_p ▸			f_n ▸			JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
TNMA	**160404**	RE 0.4		2.00	**4.00**	6.00	0.15	**0.25**	0.35	○	○										
	160408	RE 0.8		2.00	**4.00**	6.00	0.25	**0.35**	0.45	●	●										
	160412	RE 1.2		2.00	**4.00**	6.00	0.35	**0.45**	0.55	●	○										
	160416	RE 1.6		2.00	**4.00**	6.00	0.45	**0.55**	0.65	●	○										
TNMA	**220408**	RE 0.8		4.00	**7.00**	10.0	0.35	**0.50**	0.65	●	○										
	220412	RE 1.2		4.00	**7.00**	10.0	0.45	**0.60**	0.75	●	○										
	220416	RE 1.6		4.00	**7.00**	10.0	0.50	**0.65**	0.80	○	○										

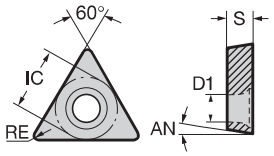
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 142

HOLDERS INTERNAL p. 145

TP

CARBIDE
Positive



3 edges

Size	IC	S	D1	AN
0902□□	5.56	2.38	3.00	11°
1103□□	6.35	3.18	3.40	11°

ISO513	HC-CVD							HC-PVD			HW		HT				
	JC7010	**JC7020**	**JC8005**	**JC8015**	**JC8025**	**JC9010**	**JC9025**	**JP5015**	**JP5025**	**JP6010**	**JU6010**	**JU6020**	**JU4015**	**JP4020**			
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400			
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	Hardness + / −	Toughness − / +
main application	General machining, light interruption		
applicable	Unstable machining, interrupted cut		

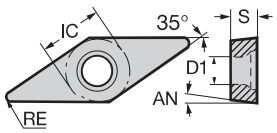
FINISHING	**PPF** P M	**TPEH**	**090202$^{R}_{L}$-PPF**	RE 0.2	a_p ▸	0.10	**0.30**	0.50								●				●				
	ground chipbreaker, picture: right-hand				f_n ▸	0.03	**0.06**	0.09																
			090204$^{R}_{L}$-PPF	RE 0.4	a_p ▸	0.10	**0.30**	0.50								●				●				
					f_n ▸	0.04	**0.07**	0.10																
		TPEH	**110302$^{R}_{L}$-PPF**	RE 0.2	a_p ▸	0.10	**0.40**	0.70								●				●				
					f_n ▸	0.04	**0.07**	0.10																
			110304$^{R}_{L}$-PPF	RE 0.4	a_p ▸	0.10	**0.40**	0.70								●				●				
					f_n ▸	0.04	**0.08**	0.12																
MEDIUM	**PPM** P M	**TPEH**	**110304$^{R}_{L}$-PPM**	RE 0.4	a_p ▸	0.40	**1.00**	1.60								●				●				
	ground chipbreaker, picture: right-hand				f_n ▸	0.03	**0.06**	0.09																

● stock standard

HOLDERS INTERNAL
p. 148

VB

CARBIDE
Positive



2 edges

Size	IC	S	D1	AN
1103□□	6.35	3.18	2.80	5°
1604□□	9.525	4.76	4.40	5°

ISO513	HC-CVD							HC-PVD			HW		HT				
	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020			
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400			
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	Hardness + / −	Toughness − / +
main application	General machining, light interruption		
applicable	Unstable machining, interrupted cut		

FINISHING	PPF P M  ground chipbreaker, picture: right-hand	VBET	110302R/L-PPF	RE 0.2	a_p ▸ 0.10 **0.40** 0.70 f_n ▸ 0.04 **0.07** 0.10									●				●			
			110304R/L-PPF	RE 0.4	a_p ▸ 0.10 **0.40** 0.70 f_n ▸ 0.04 **0.08** 0.12									●				●			
	PFU P M S  sharp edge	VBMT	110304-PFU	RE 0.4	a_p ▸ 0.20 **0.80** 1.40 f_n ▸ 0.05 **0.11** 0.17									●	●				●	○	
		VBMT	160404-PFU	RE 0.4	a_p ▸ 0.30 **1.00** 1.70 f_n ▸ 0.06 **0.14** 0.22			●	●	●		●		●	●				●	●	
			160408-PFU	RE 0.8	a_p ▸ 0.30 **1.00** 1.70 f_n ▸ 0.08 **0.16** 0.24			●	●	●		●		●	●				●	○	
MEDIUM	PPM P M  ground chipbreaker, picture: right-hand	VBET	110302R/L-PPM	RE 0.2	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.03 **0.05** 0.07										●				●			
			110304R/L-PPM	RE 0.4	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.03 **0.06** 0.09										●				●			
	PMU P M K  general purpose	VBMT	160404-PMU	RE 0.4	a_p ▸ 0.60 **1.80** 3.00 f_n ▸ 0.07 **0.16** 0.25	●			●	●		●		●				●			
			160408-PMU	RE 0.8	a_p ▸ 0.60 **1.80** 3.00 f_n ▸ 0.08 **0.19** 0.30	●			●	●		●		●				●			
ROUGHING	PRU P K  reinforced edge	VBMT	160408-PRU	RE 0.8	a_p ▸ 1.50 **2.50** 3.50 f_n ▸ 0.12 **0.22** 0.32	●				●											

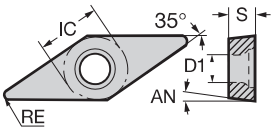
● stock standard

HOLDERS EXTERNAL p. 149

HOLDERS INTERNAL p. 152

VC

CARBIDE
Positive



2 edges

Size	IC	S	D1	AN
1103□□	6.35	3.18	2.80	7°
1604□□	9.525	4.76	4.40	7°
2205□□	12.70	5.56	5.50	7°

GRADE APPLICATION AREA	Stable machining, continuous cut	Hardness + / −	Toughness − / +
main application	General machining, light interruption		
applicable	Unstable machining, interrupted cut		

ISO513	HC-CVD							HC-PVD			HW		HT				
	JC7010	**JC7020**	**JC8005**	**JC8015**	**JC8025**	**JC9010**	**JC9025**	**JP5015**	**JP5025**	**JP6010**	**JU6010**	**JU6020**	**JU4015**	**JP4020**			
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400			
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																	

MEDIUM	**PMU** P M K  general purpose	**VCMT**	**110304-PMU**	RE 0.4	a_p ▸ 0.50 **1.50** 2.50 f_n ▸ 0.06 **0.13** 0.20	●			●	●		●						●				
		VCMT	**160404-PMU**	RE 0.4	a_p ▸ 0.60 **1.80** 3.00 f_n ▸ 0.07 **0.16** 0.25	●			●	●		●						●				
			160408-PMU	RE 0.8	a_p ▸ 0.60 **1.80** 3.00 f_n ▸ 0.08 **0.19** 0.30	●			●	●		●		▽				●				
	PMN N  polished surface	**VCGX**	**110302-PMN**	RE 0.2	a_p ▸ 0.30 **1.50** 2.70 f_n ▸ 0.05 **0.10** 0.15											●						
			110304-PMN	RE 0.4	a_p ▸ 0.30 **1.50** 2.70 f_n ▸ 0.06 **0.13** 0.20										○	○	●					
			110308-PMN	RE 0.8	a_p ▸ 0.30 **1.50** 2.70 f_n ▸ 0.08 **0.16** 0.24										○	●	●					
		VCGX	**160402-PMN**	RE 0.2	a_p ▸ 0.50 **2.00** 3.50 f_n ▸ 0.06 **0.11** 0.16										○	●						
			160404-PMN	RE 0.4	a_p ▸ 0.50 **2.00** 3.50 f_n ▸ 0.08 **0.16** 0.24										○	●	●					
			160408-PMN	RE 0.8	a_p ▸ 0.50 **2.00** 3.50 f_n ▸ 0.10 **0.20** 0.30										○	○	●					
			160412-PMN	RE 1.2	a_p ▸ 0.50 **2.00** 3.50 f_n ▸ 0.12 **0.24** 0.36										○		●					
		VCGX	**220512-PMN**	RE 1.6	a_p ▸ 1.00 **3.00** 5.00 f_n ▸ 0.14 **0.27** 0.40										○		○					
			220516-PMN	RE 1.6	a_p ▸ 1.00 **3.00** 5.00 f_n ▸ 0.14 **0.30** 0.46										○		●					
			220530-PMN	RE 3.0	a_p ▸ 1.00 **3.00** 5.00 f_n ▸ 0.20 **0.40** 0.60										●	●	●					
ROUGHING	**PRU** P K  reinforced edge	**VCMT**	**160404-PRU**	RE 0.4	a_p ▸ 1.50 **2.50** 3.50 f_n ▸ 0.10 **0.19** 0.28	●				●												
			160408-PRU	RE 0.8	a_p ▸ 1.50 **2.50** 3.50 f_n ▸ 0.12 **0.22** 0.32	●				●												

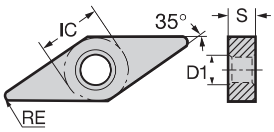
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 153

HOLDERS INTERNAL p. 157

VN

CARBIDE
Negative



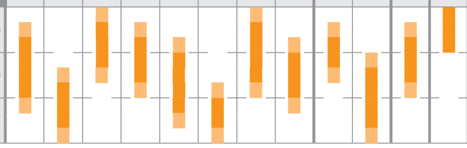
4 edges

Size	IC	S	D1
1604□□	9.525	4.76	3.81

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
			HC-CVD						HC-PVD		HW	HT
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

Hardness + / −, Toughness − / +



FINISHING

Chipbreaker		Designation	RE					JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
NSP P 	VNMG	160404-NSP	RE 0.4	a_p ▸	0.40	**1.20**	2.00			●	●	●							●
				f_n ▸	0.08	**0.15**	0.22												
		160408-NSP	RE 0.8	a_p ▸	0.40	**1.20**	2.00			●	●	●							●
				f_n ▸	0.10	**0.22**	0.34												
NFP P 	VNMG	160408-NFP	RE 0.8	a_p ▸	0.50	**1.50**	2.50				▽								
				f_n ▸	0.08	**0.17**	0.26												
NFM M 	VNMG	160404-NFM	RE 0.4	a_p ▸	0.40	**1.20**	2.00									●			
				f_n ▸	0.08	**0.14**	0.20												
		160408-NFM	RE 0.8	a_p ▸	0.40	**1.20**	2.00									●			
				f_n ▸	0.10	**0.20**	0.30												

MEDIUM

Chipbreaker		Designation	RE					JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
NMP P 	VNMG	160404-NMP	RE 0.4	a_p ▸	1.50	**2.50**	3.50				●	●							▽
				f_n ▸	0.12	**0.20**	0.28												
		160408-NMP	RE 0.8	a_p ▸	1.50	**2.50**	3.50				●	●							▽
				f_n ▸	0.16	**0.25**	0.34												
		160412-NMP	RE 1.2	a_p ▸	1.50	**2.50**	3.50				●	●							
				f_n ▸	0.20	**0.30**	0.40												
NUP P 	VNMG	160404-NUP	RE 0.4	a_p ▸	1.00	**2.50**	4.00				○	○							●
				f_n ▸	0.10	**0.20**	0.30												
		160408-NUP	RE 0.8	a_p ▸	1.00	**2.50**	4.00				●	●							●
				f_n ▸	0.15	**0.25**	0.35												
		160412-NUP	RE 1.2	a_p ▸	1.00	**2.50**	4.00				○	○							
				f_n ▸	0.18	**0.30**	0.42												
NMM M 	VNMG	160404-NMM	RE 0.4	a_p ▸	1.00	**2.50**	4.00								●		○		▽
				f_n ▸	0.15	**0.25**	0.35												
		160408-NMM	RE 0.8	a_p ▸	1.00	**2.50**	4.00								○		○		▽
				f_n ▸	0.20	**0.30**	0.40												
NMK K 	VNMG	160404-NMK	RE 0.4	a_p ▸	0.50	**2.00**	3.50	●	○										
				f_n ▸	0.10	**0.20**	0.30												
		160408-NMK	RE 0.8	a_p ▸	0.50	**2.00**	3.50	●	○										
				f_n ▸	0.15	**0.25**	0.35												
		160412-NMK	RE 1.2	a_p ▸	0.50	**2.00**	3.50	●	○										
				f_n ▸	0.20	**0.30**	0.40												

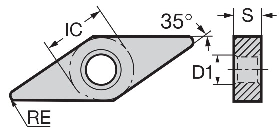
● stock standard, ○ non-standard stock, ▽ stock exhaustion

HOLDERS EXTERNAL p. 161
HOLDERS INTERNAL p. 163

nikkoTOOLS

VN

CARBIDE
Negative

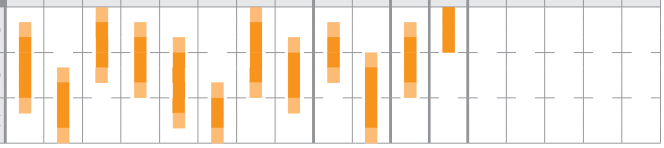


4 edges

Size	IC	S	D1
1604□□	9.525	4.76	3.81

ISO513	HC-CVD JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	HC-PVD JP9015	JP9030	HW JU6020	HT JU4015					
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		Hardness	Toughness
	Stable machining, continuous cut	+	–
■ main application	General machining, light interruption	Hardness	Toughness
■ applicable	Unstable machining, interrupted cut	–	+



						JC7010	JC7020	JU6020
MEDIUM	NMN N, polished surface	VNGG	160404-NMN	RE 0.4	a_p▸ 0.50 **2.00** 3.50 f_n▸ 0.10 **0.20** 0.30			●
			160408-NMN	RE 0.8	a_p▸ 0.50 **2.00** 3.50 f_n▸ 0.15 **0.25** 0.35			●
ROUGHING	NRK K	VNMG	160408-NRK	RE 0.8	a_p▸ 1.50 **4.00** 6.50 f_n▸ 0.20 **0.30** 0.40	○	○	
			160412-NRK	RE 1.2	a_p▸ 1.50 **4.00** 6.50 f_n▸ 0.25 **0.35** 0.45	○	○	

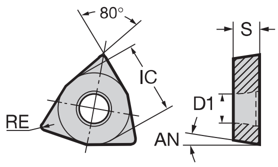
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 161
HOLDERS INTERNAL p. 163

nikkoTOOLS

WC

CARBIDE Positive



3 edges

Size	IC	S	D1	AN
12T3□□	9.525	3.97	4.40	7°

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
	HC-CVD							HC-PVD			HW		HT	
P			200 380	180 360	140 300			80 220	60 180				200 380	200 400
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / −; Toughness − / +

MEDIUM

PMU P M K

general purpose

		RE					JC7010	JC7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP5015	JP5025	JP6010	JU6010	JU6020	JU4015	JP4020
WCMT	12T304-PMU	RE 0.4	a_p ▸ / f_n ▸	0.60 / 0.07	**1.80** / **0.16**	3.00 / 0.25	●			●	●		●						●	
	12T308-PMU	RE 0.8	a_p ▸ / f_n ▸	0.60 / 0.08	**1.80** / **0.19**	3.00 / 0.30	●			●	●		●						●	

● stock standard

HOLDERS INTERNAL p. 165

nikkoTOOLS

TURNING

THREADING

GROOVING

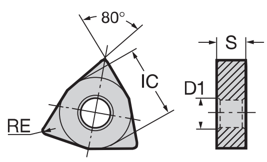
MILLING

DRILLING

ACCESSORIES

WN

CARBIDE
Negative



6 edges

Size	IC	S	D1
0604□□	9.525	4.76	3.81
0804□□	12.70	4.76	5.16

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
	HC-CVD								HC-PVD		HW	HT
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness (+ / –), Toughness (– / +)

Section	Geometry	Type	Code	RE		min		max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
FINISHING	NSP P 	WNMG	060404-NSP	RE 0.4	a_p ▸ f_n ▸	0.30 0.06	**0.70** **0.12**	1.10 0.18				●	○							●
			060408-NSP	RE 0.8	a_p ▸ f_n ▸	0.30 0.08	**0.70** **0.16**	1.10 0.24				●	○							●
		WNMG	080404-NSP	RE 0.4	a_p ▸ f_n ▸	0.40 0.08	**1.20** **0.15**	2.00 0.22			●	●	●							●
			080408-NSP	RE 0.8	a_p ▸ f_n ▸	0.40 0.10	**1.20** **0.22**	2.00 0.34			●	●	●							●
	NFP P 	WNMG	060404-NFP	RE 0.4	a_p ▸ f_n ▸	0.50 0.05	**1.00** **0.10**	1.50 0.15				▽								
			060408-NFP	RE 0.8	a_p ▸ f_n ▸	0.50 0.07	**1.00** **0.14**	1.50 0.21				▽								
		WNMG	080404-NFP	RE 0.4	a_p ▸ f_n ▸	0.50 0.06	**1.50** **0.12**	2.50 0.18				▽								
			080408-NFP	RE 0.8	a_p ▸ f_n ▸	0.50 0.08	**1.50** **0.17**	2.50 0.26				▽								
	NFM M 	WNMG	060404-NFM	RE 0.4	a_p ▸ f_n ▸	0.30 0.05	**0.70** **0.10**	1.10 0.15									●			
			060408-NFM	RE 0.8	a_p ▸ f_n ▸	0.30 0.07	**0.70** **0.15**	1.10 0.23									●			
		WNMG	080404-NFM	RE 0.4	a_p ▸ f_n ▸	0.40 0.08	**1.20** **0.14**	2.00 0.20									●			
			080408-NFM	RE 0.8	a_p ▸ f_n ▸	0.40 0.10	**1.20** **0.20**	2.00 0.30									●			
MEDIUM	NMP P 	WNMG	060404-NMP	RE 0.4	a_p ▸ f_n ▸	1.00 0.10	**1.50** **0.15**	2.00 0.20				●	●							
			060408-NMP	RE 0.8	a_p ▸ f_n ▸	1.00 0.15	**1.50** **0.20**	2.00 0.25				●	●							
		WNMG	080404-NMP	RE 0.4	a_p ▸ f_n ▸	1.50 0.12	**2.50** **0.20**	3.50 0.28				●	●							▽
			080408-NMP	RE 0.8	a_p ▸ f_n ▸	1.50 0.16	**2.50** **0.25**	3.50 0.34				●	●							▽
			080412-NMP	RE 1.2	a_p ▸ f_n ▸	1.50 0.20	**2.50** **0.30**	3.50 0.40				●	●							
			080416-NMP	RE 1.6	a_p ▸ f_n ▸	1.50 0.25	**2.50** **0.35**	3.50 0.45				●	●							
	NUP P M 	WNMG	060404-NUP	RE 0.4	a_p ▸ f_n ▸	0.70 0.08	**1.50** **0.15**	2.30 0.22				●	●							●
			060408-NUP	RE 0.8	a_p ▸ f_n ▸	0.70 0.12	**1.50** **0.20**	2.30 0.28			○	●	●							●
		WNMG	080404-NUP	RE 0.4	a_p ▸ f_n ▸	1.00 0.10	**2.50** **0.20**	4.00 0.30			●	●	●			●				●
			080408-NUP	RE 0.8	a_p ▸ f_n ▸	1.00 0.15	**2.50** **0.25**	4.00 0.35			●	●	●			●				●
			080412-NUP	RE 1.2	a_p ▸ f_n ▸	1.00 0.18	**2.50** **0.30**	4.00 0.42			●	●	●			●				
			080416-NUP	RE 1.6	a_p ▸ f_n ▸	1.00 0.20	**2.50** **0.35**	4.00 0.50			●	●	●							
	NMM M 	WNMG	060404-NMM	RE 0.4	a_p ▸ f_n ▸	0.70 0.13	**1.50** **0.20**	2.30 0.27							●	●		○		
			060408-NMM	RE 0.8	a_p ▸ f_n ▸	0.70 0.18	**1.50** **0.25**	2.30 0.32							●	●		●		
			060412-NMM	RE 1.2	a_p ▸ f_n ▸	0.70 0.20	**1.50** **0.28**	2.30 0.36								●		●		

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

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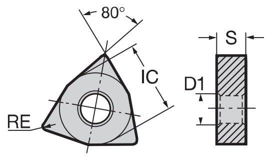
HOLDERS INTERNAL p. 169

nikkoTOOLS

WN

CARBIDE
Negative



6 edges

Size	IC	S	D1
0604□□	9.525	4.76	3.81
0804□□	12.70	4.76	5.16

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
			HC-CVD						HC-PVD		HW	HT
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		Hardness	Toughness
	Stable machining, continuous cut	+	−
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut	−	+

	Chipbreaker		Designation	RE		min	rec.	max	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015
MEDIUM	NMM M 	WNMG	080404-NMM	RE 0.4	a_p f_n	1.00 0.15	**2.50** **0.25**	4.00 0.35							●	●	●	●		▽
			080408-NMM	RE 0.8	a_p f_n	1.00 0.20	**2.50** **0.30**	4.00 0.40							●	●	●	●		▽
			080412-NMM	RE 1.2	a_p f_n	1.00 0.25	**2.50** **0.35**	4.00 0.45							●	●	○	●		
	NMK K 	WNMG	080404-NMK	RE 0.4	a_p f_n	0.50 0.10	**2.00** **0.20**	3.50 0.30	●	○										
			080408-NMK	RE 0.8	a_p f_n	0.50 0.15	**2.00** **0.25**	3.50 0.35	●	●										
			080412-NMK	RE 1.2	a_p f_n	0.50 0.20	**2.00** **0.30**	3.50 0.40	●	●										
	NWU P K  wiper edge	WNMG	080408-NWU	RE 0.8	a_p f_n	0.80 0.20	**2.00** **0.40**	3.20 0.60	●				●							●
			080412-NWU	RE 1.2	a_p f_n	0.80 0.25	**2.00** **0.45**	3.20 0.65	●				●							●
	NMN N  polished surface	WNGG	060404-NMN	RE 0.4	a_p f_n	0.30 0.08	**1.00** **0.15**	1.70 0.22											●	
			060408-NMN	RE 0.8	a_p f_n	0.30 0.10	**1.00** **0.20**	1.70 0.30											●	
		WNGG	080404-NMN	RE 0.4	a_p f_n	0.50 0.10	**2.00** **0.20**	3.50 0.30											●	
			080408-NMN	RE 0.8	a_p f_n	0.50 0.15	**2.00** **0.25**	3.50 0.35											●	
			080412-NMN	RE 1.2	a_p f_n	0.50 0.20	**2.00** **0.30**	3.50 0.40											●	
ROUGHING	NRP P 	WNMG	080408-NRP	RE 0.8	a_p f_n	2.00 0.25	**4.00** **0.35**	6.00 0.45			●	●	●	●						
			080412-NRP	RE 1.2	a_p f_n	2.00 0.30	**4.00** **0.40**	6.00 0.50			●	●	●	●						
			080416-NRP	RE 1.6	a_p f_n	2.00 0.35	**4.00** **0.45**	6.00 0.55				●	●	●						
	NTP P 	WNMG	080408-NTP	RE 0.8	a_p f_n	3.00 0.30	**5.00** **0.40**	7.00 0.50				▽	▽							

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

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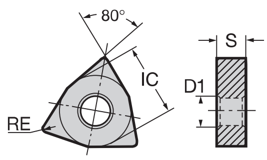
HOLDERS INTERNAL p. 169

WN

CARBIDE
Negative

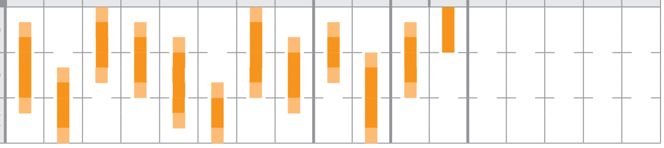


6 edges

Size	IC	S	D1
0604□□	9.525	4.76	3.81
0804□□	12.70	4.76	5.16

ISO513	JC7010	JC7020	JC8005	JC8015	JC8025	JC8035	JC9010	JC9025	JP9015	JP9030	JU6020	JU4015					
	HC-CVD								HC-PVD		HW	HT					
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		Hardness	Toughness
■ main application	Stable machining, continuous cut	+	−
■ applicable	General machining, light interruption		
	Unstable machining, interrupted cut	−	+



ROUGHING

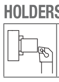
NRK K

		RE					JC7010	JC7020
WNMG	060408-NRK	RE 0.8	a_p ▸ / f_n ▸	1.00 / 0.15	**2.00** / **0.25**	3.00 / 0.35	●	●
WNMG	080408-NRK	RE 0.8	a_p ▸ / f_n ▸	1.50 / 0.20	**4.00** / **0.30**	6.50 / 0.40	●	●
	080412-NRK	RE 1.2	a_p ▸ / f_n ▸	1.50 / 0.25	**4.00** / **0.35**	6.50 / 0.45	●	●

Flat K

		RE					JC7010	JC7020
WNMA	080408	RE 0.8	a_p ▸ / f_n ▸	2.00 / 0.25	**4.00** / **0.35**	6.00 / 0.45	●	○
	080412	RE 1.2	a_p ▸ / f_n ▸	2.00 / 0.35	**4.00** / **0.45**	6.00 / 0.55	●	○
	080416	RE 1.6	a_p ▸ / f_n ▸	2.00 / 0.45	**4.00** / **0.55**	6.00 / 0.65	●	○

● stock standard, ○ non-standard stock

HOLDERS EXTERNAL

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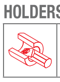
HOLDERS INTERNAL

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TURNING PCBN

	MATERIAL	OPERATION	CONDITION	EDGE PREP.	GRADE	Vc (m/min)	fn (mm/rev)	COOLANT
H	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		
			✱	RE	NBL350C	80 **120** 160	0.06 **0.16** 0.26	
	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	60 **110** 160	0.06 **0.14** 0.22	
		roughing ap > 0.5 mm **SOLID PCBN**	○○	UE	NBH900U	100 **140** 180	0.15 **0.30** 0.45	
			✱	UE	NBH950U	80 **120** 160	0.10 **0.25** 0.40	
	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	
		roughing ap > 0.5 mm **SOLID PCBN**	○◔	UE	NBH900U	60 **100** 140	0.10 **0.30** 0.50	
			✱	UE	NBH950U	40 **80** 120	0.10 **0.25** 0.40	
	High speed steel	finishing ap < 0.5 mm	○	UE	NBL150C	100 **120** 140	0.05 **0.08** 0.11	
	White cast iron	finishing ap < 0.5 mm	○○	UE	NBH500C	60 **120** 180	0.10 **0.30** 0.50	
			✱	UE	NBH900U	40 **80** 120	0.10 **0.25** 0.40	
		roughing ap > 0.5 mm **SOLID PCBN**	○◔	UE	NBH500C	60 **90** 120	0.20 **0.40** 0.60	
			✱	UE	NBH950U	40 **60** 80	0.20 **0.35** 0.50	
K	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		
	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

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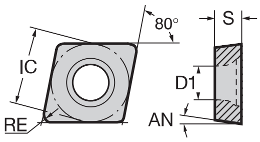
CC

PCBN
Positive



2 edges

Size	IC	S	D1	AN
MICRO CC	3.50	1.40	1.90	7°
0602□□	6.35	2.38	2.80	7°
09T3□□	9.525	3.97	4.40	7°

ISO513	BL: NBL050C	BL: NBL150C	BL: NBL250C	BL: NBL350C	BH: NBH450C	BH: NBH500C	BH: NBH900U	BH: NBH950U	
P		80 240			140 300				◄ SINTERED POWDER METAL
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness (+ / –), Toughness (– / +)

SHARP

SE H

MICROBORING, full face

Type	Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
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								

SE H

Type	Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
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								
CCGW	09T302S-SE-2S	RE 0.2	a_p ▸	0.05	**0.10**	0.15	○	●						
			f_n ▸	0.04	**0.06**	0.08								
	09T304S-SE-2S	RE 0.4	a_p ▸	0.05	**0.10**	0.15	●	●						
			f_n ▸	0.04	**0.08**	0.12								
	09T308S-SE-2S	RE 0.8	a_p ▸	0.05	**0.10**	0.15		●						
			f_n ▸	0.05	**0.10**	0.15								

UNIVERSAL

UE H

Type	Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
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								
CCGW	09T302S-UE-2S	RE 0.2	a_p ▸	0.06	**0.13**	0.20	○	●						
			f_n ▸	0.05	**0.10**	0.15								
	09T304S-UE-2S	RE 0.4	a_p ▸	0.06	**0.13**	0.20	●	●	●					
			f_n ▸	0.06	**0.12**	0.18								
	09T308S-UE-2S	RE 0.8	a_p ▸	0.06	**0.13**	0.20		●	●					
			f_n ▸	0.06	**0.13**	0.20								

UE K H

tip with carbide backed

Type	Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
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								
CCGW	09T304S-UE-2C	RE 0.4	a_p ▸	0.06	**0.13**	0.20					●			
			f_n ▸	0.06	**0.12**	0.18								
	09T308S-UE-2C	RE 0.8	a_p ▸	0.06	**0.13**	0.20					●			
			f_n ▸	0.06	**0.13**	0.20								

REINFORCED

RE H

Type	Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
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								
CCGW	09T304S-RE-2S	RE 0.4	a_p ▸	0.08	**0.16**	0.25				●				
			f_n ▸	0.06	**0.13**	0.20								
	09T308S-RE-2S	RE 0.8	a_p ▸	0.08	**0.16**	0.25				○				
			f_n ▸	0.06	**0.14**	0.22								

WIPER

WE H

Type	Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
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

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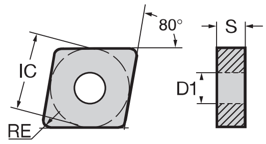
HOLDERS INTERNAL ▶ p. 89

CN

PCBN
Negative



4 edges

Size	IC	S	D1
MICRO CN	7.50	3.18	3.60
0903□□	9.525	3.18	-
1204□□	12.70	4.76	(5.16)
1207□□	12.70	7.94	-

ISO513	BL: NBL050C	BL: NBL150C	BL: NBL250C	BL: NBL350C	BH: NBH450C	BH: NBH500C	BH: NBH900U	BH: NBH950U
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

◄ SINTERED POWDER METAL

GRADE APPLICATION AREA	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / – ; Toughness – / +

	Insert		Designation	RE					NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
SHARP	SE H, MICRONEGA, vertical	MICRO	CN.R02S-SE-4V	RE 0.2	a_p / f_n	0.06 / 0.05	**0.13** / **0.10**	0.20 / 0.15		▲						
			CN.R04S-SE-4V	RE 0.4	a_p / f_n	0.06 / 0.06	**0.13** / **0.12**	0.20 / 0.18		▲						
			CN.R08S-SE-4V	RE 0.8	a_p / f_n	0.06 / 0.06	**0.13** / **0.13**	0.20 / 0.20		▲						
	SE H, vertical	CNGA	120404S-SE-4V	RE 0.4	a_p / f_n	0.06 / 0.06	**0.13** / **0.12**	0.20 / 0.18	○	○						
			120408S-SE-4V	RE 0.8	a_p / f_n	0.06 / 0.06	**0.13** / **0.13**	0.20 / 0.20	●	●						
			120412S-SE-4V	RE 1.2	a_p / f_n	0.06 / 0.06	**0.13** / **0.14**	0.20 / 0.22	○	○						
UNIVERSAL	UE K H, MICRONEGA, vertical	MICRO	CN.R02S-UE-4V	RE 0.2	a_p / f_n	0.07 / 0.06	**0.16** / **0.12**	0.25 / 0.18			▲		▲			
			CN.R04S-UE-4V	RE 0.4	a_p / f_n	0.07 / 0.08	**0.16** / **0.14**	0.25 / 0.20			▲		▲			
			CN.R08S-UE-4V	RE 0.8	a_p / f_n	0.07 / 0.08	**0.16** / **0.15**	0.25 / 0.22			▲		▲			
	UE K H, vertical	CNGA	120404S-UE-4V	RE 0.4	a_p / f_n	0.07 / 0.08	**0.16** / **0.14**	0.25 / 0.20	●	●	●					
			120408S-UE-4V	RE 0.8	a_p / f_n	0.07 / 0.08	**0.16** / **0.15**	0.25 / 0.22	●	●	●			●		
			120412S-UE-4V	RE 1.2	a_p / f_n	0.07 / 0.08	**0.16** / **0.16**	0.25 / 0.24	●	●	●			●		
	UE K H, solid	CNGA	120408S-UE	RE 0.8	a_p / f_n	1.00 / 0.10	**2.00** / **0.20**	3.00 / 0.30						○		
			120412S-UE	RE 1.2	a_p / f_n	1.00 / 0.10	**2.00** / **0.22**	3.00 / 0.35						●		
	UE K H, solid, without hole	CNGN	090308S-UE	RE 0.8	a_p / f_n	0.50 / 0.10	**1.50** / **0.20**	2.50 / 0.30							●	
			090312S-UE	RE 1.2	a_p / f_n	0.50 / 0.10	**1.50** / **0.22**	2.50 / 0.35							●	
			090316S-UE	RE 1.6	a_p / f_n	0.50 / 0.10	**1.50** / **0.25**	2.50 / 0.40							○	
		CNGN	120408S-UE	RE 0.8	a_p / f_n	1.00 / 0.10	**2.00** / **0.20**	3.00 / 0.30							●	
			120412S-UE	RE 1.2	a_p / f_n	1.00 / 0.10	**2.00** / **0.22**	3.00 / 0.35							●	
			120416S-UE	RE 1.6	a_p / f_n	1.00 / 0.10	**2.00** / **0.25**	3.00 / 0.40							○	





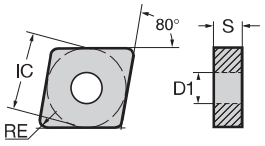

● stock standard, ○ non-standard stock, ▲ upcoming introduction

HOLDERS EXTERNAL p. 96

HOLDERS INTERNAL p. 102

CN

PCBN
Negative



4 edges

Size	IC	S	D1
MICRO CN	7.50	3.18	3.60
0903□□	9.525	3.18	-
1204□□	12.70	4.76	(5.16)
1207□□	12.70	7.94	-

ISO513	BL NBL050C	BL NBL150C	BL NBL250C	BL NBL350C	BH NBH450C	BH NBH500C	BH NBH900U	BH NBH950U
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

◀ SINTERED POWDER METAL

GRADE APPLICATION AREA	Stable machining, continuous cut	Hardness + / −	Toughness − / +
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut		

					a_p ▸			
					f_n ▸			
UNIVERSAL	UE K H	CNGX	120712S-UE	RE 1.2		1.00	**2.00**	3.00
						0.10	**0.22**	0.35
	solid, with dimple		120716S-UE	RE 1.6		1.00	**2.00**	3.00
						0.10	**0.25**	0.40
REINFORCED	RE K H	CNGA	120404S-RE-4V	RE 0.4		0.08	**0.17**	0.26
						0.08	**0.14**	0.20
	vertical		120408S-RE-4V	RE 0.8		0.08	**0.17**	0.26
						0.08	**0.16**	0.24
			120412S-RE-4V	RE 1.2		0.08	**0.17**	0.26
						0.08	**0.17**	0.26
WIPER	WE H	CNGA	120404S-WE-4V	RE 0.4		0.07	**0.16**	0.25
						0.10	**0.17**	0.24
	vertical		120408S-WE-4V	RE 0.8		0.07	**0.16**	0.25
						0.10	**0.19**	0.28
			120412S-WE-4V	RE 1.2		0.07	**0.16**	0.25
						0.10	**0.20**	0.30

	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
UNIVERSAL 120712S-UE						○		
UNIVERSAL 120716S-UE						○		
REINFORCED 120404S-RE-4V				○			●	
REINFORCED 120408S-RE-4V				●			●	
REINFORCED 120412S-RE-4V				●			●	
WIPER 120404S-WE-4V	○	○	○					
WIPER 120408S-WE-4V	●	●	●					
WIPER 120412S-WE-4V	●	●	●					

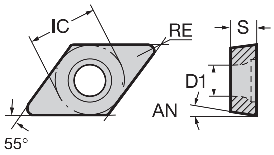
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 97

HOLDERS INTERNAL p. 104

DC

PCBN
Positive



2 edges

Size	IC	S	D1	AN
0702□□	6.35	2.38	2.80	7°
11T3□□	9.525	3.97	4.40	7°

ISO513	BL: NBL050C	BL: NBL150C	BL: NBL250C	BL: NBL350C	BH: NBH450C	BH: NBH500C	BH: NBH900U	BH: NBH950U
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

◄ SINTERED POWDER METAL

GRADE APPLICATION AREA		Hardness	Toughness
GRADE APPLICATION AREA	Stable machining, continuous cut	+	–
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut	–	+

Type		Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
SHARP SE H	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	a_p f_n	0.05 0.04	**0.10** **0.08**	0.15 0.12	●	●						
		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 UE H	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 UE K H (tip with carbide backed)	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 RE H	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				●				

tip with carbide backed

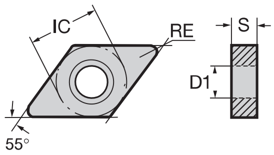
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 107

HOLDERS INTERNAL p. 111

DN

PCBN
Negative



4 edges

Size	IC	S	D1
MICRO DN	7.00	3.18	3.60
1504□□	12.70	4.76	5.16
1506□□	12.70	6.35	5.16

ISO513	NBL050C (BL)	NBL150C (BL)	NBL250C (BL)	NBL350C (BL)	NBH450C (BH)	NBH500C (BH)	NBH900U (BH)	NBH950U (BH)	
P		80 240			140 300				◄ SINTERED POWDER METAL
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		Hardness + / −	Toughness − / +
■ main application	Stable machining, continuous cut		
■ applicable	General machining, light interruption		
	Unstable machining, interrupted cut		

SHARP

Geometry	Type	Designation	RE		ap / fn	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
SE H – MICRONEGA, vertical	MICRO	DN.R02S-SE-4V	RE 0.2	a_p ►	0.06 **0.13** 0.20		▲						
				f_n ►	0.05 **0.10** 0.15								
		DN.R04S-SE-4V	RE 0.4	a_p ►	0.06 **0.13** 0.20		▲						
				f_n ►	0.06 **0.12** 0.18								
		DN.R08S-SE-4V	RE 0.8	a_p ►	0.06 **0.13** 0.20		▲						
				f_n ►	0.06 **0.13** 0.20								
SE H – vertical	DNGA	150404S-SE-4V	RE 0.4	a_p ►	0.06 **0.13** 0.20	○	○						
				f_n ►	0.06 **0.12** 0.18								
		150408S-SE-4V	RE 0.8	a_p ►	0.06 **0.13** 0.20	○	○						
				f_n ►	0.06 **0.13** 0.20								
SE H	DNGA	150604S-SE-4S	RE 0.4	a_p ►	0.06 **0.13** 0.20	○	○						
				f_n ►	0.06 **0.12** 0.18								
		150608S-SE-4S	RE 0.8	a_p ►	0.06 **0.13** 0.20	○	○						
				f_n ►	0.06 **0.13** 0.20								



UNIVERSAL

Geometry	Type	Designation	RE		ap / fn	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
UE K H – MICRONEGA, vertical	MICRO	DN.R02S-UE-4V	RE 0.2	a_p ►	0.07 **0.16** 0.25			▲		▲			
				f_n ►	0.06 **0.12** 0.18								
		DN.R04S-UE-4V	RE 0.4	a_p ►	0.07 **0.16** 0.25			▲		▲			
				f_n ►	0.08 **0.14** 0.20								
		DN.R08S-UE-4V	RE 0.8	a_p ►	0.07 **0.16** 0.25			▲		▲			
				f_n ►	0.08 **0.15** 0.22								
UE K H – vertical	DNGA	150404S-UE-4V	RE 0.4	a_p ►	0.07 **0.16** 0.25		○	●					
				f_n ►	0.08 **0.14** 0.20								
		150408S-UE-4V	RE 0.8	a_p ►	0.07 **0.16** 0.25		○	●					
				f_n ►	0.08 **0.15** 0.22								
	DNGA	150604S-UE-4V	RE 0.4	a_p ►	0.07 **0.16** 0.25							●	
				f_n ►	0.08 **0.14** 0.20								
		150608S-UE-4V	RE 0.8	a_p ►	0.07 **0.16** 0.25						●	●	
				f_n ►	0.08 **0.15** 0.22								
		150612S-UE-4V	RE 1.2	a_p ►	0.07 **0.16** 0.25							●	
				f_n ►	0.08 **0.16** 0.24								
UE H	DNGA	150604S-UE-4S	RE 0.4	a_p ►	0.07 **0.16** 0.25	○	●	●					
				f_n ►	0.08 **0.14** 0.20								
		150608S-UE-4S	RE 0.8	a_p ►	0.07 **0.16** 0.25	○	●	●					
				f_n ►	0.08 **0.15** 0.22								
		150612S-UE-4S	RE 1.2	a_p ►	0.07 **0.16** 0.25	○	○	○					
				f_n ►	0.08 **0.16** 0.24								



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

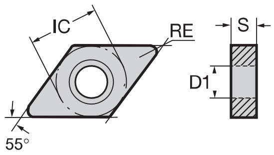
HOLDERS EXTERNAL ► p. 119
HOLDERS INTERNAL ► p. 123

nikkoTOOLS

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

DN

PCBN
Negative



4 edges

Size	IC	S	D1
MICRO DN	7.00	3.18	3.60
1504□□	12.70	4.76	5.16
1506□□	12.70	6.35	5.16

ISO513	NBL050C (BL)	NBL150C (BL)	NBL250C (BL)	NBL350C (BL)	NBH450C (BH)	NBH500C (BH)	NBH900U (BH)	NBH950U (BH)	
P		80 240			140 300				◄ SINTERED POWDER METAL
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + –
Toughness – +

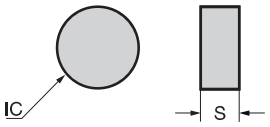
REINFORCED						NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
RE H	DNGA	150604S-RE-4S	RE 0.4	a_p► 0.08 **0.17** 0.26	f_n► 0.08 **0.14** 0.20				○				
		150608S-RE-4S	RE 0.8	a_p► 0.08 **0.17** 0.26	f_n► 0.08 **0.16** 0.24				○				
		150612S-RE-4S	RE 1.2	a_p► 0.08 **0.17** 0.26	f_n► 0.08 **0.17** 0.26				○				

○ non-standard stock

HOLDERS EXTERNAL p. 120
HOLDERS INTERNAL p. 125

RN

PCBN
Negative



Size	IC	S
0603□□	6.35	3.18
0903□□	9.525	3.18
1203□□	12.70	3.18
1204□□	12.70	4.76

ISO513	BL NBL050C	BL NBL150C	BL NBL250C	BL NBL350C	BH NBH450C	BH NBH500C	BH NBH900U	BH NBH950U
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

◀ SINTERED POWDER METAL

GRADE APPLICATION AREA	Stable machining, continuous cut	Hardness + / −	Toughness − / +
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut		

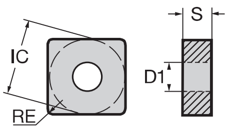
					a_p ▸ f_n ▸							
SHARP	SE K H	 solid	RNGN	090300T-SE	-	0.20 0.10	**1.50** **0.20**	2.80 0.40			●		
UNIVERSAL	UE K H	 solid	RNGN	060300S-UE	-	0.50 0.10	**1.50** **0.20**	2.50 0.30			●		
			RNGN	090300S-UE	-	0.50 0.10	**2.00** **0.30**	3.50 0.50			●	●	●
			RNGN	120300S-UE	-	0.50 0.10	**2.50** **0.40**	4.50 0.70				●	●
			RNGN	120400S-UE	-	0.50 0.10	**2.50** **0.40**	4.50 0.70			●	●	●
REINFORCED	RE K H	 solid	RNGN	120400S-RE	-	1.00 0.10	**3.00** **0.45**	5.00 0.80				●	○

● stock standard, ○ non-standard stock

nikkoTOOLS

SN

PCBN
Negative



8 edges

Size	IC	S	D1
0903□□	9.525	3.18	-
1204□□	12.70	4.76	(5.16)
1207□□	12.70	7.94	-

ISO513	NBL050C (BL)	NBL150C (BL)	NBL250C (BL)	NBL350C (BL)	NBH450C (BH)	NBH500C (BH)	NBH900U (BH)	NBH950U (BH)	
P		80 240			140 300				◄ SINTERED POWDER METAL
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		Hardness	Toughness
■ main application	Stable machining, continuous cut	+	−
■ applicable	General machining, light interruption		
	Unstable machining, interrupted cut	−	+

UNIVERSAL

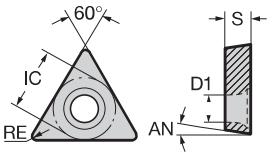
Insert	Type	Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
UE K H  vertical	SNGA	120404S-UE-8V	RE 0.4	a_p▸ / f_n▸	0.07 / 0.08	**0.16** / **0.14**	0.25 / 0.20							●	
		120408S-UE-8V	RE 0.8	a_p▸ / f_n▸	0.07 / 0.08	**0.16** / **0.15**	0.25 / 0.22		○	○				●	
		120412S-UE-8V	RE 1.2	a_p▸ / f_n▸	0.07 / 0.08	**0.16** / **0.16**	0.25 / 0.24							●	
UE K H  solid	SNGA	120412S-UE	RE 1.2	a_p▸ / f_n▸	1.00 / 0.10	**2.00** / **0.22**	3.00 / 0.35						●		
UE K H  solid, without hole	SNGN	090308S-UE	RE 0.8	a_p▸ / f_n▸	0.50 / 0.10	**1.50** / **0.20**	2.50 / 0.30							●	
		090312S-UE	RE 1.2	a_p▸ / f_n▸	0.50 / 0.10	**1.50** / **0.22**	2.50 / 0.35							●	
		090316S-UE	RE 1.6	a_p▸ / f_n▸	0.50 / 0.10	**1.50** / **0.25**	2.50 / 0.40							●	
	SNGN	120408S-UE	RE 0.8	a_p▸ / f_n▸	1.00 / 0.10	**2.00** / **0.20**	3.00 / 0.30							●	
		120412S-UE	RE 1.2	a_p▸ / f_n▸	1.00 / 0.10	**2.00** / **0.22**	3.00 / 0.35							●	
		120416S-UE	RE 1.6	a_p▸ / f_n▸	1.00 / 0.10	**2.00** / **0.25**	3.00 / 0.40							○	
UE K H  solid,with dimple	SNGX	120712S-UE	RE 1.2	a_p▸ / f_n▸	1.00 / 0.10	**2.00** / **0.22**	3.00 / 0.35						○		
		120716S-UE	RE 1.6	a_p▸ / f_n▸	1.00 / 0.10	**2.00** / **0.25**	3.00 / 0.40						○		

● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 129
HOLDERS INTERNAL p. 133

TC

PCBN
Positive



3 edges

Size	IC	S	D1	AN
1102□□	6.35	2.38	2.80	7°
16T3□□	9.525	3.97	4.40	7°

ISO513	BL NBL050C	BL NBL150C	BL NBL250C	BL NBL350C	BH NBH450C	BH NBH500C	BH NBH900U	BH NBH950U
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

◀ SINTERED POWDER METAL

GRADE APPLICATION AREA	Stable machining, continuous cut	Hardness + / −	Toughness − / +
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut		

					a_p ▸ / f_n ▸				BL 050C	BL 150C	BL 250C	BL 350C	BH 450C	BH 500C	BH 900U	BH 950U
SHARP	SE H	TCGW	110204S-SE-3S	RE 0.4		0.05	**0.10**	0.15	○	○						
						0.04	**0.08**	0.12								
			110208S-SE-3S	RE 0.8		0.05	**0.10**	0.15		○						
						0.05	**0.10**	0.15								
		TCGW	16T304S-SE-3S	RE 0.4		0.05	**0.10**	0.15	○	○						
						0.05	**0.10**	0.15								
			16T308S-SE-3S	RE 0.8		0.05	**0.10**	0.15		○						
						0.05	**0.10**	0.15								
UNIVERSAL	UE H	TCGW	110204S-UE-3S	RE 0.4		0.06	**0.13**	0.20	○	○	●					
						0.06	**0.12**	0.18								
			110208S-UE-3S	RE 0.8		0.06	**0.13**	0.20		○	●					
						0.06	**0.13**	0.20								
		TCGW	16T304S-UE-3S	RE 0.4		0.06	**0.13**	0.20	○	○	●					
						0.06	**0.12**	0.18								
			16T308S-UE-3S	RE 0.8		0.06	**0.13**	0.20		○	●					
						0.06	**0.13**	0.20								
	UE K H	TCGW	110204S-UE-3C	RE 0.4		0.06	**0.13**	0.20					●	○		
						0.06	**0.12**	0.18								
			110208S-UE-3C	RE 0.8		0.06	**0.13**	0.20					●	○		
						0.06	**0.13**	0.20								
		TCGW	16T304S-UE-3C	RE 0.4		0.06	**0.13**	0.20					●			
						0.06	**0.12**	0.18								
	tip with carbide backed		16T308S-UE-3C	RE 0.8		0.06	**0.13**	0.20					●	○		
						0.06	**0.13**	0.20								
REINFORCED	RE H	TCGW	110204S-RE-3S	RE 0.4		0.08	**0.16**	0.25				○				
						0.06	**0.13**	0.20								
			110208S-RE-3S	RE 0.8		0.08	**0.16**	0.25				○				
						0.06	**0.14**	0.22								
		TCGW	16T304S-RE-3S	RE 0.4		0.08	**0.16**	0.25				○				
						0.06	**0.13**	0.20								
			16T308S-RE-3S	RE 0.8		0.08	**0.16**	0.25				○				
						0.06	**0.14**	0.22								
	RE K H	TCGW	110208S-RE-3C	RE 0.8		0.08	**0.16**	0.25					●*	●*		
						0.06	**0.14**	0.22								
	tip with carbide backed	TCGW	16T308S-RE-3C	RE 0.8		0.08	**0.16**	0.25					○*	○*		
						0.06	**0.14**	0.22								

● stock standard, ○ non-standard stock

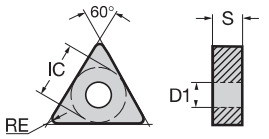
* uncoated (NBH450U / NBH500U)

HOLDERS EXTERNAL p. 135

HOLDERS INTERNAL p. 138

TN

PCBN
Negative



6 edges

Size	IC	S	D1
1604□□	9.525	4.76	(3.81)

ISO513	BL NBL050C	BL NBL150C	BL NBL250C	BL NBL350C	BH NBH450C	BH NBH500C	BH NBH900U	BH NBH950U
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

◄ SINTERED POWDER METAL

GRADE APPLICATION AREA	Stable machining, continuous cut
main application	General machining, light interruption
applicable	Unstable machining, interrupted cut

Hardness + / − Toughness − / +

SHARP	SE H  vertical	TNGA	160404S-SE-6V	RE 0.4	a_p ▸ 0.06 **0.13** 0.20 f_n ▸ 0.06 **0.12** 0.18	○	○							
			160408S-SE-6V	RE 0.8	a_p ▸ 0.06 **0.13** 0.20 f_n ▸ 0.06 **0.13** 0.20	○	○							
			160412S-SE-6V	RE 1.2	a_p ▸ 0.06 **0.13** 0.20 f_n ▸ 0.06 **0.14** 0.22	○	○							
UNIVERSAL	UE K H  vertical	TNGA	160404S-UE-6V	RE 0.4	a_p ▸ 0.07 **0.16** 0.25 f_n ▸ 0.08 **0.14** 0.20	●	●	●			●	●		
			160408S-UE-6V	RE 0.8	a_p ▸ 0.07 **0.16** 0.25 f_n ▸ 0.08 **0.15** 0.22	●	●	●			●	●		
			160412S-UE-6V	RE 1.2	a_p ▸ 0.07 **0.16** 0.25 f_n ▸ 0.08 **0.16** 0.24	○	○	○			○	●		
	UE K H  solid, without hole	TNGN	160408S-UE	RE 0.8	a_p ▸ 1.00 **2.00** 3.00 f_n ▸ 0.10 **0.20** 0.30							●		
REINFORCED	RE H  vertical	TNGA	160404S-RE-6V	RE 0.4	a_p ▸ 0.08 **0.17** 0.26 f_n ▸ 0.08 **0.14** 0.20				○					
			160408S-RE-6V	RE 0.8	a_p ▸ 0.08 **0.17** 0.26 f_n ▸ 0.08 **0.16** 0.24				○					
			160412S-RE-6V	RE 1.2	a_p ▸ 0.08 **0.17** 0.26 f_n ▸ 0.08 **0.17** 0.26				○					

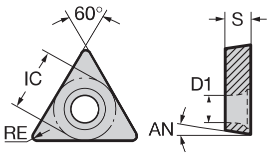
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 142

HOLDERS INTERNAL p. 145

TP

PCBN
Positive



3 edges

Size	IC	S	D1	AN
0902□□	5.56	2.38	3.00	11°
1103□□	6.35	3.18	3.30	11°

ISO513	BL: NBL050C	BL: NBL150C	BL: NBL250C	BL: NBL350C	BH: NBH450C	BH: NBH500C	BH: NBH900U	BH: NBH950U	
P		80 240			140 300				◄ SINTERED POWDER METAL
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	
GRADE APPLICATION AREA	Stable machining, continuous cut
■ main application	General machining, light interruption
■ applicable	Unstable machining, interrupted cut

Hardness + / – ; Toughness – / +

SHARP – SE H

UNIVERSAL – UE H

Type	Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
TPGW	110304S-SE-3S	RE 0.4	a_p ▸	0.05	**0.10**	0.15		○						
			f_n ▸	0.04	**0.08**	0.12								
	110308S-SE-3S	RE 0.8	a_p ▸	0.05	**0.10**	0.15		○						
			f_n ▸	0.05	**0.10**	0.15								
TPGW	090204S-UE-3S	RE 0.4	a_p ▸	0.06	**0.13**	0.20			●					
			f_n ▸	0.06	**0.12**	0.18								
TPGW	110302S-UE-3S	RE 0.2	a_p ▸	0.06	**0.13**	0.20			○					
			f_n ▸	0.05	**0.10**	0.15								
	110304S-UE-3S	RE 0.4	a_p ▸	0.06	**0.13**	0.20			●					
			f_n ▸	0.06	**0.12**	0.18								
	110308S-UE-3S	RE 0.8	a_p ▸	0.06	**0.13**	0.20			●					
			f_n ▸	0.06	**0.13**	0.20								

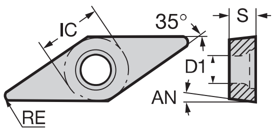
● stock standard, ○ non-standard stock

HOLDERS INTERNAL p. 148

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

VB

PCBN
Positive



2 edges

Size	IC	S	D1	AN
1103□□	6.35	3.18	2.80	5°
1604□□	9.525	4.76	4.40	5°

ISO513	NBL050C (BL)	NBL150C (BL)	NBL250C (BL)	NBL350C (BL)	NBH450C (BH)	NBH500C (BH)	NBH900U (BH)	NBH950U (BH)	
P		80 240			140 300				◄ SINTERED POWDER METAL
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		Hardness	Toughness
■ main application	Stable machining, continuous cut	+	−
	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut	−	+

Type		Designation	RE		min	rec.	max	NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
SHARP – SE H	VBGW	110302S-SE-2S	RE 0.2	a_p ▸	0.05	**0.10**	0.15		●						
				f_n ▸	0.04	**0.06**	0.08								
		110304S-SE-2S	RE 0.4	a_p ▸	0.05	**0.10**	0.15	●	●						
				f_n ▸	0.04	**0.08**	0.12								
	VBGW	160402S-SE-2S	RE 0.2	a_p ▸	0.05	**0.10**	0.15		●						
				f_n ▸	0.04	**0.06**	0.08								
		160404S-SE-2S	RE 0.4	a_p ▸	0.05	**0.10**	0.15	●	●						
				f_n ▸	0.04	**0.08**	0.12								
		160408S-SE-2S	RE 0.8	a_p ▸	0.05	**0.10**	0.15	●	●						
				f_n ▸	0.05	**0.10**	0.15								
UNIVERSAL – UE H	VBGW	110302S-UE-2S	RE 0.2	a_p ▸	0.06	**0.13**	0.20		○						
				f_n ▸	0.05	**0.10**	0.15								
		110304S-UE-2S	RE 0.4	a_p ▸	0.06	**0.13**	0.20	●	●	●					
				f_n ▸	0.06	**0.12**	0.18								
	VBGW	160402S-UE-2S	RE 0.2	a_p ▸	0.06	**0.13**	0.20		●						
				f_n ▸	0.05	**0.10**	0.15								
		160404S-UE-2S	RE 0.4	a_p ▸	0.06	**0.13**	0.20	●	●	●					
				f_n ▸	0.06	**0.12**	0.18								
		160408S-UE-2S	RE 0.8	a_p ▸	0.06	**0.13**	0.20	●	●	●					
				f_n ▸	0.06	**0.13**	0.20								
UNIVERSAL – UE K H (tip with carbide backed)	VBGW	160404S-UE-2C	RE 0.4	a_p ▸	0.06	**0.13**	0.20					○			
				f_n ▸	0.06	**0.12**	0.18								
		160408S-UE-2C	RE 0.8	a_p ▸	0.06	**0.13**	0.20					○			
				f_n ▸	0.06	**0.13**	0.20								
REINFORCED – RE H	VBGW	160404S-RE-2S	RE 0.4	a_p ▸	0.08	**0.16**	0.25				○				
				f_n ▸	0.06	**0.13**	0.20								
		160408S-RE-2S	RE 0.8	a_p ▸	0.08	**0.16**	0.25				○				
				f_n ▸	0.06	**0.14**	0.22								
REINFORCED – RE K H (tip with carbide backed)	VBGW	160404S-RE-2C	RE 0.4	a_p ▸	0.08	**0.16**	0.25					○*			
				f_n ▸	0.06	**0.13**	0.20								
		160408S-RE-2C	RE 0.8	a_p ▸	0.08	**0.16**	0.25					○*			
				f_n ▸	0.06	**0.14**	0.22								





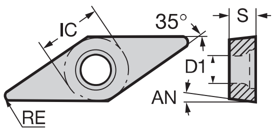
● stock standard, ○ non-standard stock

* uncoated (NBH450U)

HOLDERS EXTERNAL p. 149
HOLDERS INTERNAL p. 152

VC

PCBN
Positive



2 edges

Size	IC	S	D1	AN
1103□□	6.35	3.18	2.80	7°
1604□□	9.525	4.76	4.40	7°

ISO513	BL: NBL050C	BL: NBL150C	BL: NBL250C	BL: NBL350C	BH: NBH450C	BH: NBH500C	BH: NBH900U	BH: NBH950U	
P		80 240			140 300				◄ SINTERED POWDER METAL
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness (+ / −), Toughness (− / +)

SHARP — SE H

UNIVERSAL — UE H

Type		Designation	RE		a_p / f_n			NBL050C	NBL150C	NBL250C	NBL350C	NBH450C	NBH500C	NBH900U	NBH950U
SHARP SE	VCGW	110304S-SE-2S	RE 0.4	a_p▸ f_n▸	0.05 0.04	**0.10** **0.08**	0.15 0.12		●						
SHARP SE	VCGW	160404S-SE-2S	RE 0.4	a_p▸ f_n▸	0.05 0.04	**0.10** **0.08**	0.15 0.12		●						
SHARP SE		160408S-SE-2S	RE 0.8	a_p▸ f_n▸	0.05 0.05	**0.10** **0.10**	0.15 0.15		●						
UNIVERSAL UE	VCGW	110304S-UE-2S	RE 0.4	a_p▸ f_n▸	0.06 0.06	**0.13** **0.12**	0.20 0.18			●					
UNIVERSAL UE	VCGW	160404S-UE-2S	RE 0.4	a_p▸ f_n▸	0.06 0.06	**0.13** **0.12**	0.20 0.18			●					
UNIVERSAL UE		160408S-UE-2S	RE 0.8	a_p▸ f_n▸	0.06 0.06	**0.13** **0.13**	0.20 0.20			●					

● stock standard, ○ non-standard stock

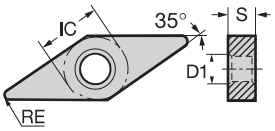
HOLDERS EXTERNAL ▶ p. 153

HOLDERS INTERNAL ▶ p. 157

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

VN

PCBN
Negative



4 edges

Size	IC	S	D1
1604□□	9.525	4.76	3.81

ISO513	BL NBL050C	BL NBL150C	BL NBL250C	BL NBL350C	BH NBH450C	BH NBH500C	BH NBH900U	BH NBH950U
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

◀ SINTERED POWDER METAL

GRADE APPLICATION AREA	Stable machining, continuous cut
main application	General machining, light interruption
applicable	Unstable machining, interrupted cut

Hardness + / − ; Toughness − / +

					a_p ▸ f_n ▸			BL NBL050C	BL NBL150C	BL NBL250C	BL NBL350C	BH NBH450C	BH NBH500C	BH NBH900U	BH NBH950U
SHARP	SE H	VNGA	160404S-SE-4V	RE 0.4	0.06 0.06	**0.13** **0.12**	0.20 0.18		○						
			160408S-SE-4V	RE 0.8	0.06 0.06	**0.13** **0.13**	0.20 0.20		○						
UNIVERSAL	UE K H	VNGA	160404S-UE-4V	RE 0.4	0.07 0.08	**0.16** **0.14**	0.25 0.20			○			●		
			160408S-UE-4V	RE 0.8	0.07 0.08	**0.16** **0.15**	0.25 0.22			○			●		

vertical

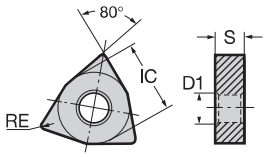
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 161

HOLDERS INTERNAL p. 163

WN

PCBN
Negative



6 edges

Size	IC	S	D1
0804□□	12.70	4.76	5.16

ISO513	BL NBL05OC	BL NBL15OC	BL NBL25OC	BL NBL35OC	BH NBH45OC	BH NBH50OC	BH NBH90OU	BH NBH95OU
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

◀ SINTERED POWDER METAL

GRADE APPLICATION AREA	Stable machining, continuous cut
main application	General machining, light interruption
applicable	Unstable machining, interrupted cut

Hardness + / − Toughness − / +

SHARP

SE H

vertical

		RE	a_p ▸			f_n ▸			
WNGA	080404S-SE-6V	RE 0.4	0.06	**0.13**	0.20	0.06	**0.12**	0.18	○
	080408S-SE-6V	RE 0.8	0.06	**0.13**	0.20	0.06	**0.13**	0.20	○

UNIVERSAL

UE K H

vertical

		RE	a_p ▸			f_n ▸			
WNGA	080404S-UE-6V	RE 0.4	0.07	**0.16**	0.25	0.08	**0.14**	0.20	○ ●
	080408S-UE-6V	RE 0.8	0.07	**0.16**	0.25	0.08	**0.15**	0.22	● ●
	080412S-UE-6V	RE 1.2	0.07	**0.16**	0.25	0.08	**0.16**	0.24	○ ●

REINFORCED

RE K H

vertical

		RE	a_p ▸			f_n ▸			
WNGA	080404S-RE-6V	RE 0.4	0.08	**0.17**	0.26	0.08	**0.14**	0.20	○ ●
	080408S-RE-6V	RE 0.8	0.08	**0.17**	0.26	0.08	**0.16**	0.24	● ●
	080412S-RE-6V	RE 1.2	0.08	**0.17**	0.26	0.08	**0.17**	0.26	○ ●

● stock standard, ○ non-standard stock

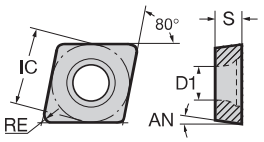
HOLDERS EXTERNAL p. 166

HOLDERS INTERNAL p. 169

TURNING Ceramic

CC

CERAMIC
Positive



2 edges

Size	IC	S	D1	AN
09T3□□	9.525	3.93	4.40	7°
1204□□	12.70	4.76	5.50	7°

ISO513	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
P											
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness: + / −
Toughness: − / +

UNIVERSAL

T02020 K

CCGW	09T308-GP	K RE 0.8	a_p ▸	1.00	**2.50**	4.00	●
			f_n ▸	0.12	**0.23**	0.34	
	09T312-GP	K RE 1.2	a_p ▸	1.00	**2.50**	4.00	●
			f_n ▸	0.13	**0.26**	0.36	
CCGW	120408-GP	K RE 0.8	a_p ▸	1.00	**2.50**	4.00	●
			f_n ▸	0.14	**0.28**	0.42	
	120412-GP	K RE 1.2	a_p ▸	1.00	**2.50**	4.00	●
			f_n ▸	0.16	**0.31**	0.46	

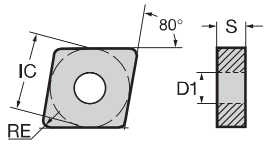
● stock standard

HOLDERS EXTERNAL p. 86

HOLDERS INTERNAL p. 91

CN

CERAMIC
Negative

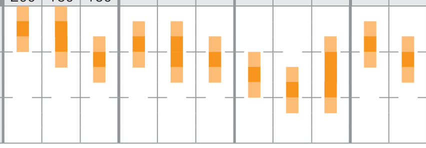


4 edges

Size	IC	S	D1
1204□□	12.70	4.76	(5.16)
1207□□	12.70	7.94	-
1606□□	15.87	6.35	6.35

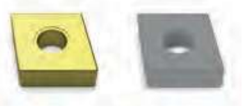
ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
M											
K		300 600		500 1000	400 1000	400 800					
N											
S							150 350	150 300	150 400	200 500	200 400
H	80 200	60 180	50 150								

GRADE APPLICATION AREA		Hardness / Toughness
■ main application	Stable machining, continuous cut	Hardness + / Toughness −
■ applicable	General machining, light interruption	
	Unstable machining, interrupted cut	Hardness − / Toughness +



SHARP

T01020 H



NAC150 coated

Type	Insert	Material / RE		min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
CNGA	120404-CC	H RE 0.4	a_p / f_n	0.20 / 0.04	**0.70** / **0.08**	1.20 / 0.12	●	●									
	120408-CC	H RE 0.8	a_p / f_n	0.20 / 0.05	**0.70** / **0.10**	1.20 / 0.15	●	●									
	120412-CC	H RE 1.2	a_p / f_n	0.20 / 0.06	**0.70** / **0.13**	1.20 / 0.20	●	●									

UNIVERSAL

T02020 K H S

Type	Insert	Material / RE		min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
CNGA	120404-GP	H RE 0.4	a_p / f_n	0.40 / 0.06	**1.20** / **0.14**	2.00 / 0.22		●									
		K RE 0.4	a_p / f_n	1.00 / 0.10	**2.50** / **0.19**	4.00 / 0.28					○						
	120408-GP	H RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30		●	●								
		S RE 0.8	a_p / f_n	1.00 / 0.14	**2.50** / **0.27**	4.00 / 0.40							▽		▲		
	120412-GP	H RE 1.2	a_p / f_n	0.40 / 0.12	**1.20** / **0.23**	2.00 / 0.34		●	●								
		S RE 1.2	a_p / f_n	1.00 / 0.20	**2.50** / **0.35**	4.00 / 0.50							▽		▲		
CNGA	160612-GP	H RE 1.2	a_p / f_n	1.00 / 0.14	**2.50** / **0.27**	4.00 / 0.40		●									
	160616-GP	H RE 1.6	a_p / f_n	1.00 / 0.15	**2.50** / **0.30**	4.00 / 0.45		○									
CNMA	120408-GP	K RE 0.8	a_p / f_n	1.00 / 0.14	**2.50** / **0.27**	4.00 / 0.40				○	●	○					
	120412-GP	K RE 1.2	a_p / f_n	1.00 / 0.20	**2.50** / **0.35**	4.00 / 0.50				●	●	●					
	120416-GP	K RE 1.6	a_p / f_n	1.00 / 0.20	**2.50** / **0.36**	4.00 / 0.52				○	●	○					
CNMA	160612-GP	K RE 1.2	a_p / f_n	2.00 / 0.22	**4.50** / **0.39**	7.00 / 0.56					●						
	160616-GP	K RE 1.6	a_p / f_n	2.00 / 0.24	**4.50** / **0.43**	7.00 / 0.62					●						

S01525 H

coated

Type	Insert	Material / RE		min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
CNGA	120404-GS	H RE 0.4	a_p / f_n	0.40 / 0.06	**1.20** / **0.14**	2.00 / 0.22	●										
	120408-GS	H RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30	●										
	120412-GS	H RE 1.2	a_p / f_n	0.40 / 0.12	**1.20** / **0.23**	2.00 / 0.34	●										

S02020 H

Type	Insert	Material / RE		min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
CNGA	120404-GS	H RE 0.4	a_p / f_n	0.40 / 0.06	**1.20** / **0.14**	2.00 / 0.22		▽									
	120408-GS	H RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30		●									
	120412-GS	H RE 1.2	a_p / f_n	0.40 / 0.12	**1.20** / **0.23**	2.00 / 0.34		●									

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

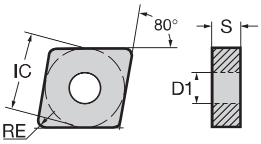
HOLDERS EXTERNAL p. 97

HOLDERS INTERNAL p. 104

nikkoTOOLS

CN

CERAMIC
Negative



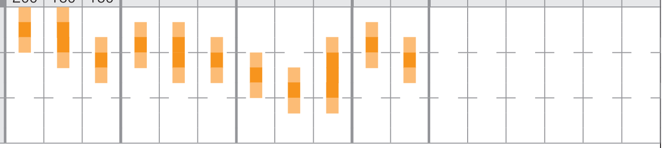
4 edges

Size	IC	S	D1
1204□□	12.70	4.76	(5.16)
1207□□	12.70	7.94	-
1606□□	15.87	6.35	6.35

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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

Hardness + / –, Toughness – / +



	Insert	Type	Code	Application		a_p / f_n			NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
UNIVERSAL	T02020 K S H, without hole	CNGN	120708-GP	H, RE 0.8	a_p▸	0.40	**1.20**	2.00		○									
					f_n▸	0.10	**0.20**	0.30											
				K S, RE 0.8	a_p▸	1.00	**2.50**	4.00					○		▽				
					f_n▸	0.14	**0.27**	0.40											
			120712-GP	H, RE 1.2	a_p▸	0.40	**1.20**	2.00		○									
					f_n▸	0.12	**0.23**	0.34											
				K S, RE 1.2	a_p▸	1.00	**2.50**	4.00				▽	○		▽	▽		○*	○*
					f_n▸	0.20	**0.35**	0.50											
			120716-GP	H, RE 1.6	a_p▸	0.40	**1.20**	2.00		○									
					f_n▸	0.14	**0.26**	0.38											
				K S, RE 1.6	a_p▸	1.00	**2.50**	4.00					○					○*	○*
					f_n▸	0.20	**0.36**	0.52											
		CNMN	120412-GP	K, RE 1.2	a_p▸	1.00	**2.50**	4.00					○						
					f_n▸	0.20	**0.35**	0.50											
			120416-GP	K, RE 1.6	a_p▸	1.00	**2.50**	4.00					○						
					f_n▸	0.20	**0.36**	0.52											
	T02020 K S H, with dimple	CNGX	120708-GP	H, RE 0.8	a_p▸	0.40	**1.20**	2.00		○									
					f_n▸	0.10	**0.20**	0.30											
			120712-GP	H, RE 1.2	a_p▸	0.40	**1.20**	2.00		○									
					f_n▸	0.12	**0.23**	0.34											
		CNMX	120712-GP	K S, RE 1.2	a_p▸	1.00	**2.50**	4.00				○	●	○	▽		▲		
					f_n▸	0.20	**0.35**	0.50											
			120716-GP	K S, RE 1.6	a_p▸	1.00	**2.50**	4.00				●	●	●			▲		
					f_n▸	0.20	**0.36**	0.52											
REINFORCED	P15015 H, without hole	CNGN	120712-HI	H, RE 1.2	a_p▸	0.40	**1.20**	2.00			○								
					f_n▸	0.14	**0.26**	0.38											
			120716-HI	H, RE 1.6	a_p▸	0.40	**1.20**	2.00			○								
					f_n▸	0.18	**0.31**	0.44											
WIPER	T02020 K	CNGA	120410-WK	H, RE 1.0	a_p▸	1.00	**2.50**	4.00					●						
					f_n▸	0.20	**0.35**	0.50											
	T02020 H	CNGA	120410-WH	H, RE 1.0	a_p▸	0.40	**1.20**	2.00		●									
					f_n▸	0.12	**0.26**	0.40											





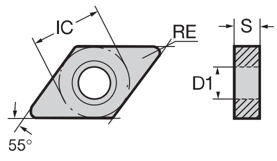
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

* T01520

HOLDERS EXTERNAL p. 97
HOLDERS INTERNAL p. 104

DN

CERAMIC
Negative



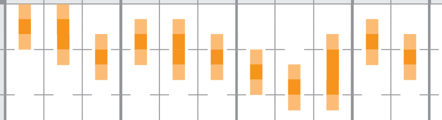
4 edges

Size	IC	S	D1
1506□□	12.70	6.35	5.16
1507□□	12.70	7.94	-

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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

Hardness + / – ; Toughness – / +



SHARP

T01020 H

NAC150 coated

Type	Designation			min	rec	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
DNGA	150604-CC	H RE 0.4	a_p f_n	0.20 0.04	**0.70** **0.08**	1.20 0.12	●	●									
	150608-CC	H RE 0.8	a_p f_n	0.20 0.05	**0.70** **0.10**	1.20 0.15	●	●									
	150612-CC	H RE 1.2	a_p f_n	0.20 0.06	**0.70** **0.13**	1.20 0.20		●									

UNIVERSAL

T02020 K H

Type	Designation			min	rec	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
DNGA	150604-GP	H RE 0.4	a_p f_n	0.40 0.06	**1.20** **0.14**	2.00 0.22		●									
	150608-GP	H RE 0.8	a_p f_n	0.40 0.10	**1.20** **0.20**	2.00 0.30		●	●								
		K RE 0.8	a_p f_n	1.00 0.14	**2.50** **0.27**	4.00 0.40					●						
	150612-GP	H RE 1.2	a_p f_n	0.40 0.12	**1.20** **0.23**	2.00 0.34		●	●								
	150616-GP	H RE 1.6	a_p f_n	0.40 0.14	**1.20** **0.26**	2.00 0.38		○									
DNMA	150612-GP	K RE 1.2	a_p f_n	1.00 0.20	**2.50** **0.35**	4.00 0.50					●						

S01525 H

coated

Type	Designation			min	rec	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
DNGA	150604-GS	H RE 0.4	a_p f_n	0.40 0.06	**1.20** **0.14**	2.00 0.22	●										
	150608-GS	H RE 0.8	a_p f_n	0.40 0.10	**1.20** **0.20**	2.00 0.30	●										

S02020 H

Type	Designation			min	rec	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
DNGA	150604-GS	H RE 0.4	a_p f_n	0.40 0.06	**1.20** **0.14**	2.00 0.22		●									
	150608-GS	H RE 0.8	a_p f_n	0.40 0.10	**1.20** **0.20**	2.00 0.30		●									
	150612-GS	H RE 1.2	a_p f_n	0.40 0.12	**1.20** **0.23**	2.00 0.34		○									

T02020 H

without hole

Type	Designation			min	rec	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
DNGN	150708-GP	H RE 0.8	a_p f_n	0.40 0.10	**1.20** **0.20**	2.00 0.30		○									
	150712-GP	H RE 1.2	a_p f_n	0.40 0.12	**1.20** **0.23**	2.00 0.34		○									
	150716-GP	H RE 1.6	a_p f_n	0.40 0.14	**1.20** **0.26**	2.00 0.38		○									

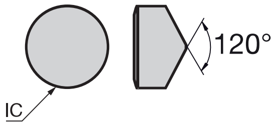
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 120

HOLDERS INTERNAL p. 125

RC

CERAMIC Positive



Size	IC	S	D1
0606□□	6.35	6.35	-
0907□□	9.525	7.94	-
1207□□	12.70	7.94	-
1510□□	15.87	10.0	-
1910□□	19.05	10.0	-

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / −, Toughness − / +

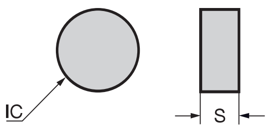
Type	Chipbreaker	Designation		ISO		min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
SHARP	T01020 S	RCGX	060600-CC	S	a_p / f_n	1.00 / 0.15	**1.50** / **0.30**	2.00 / 0.45									○		
		RCGX	090700-CC	S	a_p / f_n	1.00 / 0.20	**2.00** / **0.38**	3.00 / 0.56									○		
		RCGX	120700-CC	S	a_p / f_n	1.00 / 0.22	**2.50** / **0.40**	4.00 / 0.58									●		
UNIVERSAL	T02020 S H (NAC150 coated)	RCGX	090700-GP	H	a_p / f_n	0.60 / 0.12	**1.80** / **0.26**	3.00 / 0.40	●	●	○								
				S	a_p / f_n	1.00 / 0.22	**2.00** / **0.35**	3.00 / 0.58								▽		○*	○*
		RCGX	120700-GP	H	a_p / f_n	0.60 / 0.13	**1.80** / **0.28**	3.00 / 0.43	○	○	○								
				S	a_p / f_n	1.00 / 0.24	**2.00** / **0.42**	3.00 / 0.60							▽	▽		○*	○*
	S02020 H	RCGX	060600-GS	H	a_p / f_n	0.40 / 0.10	**1.20** / **0.24**	2.00 / 0.38		○									
		RCGX	060700-GS	H	a_p / f_n	0.40 / 0.10	**1.20** / **0.24**	2.00 / 0.38		●									
REINFORCED	P15015 H (NAC150 coated)	RCGX	090700-HI	H	a_p / f_n	0.60 / 0.15	**1.80** / **0.30**	3.00 / 0.45	●	●	●								
		RCGX	120700-HI	H	a_p / f_n	0.60 / 0.18	**1.80** / **0.34**	3.00 / 0.50	●	●	●								
	P20015 H	RCGX	151000-HI	H	a_p / f_n	1.00 / 0.20	**2.50** / **0.40**	4.00 / 0.60		○	●								
		RCGX	191000-HI	H	a_p / f_n	1.00 / 0.20	**2.50** / **0.45**	4.00 / 0.70		○	○								

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

* T01520

RN

CERAMIC
Negative

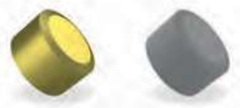
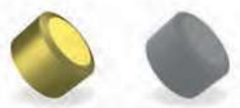


Size	IC	S	D1
1204□□	12.70	4.76	-
1207□□	12.70	7.94	-
1907□□	19.05	7.94	-

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / −; Toughness − / +

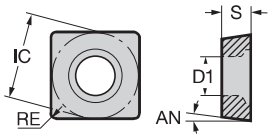
Type	Insert	Designation		ISO	Cutting data	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
SHARP	T01020 S 	RNGN	120400-CC	S	a_p 1.00 **2.50** 4.00 f_n 0.22 **0.40** 0.58									●		
		RNGN	120700-CC	S	a_p 1.00 **2.50** 4.00 f_n 0.22 **0.40** 0.58									●		
UNIVERSAL	T02020 S H  NAC150 coated	RNGN	120400-GP	H	a_p 0.60 **1.80** 3.00 f_n 0.13 **0.28** 0.43		●									
				S	a_p 1.00 **2.00** 3.00 f_n 0.24 **0.42** 0.60										○*	○*
		RNGN	120700-GP	H	a_p 0.60 **1.80** 3.00 f_n 0.13 **0.28** 0.43	○	●	○								
				S	a_p 1.00 **2.00** 3.00 f_n 0.24 **0.42** 0.60					○		▽	▽		○*	○*
		RNGN	190700-GP	S	a_p 1.00 **2.50** 4.00 f_n 0.30 **0.55** 0.80										▽*	▽*
REINFORCED	T20015 H  NAC150 coated	RNGN	120700-T20015	H	a_p 0.60 **1.80** 3.00 f_n 0.18 **0.34** 0.50	▽		▽								
	K20015 H  NAC150 coated	RNGN	120700-HT	H	a_p 0.60 **1.80** 3.00 f_n 0.18 **0.34** 0.50	●		●								
	P15015 H  NAC150 coated	RNGN	120700-HI	H	a_p 0.60 **1.80** 3.00 f_n 0.18 **0.34** 0.50	●	●	●								

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

* T01520

SC

CERAMIC
Positive



4 edges

Size	IC	S	D1	AN
09T3□□	9.525	3.93	4.40	7°
1204□□	12.70	4.76	5.50	7°

ISO513	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
P											
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

Hardness: + / −
Toughness: − / +

UNIVERSAL

T02020 K

SCGW	**09T308-GP**	K RE 0.8	a_p ▸	1.00	**2.50**	4.00	●
			f_n ▸	0.12	**0.23**	0.34	
SCGW	**120408-GP**	K RE 0.8	a_p ▸	1.00	**2.50**	4.00	●
			f_n ▸	0.14	**0.28**	0.42	

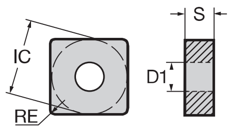
● stock standard

HOLDERS EXTERNAL p. 127

HOLDERS INTERNAL p. 128

SN

CERAMIC
Negative



8 edges

Size	IC	S	D1
0904□□	9.525	4.76	-
1204□□	12.70	4.76	(5.16)
1207□□	12.70	7.94	-

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / – ; Toughness – / +

	Chipbreaker	ISO	Code	Mat.	RE	a_p	f_n	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
SHARP	T01020 H	SNGA	120404-CC	H	0.4	0.20 **0.70** 1.20	0.04 **0.08** 0.12		●									
			120408-CC	H	0.8	0.20 **0.70** 1.20	0.05 **0.10** 0.15		●									
			120412-CC	H	1.2	0.20 **0.70** 1.20	0.06 **0.13** 0.20		●									
	T01020 S (without hole)	SNGN	120708-CC	S	0.8	1.00 **2.50** 4.00	0.14 **0.28** 0.42									○		
			120712-CC	S	1.2	1.00 **2.50** 4.00	0.20 **0.35** 0.50									●		
UNIVERSAL	T02020 K H	SNGA	120404-GP	H	0.4	0.40 **1.20** 2.00	0.06 **0.14** 0.22		●									
			120408-GP	H	0.8	0.40 **1.20** 2.00	0.10 **0.20** 0.30		●									
			120412-GP	H	1.2	0.40 **1.20** 2.00	0.12 **0.23** 0.34		●									
		SNMA	120408-GP	K	0.8	1.00 **2.50** 4.00	0.14 **0.27** 0.40					●						
			120412-GP	K	1.2	1.00 **2.50** 4.00	0.20 **0.35** 0.50					●						
			120416-GP	K	1.6	1.00 **2.50** 4.00	0.20 **0.36** 0.52					○						
	T02020 K H (NAC150 coated, without hole)	SNGN	090404-GP	K	0.4	1.00 **2.50** 4.00	0.12 **0.25** 0.38					▽						
			090408-GP	K	0.8	1.00 **2.50** 4.00	0.14 **0.28** 0.42					▽						
		SNGN	120404-GP	K	0.4	1.00 **2.50** 4.00	0.12 **0.25** 0.38					▽						
			120408-GP	K	0.8	1.00 **2.50** 4.00	0.14 **0.28** 0.42					●						
			120412-GP	K	1.2	1.00 **2.50** 4.00	0.20 **0.35** 0.50					●	●					▽*
		SNGN	120708-GP	H	0.8	0.40 **1.20** 2.00	0.10 **0.20** 0.30	●	●									
			120712-GP	H	1.2	0.40 **1.20** 2.00	0.12 **0.23** 0.34		●									
			120716-GP	H	1.6	0.40 **1.20** 2.00	0.14 **0.27** 0.40		○									
		SNMN	120416-GP	K	1.6	1.00 **2.50** 4.00	0.20 **0.36** 0.52					●						
	T02020 K S H (with dimple)	SNGX	120712-GP	H	1.2	0.40 **1.20** 2.00	0.12 **0.23** 0.34		●									
			120716-GP	H	1.6	0.40 **1.20** 2.00	0.14 **0.27** 0.40		●									
		SNMX	120712-GP	K S	1.2	1.00 **2.50** 4.00	0.20 **0.35** 0.50				○	●	○			▲		
			120716-GP	K S	1.6	1.00 **2.50** 4.00	0.20 **0.36** 0.52				○	●	○	▽		▲		





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

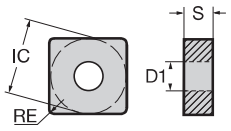
* T01520

HOLDERS EXTERNAL p. 129

HOLDERS INTERNAL p. 133

SN

CERAMIC
Negative



8 edges

Size	IC	S	D1
0904□□	9.525	4.76	-
1204□□	12.70	4.76	(5.16)
1207□□	12.70	7.94	-

ISO513	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
	NAC150	**NAC200**	**NAC250**	**NSN350**	**NSN400**	**NSN450**	**NSA600**	**NSA650**	**NSA6000**	**NWR700**	**NWR750**
P											
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness: + / −
Toughness: − / +

REINFORCED

P20015 H

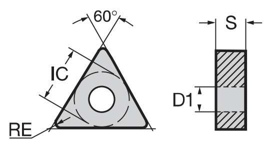
SNGN	**120716-HI**	H	RE 1.6	a_p ▸	1.00	**2.50**	4.00
				f_n ▸	0.18	**0.30**	0.42
	120720-HI	H	RE 2.0	a_p ▸	1.00	**2.50**	4.00
				f_n ▸	0.20	**0.32**	0.44
	120724-HI	H	RE 2.4	a_p ▸	1.00	**2.50**	4.00
				f_n ▸	0.22	**0.35**	0.48

○ non-standard stock

TURNING | THREADING | GROOVING | MILLING | DRILLING | ACCESSORIES

TN

CERAMIC
Negative



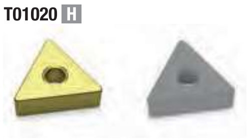
6 edges

Size	IC	S	D1
1604□□	9.525	4.76	(3.81)
1607□□	12.70	7.94	-

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / − ; Toughness − / +

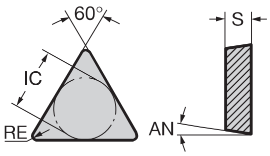
	Insert	Type	Code	ISO		min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
SHARP	T01020 H, NAC150 coated 	TNGA	160404-CC	H, RE 0.4	a_p / f_n	0.20 / 0.04	**0.70** / **0.08**	1.20 / 0.12	●	●									
			160408-CC	H, RE 0.8	a_p / f_n	0.20 / 0.05	**0.70** / **0.10**	1.20 / 0.15	●	●									
			160412-CC	H, RE 1.2	a_p / f_n	0.20 / 0.06	**0.70** / **0.13**	1.20 / 0.20		●									
UNIVERSAL	T02020 K H 	TNGA	160404-GP	H, RE 0.4	a_p / f_n	0.40 / 0.06	**1.20** / **0.14**	2.00 / 0.22		●									
			160408-GP	H, RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30		●	●								
				K, RE 0.8	a_p / f_n	1.00 / 0.14	**2.50** / **0.27**	4.00 / 0.40					●						
			160412-GP	H, RE 1.2	a_p / f_n	0.40 / 0.12	**1.20** / **0.23**	2.00 / 0.34		●	●								
				K, RE 1.2	a_p / f_n	1.00 / 0.20	**2.50** / **0.35**	4.00 / 0.50					●						
	T02020 K H, without hole 	TNGN	160408-GP	K, RE 0.8	a_p / f_n	1.00 / 0.14	**2.50** / **0.27**	4.00 / 0.40					●						
		TNGN	160708-GP	H, RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30		○									
				K, RE 0.8	a_p / f_n	1.00 / 0.14	**2.50** / **0.27**	4.00 / 0.40					○						
			160712-GP	H, RE 1.2	a_p / f_n	0.40 / 0.12	**1.20** / **0.23**	2.00 / 0.34		○									
				K, RE 1.2	a_p / f_n	1.00 / 0.20	**2.50** / **0.35**	4.00 / 0.50					○						
	S01525 H, coated 	TNGA	160404-GS	H, RE 0.4	a_p / f_n	0.40 / 0.06	**1.20** / **0.14**	2.00 / 0.22	●										
			160408-GS	H, RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30	●										
			160412-GS	H, RE 1.2	a_p / f_n	0.40 / 0.12	**1.20** / **0.23**	2.00 / 0.34	●										
	S02020 H 	TNGA	160404-GS	H, RE 0.4	a_p / f_n	0.40 / 0.06	**1.20** / **0.14**	2.00 / 0.22		●									
			160408-GS	H, RE 0.8	a_p / f_n	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30		●									
			160412-GS	H, RE 1.2	a_p / f_n	0.40 / 0.12	**1.20** / **0.23**	2.00 / 0.34		○									

● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 142
HOLDERS INTERNAL p. 145

TP

CERAMIC
Positive



3 edges

Size	IC	S	AN
1103□□	6.35	3.18	11°
1603□□	9.525	3.18	11°

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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		Hardness	Toughness
GRADE APPLICATION AREA	Stable machining, continuous cut	+	−
■ main application	General machining, light interruption	Hardness	Toughness
■ applicable	Unstable machining, interrupted cut	−	+

SHARP

T01020 H

NAC150 coated

	Designation		a_p / f_n	min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
TPGN	110302-CC	H RE 0.2	a_p ▸ f_n ▸	0.20 0.04	**0.60** **0.06**	1.00 0.08	●	●									
	110304-CC	H RE 0.4	a_p ▸ f_n ▸	0.20 0.04	**0.60** **0.08**	1.00 0.12	●	●									
	110308-CC	H RE 0.8	a_p ▸ f_n ▸	0.20 0.05	**0.60** **0.10**	1.00 0.15	●	●									
TPGN	160304-CC	H RE 0.4	a_p ▸ f_n ▸	0.20 0.04	**0.70** **0.08**	1.20 0.12	●	●									
	160308-CC	H RE 0.8	a_p ▸ f_n ▸	0.20 0.05	**0.70** **0.10**	1.20 0.15	●	●									
	160312-CC	H RE 1.2	a_p ▸ f_n ▸	0.20 0.06	**0.70** **0.13**	1.20 0.20		●									

UNIVERSAL

T02020 K H

	Designation		a_p / f_n	min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
TPGN	110302-GP	H RE 0.2	a_p ▸ f_n ▸	0.40 0.05	**1.20** **0.10**	2.00 0.15		●									
	110304-GP	H RE 0.4	a_p ▸ f_n ▸	0.40 0.07	**1.20** **0.15**	2.00 0.23		●									
		K RE 0.4	a_p ▸ f_n ▸	1.00 0.10	**2.00** **0.20**	3.00 0.30					○						
	110308-GP	H RE 0.8	a_p ▸ f_n ▸	0.40 0.08	**1.20** **0.17**	2.00 0.26		●									
		K RE 0.8	a_p ▸ f_n ▸	1.00 0.12	**2.00** **0.23**	3.00 0.34					●						
TPGN	160304-GP	H RE 0.4	a_p ▸ f_n ▸	0.50 0.08	**1.50** **0.16**	2.50 0.24		●									
		K RE 0.4	a_p ▸ f_n ▸	1.00 0.12	**2.50** **0.23**	4.00 0.34					○						
	160308-GP	H RE 0.8	a_p ▸ f_n ▸	0.50 0.10	**1.50** **0.20**	2.50 0.30		●									
		K RE 0.8	a_p ▸ f_n ▸	1.00 0.14	**2.50** **0.28**	4.00 0.42					●						
	160312-GP	K RE 1.2	a_p ▸ f_n ▸	1.00 0.16	**2.50** **0.31**	4.00 0.46					●						

S01525 H

coated

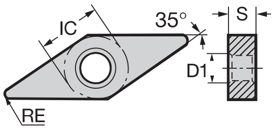
	Designation		a_p / f_n	min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
TPGN	110302-GS	H RE 0.2	a_p ▸ f_n ▸	0.40 0.05	**1.20** **0.10**	2.00 0.15	○										
	110304-GS	H RE 0.4	a_p ▸ f_n ▸	0.40 0.07	**1.20** **0.15**	2.00 0.23	●										
	110308-GS	H RE 0.8	a_p ▸ f_n ▸	0.40 0.08	**1.20** **0.17**	2.00 0.26	○										
TPGN	160304-GS	H RE 0.4	a_p ▸ f_n ▸	0.50 0.08	**1.50** **0.16**	2.50 0.24	●										
	160308-GS	H RE 0.8	a_p ▸ f_n ▸	0.50 0.10	**1.50** **0.20**	2.50 0.30	●										

● stock standard, ○ non-standard stock

HOLDERS INTERNAL
p. 147

VN

CERAMIC
Negative



4 edges

Size	IC	S	D1
1604□□	9.525	4.76	3.81

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness (+ / −), Toughness (− / +)

	Insert	Type	Code				min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
SHARP	T01020 H  NAC150 coated	VNGA	160404-CC	H	RE 0.4	a_p▸ f_n▸	0.20 0.04	**0.70** **0.08**	1.20 0.12	●	●									
			160408-CC	H	RE 0.8	a_p▸ f_n▸	0.20 0.05	**0.70** **0.10**	1.20 0.15	●	●									
			160412-CC	H	RE 1.2	a_p▸ f_n▸	0.20 0.06	**0.70** **0.13**	1.20 0.20	○	○									
UNIVERSAL	T02020 K H 	VNGA	160404-GP	H	RE 0.4	a_p▸ f_n▸	0.40 0.06	**1.20** **0.14**	2.00 0.22		●									
				K	RE 0.4	a_p▸ f_n▸	1.00 0.10	**2.50** **0.19**	4.00 0.28					○						
			160408-GP	H	RE 0.8	a_p▸ f_n▸	0.40 0.10	**1.20** **0.20**	2.00 0.30		●	○								
				K	RE 0.8	a_p▸ f_n▸	1.00 0.14	**2.50** **0.27**	4.00 0.40					●						
			160412-GP	H	RE 1.2	a_p▸ f_n▸	0.40 0.12	**1.20** **0.23**	2.00 0.34		○	○								
				K	RE 1.2	a_p▸ f_n▸	1.00 0.20	**2.50** **0.35**	4.00 0.50					○						
	S01525 H  coated	VNGA	160404-GS	H	RE 0.4	a_p▸ f_n▸	0.40 0.06	**1.20** **0.14**	2.00 0.22	●										
			160408-GS	H	RE 0.8	a_p▸ f_n▸	0.40 0.10	**1.20** **0.20**	2.00 0.30	●										
			160412-GS	H	RE 1.2	a_p▸ f_n▸	0.40 0.12	**1.20** **0.23**	2.00 0.34	○										
	S02020 H 	VNGA	160404-GS	H	RE 0.4	a_p▸ f_n▸	0.40 0.06	**1.20** **0.14**	2.00 0.22		●									
			160408-GS	H	RE 0.8	a_p▸ f_n▸	0.40 0.10	**1.20** **0.20**	2.00 0.30		●									
			160412-GS	H	RE 1.2	a_p▸ f_n▸	0.40 0.12	**1.20** **0.23**	2.00 0.34		○									

● stock standard, ○ non-standard stock

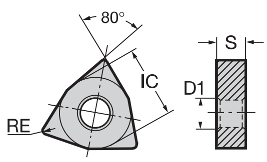
HOLDERS EXTERNAL p. 161

HOLDERS INTERNAL p. 163

nikkoTOOLS

WN

CERAMIC
Negative



6 edges

Size	IC	S	D1
0804□□	12.70	4.76	5.16

ISO513	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
	Al_2O_3+TiCN			Si_3N_4			SiAlON			Al_2O_3+SiC	
P											
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

Hardness + / − ; Toughness − / +

	Insert		Designation			min	rec.	max	NAC150	NAC200	NAC250	NSN350	NSN400	NSN450	NSA600	NSA650	NSA6000	NWR700	NWR750
SHARP	T01020 H 	WNGA	080404-CC	H RE 0.4	a_p▸ / f_n▸	0.20 / 0.04	**0.70** / **0.08**	1.20 / 0.12		●									
			080408-CC	H RE 0.8	a_p▸ / f_n▸	0.20 / 0.05	**0.70** / **0.10**	1.20 / 0.15		●									
			080412-CC	H RE 1.2	a_p▸ / f_n▸	0.20 / 0.06	**0.70** / **0.13**	1.20 / 0.20		●									
UNIVERSAL	T02020 K H 	WNGA	080404-GP	H RE 0.4	a_p▸ / f_n▸	0.40 / 0.06	**1.20** / **0.14**	2.00 / 0.22		●									
			080408-GP	H RE 0.8	a_p▸ / f_n▸	0.40 / 0.10	**1.20** / **0.20**	2.00 / 0.30		●									
				K RE 0.8	a_p▸ / f_n▸	1.00 / 0.14	**2.50** / **0.27**	4.00 / 0.40					●						
			080412-GP	H RE 1.2	a_p▸ / f_n▸	0.40 / 0.12	**1.20** / **0.23**	2.00 / 0.34		●									
				K RE 1.2	a_p▸ / f_n▸	1.00 / 0.20	**2.50** / **0.35**	4.00 / 0.50					●						

● stock standard

HOLDERS EXTERNAL p. 166

HOLDERS INTERNAL p. 169

TURNING Diamond

nikkoTOOLS

TURNING

THREADING

GROOVING

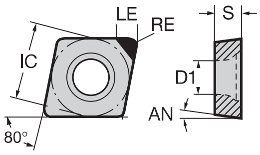
MILLING

DRILLING

ACCESSORIES

CC

DIAMOND
Positive



1 edge

Size	IC	S	D1	AN
MICRO CC	3.50	1.40	1.90	7°
0602□□	6.35	2.38	2.80	7°
09T3□□	9.525	3.97	4.40	7°
1204□□	12.70	4.76	5.50	7°

ISO513	ND050	ND100	ND120	ND150	ND190	NDC3000	NDM500
	DP (PCD)					PD	DM
P							
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
main application	General machining, light interruption
applicable	Unstable machining, interrupted cut

Hardness + / – ; Toughness – / +

	Type	Code	RE / LE					ND050	ND100	ND120	ND150	ND190	NDC3000	NDM500
SLANT TIP – STANDARD N (tip angle: 7°)	CCGT	060202	RE 0.2	a_p ►	0.40	**1.00**	1.60		●					
			LE 2.8	f_n ►	0.05	**0.10**	0.15							
		060204	RE 0.4	a_p ►	0.40	**1.00**	1.60	○	●		○			
			LE 2.8	f_n ►	0.10	**0.15**	0.20							
		060208	RE 0.8	a_p ►	0.40	**1.00**	1.60		●					
			LE 2.7	f_n ►	0.15	**0.20**	0.25							
	CCGT	09T302	RE 0.2	a_p ►	0.40	**1.00**	1.60		●					
			LE 2.8	f_n ►	0.05	**0.10**	0.15							
		09T304	RE 0.4	a_p ►	0.40	**1.00**	1.60	●	●		●	○	○	
			LE 2.8	f_n ►	0.10	**0.15**	0.20							
		09T308	RE 0.8	a_p ►	0.40	**1.00**	1.60	○	●		●	○	○	
			LE 2.7	f_n ►	0.15	**0.20**	0.25							
	CCGT	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		○					
			LE 2.7	f_n ►	0.15	**0.20**	0.25							
SLANT TIP – LARGE N (tip angle: 7°)	CCGT	060204-LRG	RE 0.4	a_p ►	0.40	**1.20**	2.00		○					
			LE 3.2	f_n ►	0.10	**0.15**	0.20							
	CCGT	09T304-LRG	RE 0.4	a_p ►	0.40	**1.50**	2.60		●					
			LE 4.3	f_n ►	0.10	**0.15**	0.20							
		09T308-LRG	RE 0.8	a_p ►	0.40	**1.50**	2.60		●					
			LE 4.2	f_n ►	0.15	**0.20**	0.25							
	CCGT	120404-LRG	RE 0.4	a_p ►	0.40	**1.50**	2.60		○					
			LE 4.3	f_n ►	0.10	**0.15**	0.20							
		120408-LRG	RE 0.8	a_p ►	0.40	**1.50**	2.60		○					
			LE 4.2	f_n ►	0.15	**0.20**	0.25							
FLAT TIP – STANDARD N (MICROBORING)	MICRO	CC.R02	RE 0.2	a_p ►	0.20	**0.60**	1.00	●		●		●		
			LE 1.5	f_n ►	0.05	**0.10**	0.15							
		CC.R04	RE 0.4	a_p ►	0.20	**0.60**	1.00	●		●		●		
			LE 1.5	f_n ►	0.10	**0.15**	0.20							
FLAT TIP – STANDARD N	CCGW	060202	RE 0.2	a_p ►	0.40	**1.00**	1.60	○	●		○			
			LE 2.8	f_n ►	0.05	**0.10**	0.15							
		060204	RE 0.4	a_p ►	0.40	**1.00**	1.60	●	●		●			
			LE 2.8	f_n ►	0.10	**0.15**	0.20							
		060208	RE 0.8	a_p ►	0.40	**1.00**	1.60	●	●		●			
			LE 2.7	f_n ►	0.15	**0.20**	0.25							
	CCGW	09T302	RE 0.2	a_p ►	0.40	**1.00**	1.60		●					
			LE 2.8	f_n ►	0.05	**0.10**	0.15							
		09T304	RE 0.4	a_p ►	0.40	**1.00**	1.60	●	●		●	●	○	○
			LE 2.8	f_n ►	0.10	**0.15**	0.20							
		09T308	RE 0.8	a_p ►	0.40	**1.00**	1.60	●	●		●	●	○	○
			LE 2.7	f_n ►	0.15	**0.20**	0.25							
	CCGW	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	○	●		○			
			LE 2.7	f_n ►	0.15	**0.20**	0.25							

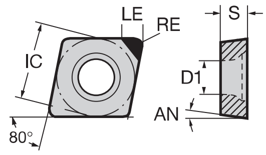
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 86

HOLDERS INTERNAL p. 89

CC

DIAMOND
Positive



1 edge

Size	IC	S	D1	AN
MICRO CC	3.50	1.40	1.90	7°
0602□□	6.35	2.38	2.80	7°
09T3□□	9.525	3.97	4.40	7°
1204□□	12.70	4.76	5.50	7°

ISO513	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
	DP (PCD)					PD	DM
P							
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness: + … –
Toughness: – … +

	Chipbreaker	Type	Designation	RE / LE					ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
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							
			09T308-LRG	RE 0.8	a_p►	0.40	**1.50**	2.60		●					
				LE 4.2	f_n►	0.15	**0.20**	0.25							
		CCGW	120404-LRG	RE 0.4	a_p►	0.40	**1.50**	2.60		●					
				LE 4.3	f_n►	0.10	**0.15**	0.20							
			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	CBF N (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							
			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							
			09T304-CBF	RE 0.4	a_p►	0.20	**0.60**	1.00			●				
				LE 4.3	f_n►	0.15	**0.10**	0.15							
	CBG N (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							
			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	1S N (flat tip, picture: right-hand)	CCGX	060204R/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	09T304R/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

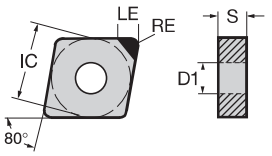
HOLDERS EXTERNAL p. 86

HOLDERS INTERNAL p. 91

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

CN

DIAMOND
Negative



1 edge

Size	IC	S	D1
MICRO CN	7.50	3.18	3.60
1204□□	12.70	4.76	5.16

ISO513	DP (PCD) ND050	ND100	ND120	ND150	ND190	PD ND300	DM NDM500
P							
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  tip angle: 7°	CNGM	120404	RE 0.4 LE 2.8	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.10 **0.15** 0.20	●								
			120408	RE 0.8 LE 2.7	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.15 **0.20** 0.25	●								
	LARGE N  tip angle: 7°	CNGM	120404-LRG	RE 0.4 LE 4.3	a_p ▸ 0.40 **1.50** 2.60 f_n ▸ 0.10 **0.15** 0.20	○								
			120408-LRG	RE 0.8 LE 4.2	a_p ▸ 0.40 **1.50** 2.60 f_n ▸ 0.15 **0.20** 0.25	○								
FLAT TIP	**LARGE** N  MICRONEGA	MICRO	CN.R02-LRG	RE 0.2 LE 3.3	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.05 **0.10** 0.15		●							
			CN.R04-LRG	RE 0.4 LE 3.3	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.10 **0.15** 0.20		●							
			CN.R08-LRG	RE 0.8 LE 3.2	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.15 **0.20** 0.25		●							
	STANDARD N 	CNGA	120404	RE 0.4 LE 2.8	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.10 **0.15** 0.20	○								
			120408	RE 0.8 LE 2.7	a_p ▸ 0.50 **1.00** 1.50 f_n ▸ 0.15 **0.20** 0.25	●								
	LARGE N 	CNGA	120404-LRG	RE 0.4 LE 4.3	a_p ▸ 0.40 **1.50** 2.60 f_n ▸ 0.10 **0.15** 0.20	○								
			120408-LRG	RE 0.8 LE 4.2	a_p ▸ 0.40 **1.50** 2.60 f_n ▸ 0.15 **0.20** 0.25	○								
CHIPBREAKER	**CBF** N   MICRONEGA, finishing	MICRO	CN.R02-CBF	RE 0.2 LE 3.3	a_p ▸ 0.20 **0.60** 1.00 f_n ▸ 0.04 **0.08** 0.12		●							
			CN.R04-CBF	RE 0.4 LE 3.3	a_p ▸ 0.20 **0.60** 1.00 f_n ▸ 0.05 **0.10** 0.15		●							
	CBG N   MICRONEGA, roughing	MICRO	CN.R04-CBG	RE 0.4 LE 3.3	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.10 **0.15** 0.20		●							
			CN.R08-CBG	RE 0.8 LE 3.2	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.15 **0.20** 0.25		●							

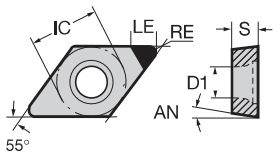
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 96

HOLDERS INTERNAL p. 102

DC

DIAMOND
Positive

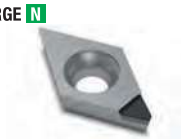


1 edge

Size	IC	S	D1	AN
0702□□	6.35	2.38	2.80	7°
11T3□□	9.525	3.97	4.40	7°

ISO513	DP (PCD) ND050	ND100	ND120	ND150	ND190	PD ND300	DM NDM500
P							
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	 tip angle: 7°	DCGT	070202	RE 0.2 LE 2.5	a_p ▸ f_n ▸	0.40 0.05	**1.00** **0.10**	1.60 0.15		●						
				070204	RE 0.4 LE 2.4	a_p ▸ f_n ▸	0.40 0.10	**1.00** **0.15**	1.60 0.20		●						
				070208	RE 0.8 LE 2.0	a_p ▸ f_n ▸	0.40 0.15	**1.00** **0.20**	1.60 0.25		●						
			DCGT	11T302	RE 0.2 LE 2.5	a_p ▸ f_n ▸	0.40 0.05	**1.00** **0.10**	1.60 0.15		●						
				11T304	RE 0.4 LE 2.4	a_p ▸ f_n ▸	0.40 0.10	**1.00** **0.15**	1.60 0.20	●	●		●	○	○		
				11T308	RE 0.8 LE 2.0	a_p ▸ f_n ▸	0.40 0.15	**1.00** **0.20**	1.60 0.25	●	●		●	○	○		
	LARGE N	 tip angle: 7°	DCGT	070204-LRG	RE 0.4 LE 3.0	a_p ▸ f_n ▸	0.40 0.10	**1.20** **0.15**	2.00 0.20		○						
				11T304-LRG	RE 0.4 LE 3.9	a_p ▸ f_n ▸	0.40 0.10	**1.50** **0.15**	2.60 0.20		●						
				11T308-LRG	RE 0.8 LE 3.5	a_p ▸ f_n ▸	0.40 0.15	**1.50** **0.20**	2.60 0.25		●						
FLAT TIP	STANDARD N		DCGW	070202	RE 0.2 LE 2.5	a_p ▸ f_n ▸	0.40 0.05	**1.00** **0.10**	1.60 0.15	●	●		●				
				070204	RE 0.4 LE 2.4	a_p ▸ f_n ▸	0.40 0.10	**1.00** **0.15**	1.60 0.20	●	●		●				
				070208	RE 0.8 LE 2.0	a_p ▸ f_n ▸	0.40 0.15	**1.00** **0.20**	1.60 0.25	○	○		○				
			DCGW	11T302	RE 0.2 LE 2.5	a_p ▸ f_n ▸	0.40 0.05	**1.00** **0.10**	1.60 0.15	○	●		○		○		
				11T304	RE 0.4 LE 2.4	a_p ▸ f_n ▸	0.40 0.10	**1.00** **0.15**	1.60 0.20	●	●		●	●	●	○	
				11T308	RE 0.8 LE 2.0	a_p ▸ f_n ▸	0.40 0.15	**1.00** **0.20**	1.60 0.25	●	●		●	●	●	○	
				11T312	RE 1.2 LE 3.1	a_p ▸ f_n ▸	0.40 0.20	**1.00** **0.30**	1.60 0.40						○		
	LARGE N		DCGW	070204-LRG	RE 0.4 LE 2.9	a_p ▸ f_n ▸	0.40 0.10	**1.20** **0.15**	2.00 0.20		●						
				11T304-LRG	RE 0.4 LE 3.9	a_p ▸ f_n ▸	0.40 0.10	**1.50** **0.15**	2.60 0.20		●						
				11T308-LRG	RE 0.8 LE 3.5	a_p ▸ f_n ▸	0.40 0.15	**1.50** **0.20**	2.60 0.25		○						
CHIPBREAKER	CBF N	 finishing	DCGX	070202-CBF	RE 0.2 LE 3.0	a_p ▸ f_n ▸	0.20 0.04	**0.60** **0.08**	1.00 0.12			●					
				070204-CBF	RE 0.4 LE 2.9	a_p ▸ f_n ▸	0.20 0.05	**0.60** **0.10**	1.00 0.15			○					
			DCGX	11T302-CBF	RE 0.2 LE 4.0	a_p ▸ f_n ▸	0.20 0.04	**0.60** **0.08**	1.00 0.12			●					
				11T304-CBF	RE 0.4 LE 3.9	a_p ▸ f_n ▸	0.20 0.05	**0.60** **0.10**	1.00 0.15			●					

● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 107

HOLDERS INTERNAL p. 111

nikkoTOOLS

TURNING

THREADING

GROOVING

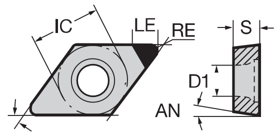
MILLING

DRILLING

ACCESSORIES

DC

DIAMOND
Positive



1 edge

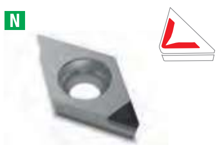
Size	IC	S	D1	AN
0702□□	6.35	2.38	2.80	7°
11T3□□	9.525	3.97	4.40	7°

ISO513	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
	DP (PCD)					PD	DM
P							
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
■ main application	General machining, light interruption
■ applicable	Unstable machining, interrupted cut

Hardness: + … – ; Toughness: – … +

		Type	Designation	RE / LE		min	rec.	max	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
CHIPBREAKER	CBG N, roughing	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							
			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, flat tip, picture: right-hand	DCGX	070204R/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	11T304R/L-1S	RE 0.4	a_p►	0.50	**3.00**	5.50		●					
				LE 11.6	f_n►	0.10	**0.15**	0.20							



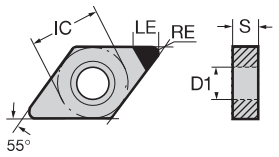
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 107

HOLDERS INTERNAL p. 111

DN

DIAMOND
Negative



1 edge

Size	IC	S	D1
MICRO DN	7.00	3.18	3.60
1506□□	12.70	6.35	5.16

ISO513	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
	DP (PCD)					PD	DM
P							
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  tip angle: 7°	DNGM	150604	RE 0.4 LE 2.4	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.10 **0.15** 0.20	○							
			150608	RE 0.8 LE 2.0	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.15 **0.20** 0.25	○							
	LARGE N  tip angle: 7°	DNGM	150604-LRG	RE 0.4 LE 3.9	a_p ▸ 0.40 **1.50** 2.60 f_n ▸ 0.10 **0.15** 0.20	○							
			150608-LRG	RE 0.8 LE 3.5	a_p ▸ 0.40 **1.50** 2.60 f_n ▸ 0.15 **0.20** 0.25	○							
FLAT TIP	**LARGE** N  MICRONEGA	MICRO	DN.R02-LRG	RE 0.2 LE 3.1	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.05 **0.10** 0.15		●						
			DN.R04-LRG	RE 0.4 LE 2.9	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.10 **0.15** 0.20		●						
			DN.R08-LRG	RE 0.8 LE 2.5	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.15 **0.20** 0.25		●						
	STANDARD N 	DNGA	150604	RE 0.4 LE 2.4	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.10 **0.15** 0.20	○							
			150608	RE 0.8 LE 2.0	a_p ▸ 0.40 **1.00** 1.60 f_n ▸ 0.15 **0.20** 0.25	●							
	LARGE N 	DNGA	150604-LRG	RE 0.4 LE 3.9	a_p ▸ 0.40 **1.50** 2.60 f_n ▸ 0.10 **0.15** 0.20	○							
			150608-LRG	RE 0.8 LE 3.5	a_p ▸ 0.40 **1.50** 2.60 f_n ▸ 0.15 **0.20** 0.25	○							
CHIPBREAKER	**CBF** N   MICRONEGA, finishing	MICRO	DN.R02-CBF	RE 0.2 LE 3.1	a_p ▸ 0.20 **0.60** 1.00 f_n ▸ 0.04 **0.08** 0.12		●						
			DN.R04-CBF	RE 0.4 LE 2.9	a_p ▸ 0.20 **0.60** 1.00 f_n ▸ 0.05 **0.10** 0.15		●						
	CBG N   MICRONEGA, roughing	MICRO	DN.R04-CBG	RE 0.4 LE 2.9	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.10 **0.15** 0.20		●						
			DN.R08-CBG	RE 0.8 LE 2.5	a_p ▸ 0.40 **1.20** 2.00 f_n ▸ 0.15 **0.20** 0.25		●						

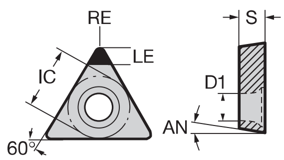
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 119

HOLDERS INTERNAL p. 123

TC

DIAMOND
Positive



1 edge

Size	IC	S	D1	AN
0902□□	5.56	2.38	2.50	7°
1102□□	6.35	2.38	2.80	7°
16T3□□	9.525	3.97	4.40	7°

ISO513	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
	DP (PCD)					PD	DM
P							
M							
K							
N	500 1500	500 2000	500 2000	500 2500	500 2500	1000 3000	1000 3000
S	50 100						
H					10 30		

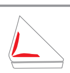
◄ HARD METAL (Co ≤ 16%)

GRADE APPLICATION AREA		
	Stable machining, continuous cut	
■ main application	General machining, light interruption	Hardness + / − ; Toughness − / +
■ applicable	Unstable machining, interrupted cut	

Type	Shape	Designation	RE / LE		min	opt	max	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
SLANT TIP – STANDARD N (tip angle: 7°)	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	RE 0.4	a_p ▸	0.40	**1.00**	1.60		○					
			LE 2.5	f_n ▸	0.10	**0.15**	0.20							
	TCGT	110202	RE 0.2	a_p ▸	0.40	**1.00**	1.60		○					
			LE 2.6	f_n ▸	0.05	**0.10**	0.15							
		110204	RE 0.4	a_p ▸	0.40	**1.00**	1.60		●					
			LE 2.5	f_n ▸	0.10	**0.15**	0.20							
		110208	RE 0.8	a_p ▸	0.40	**1.00**	1.60		○					
			LE 2.2	f_n ▸	0.15	**0.20**	0.25							
	TCGT	16T304	RE 0.4	a_p ▸	0.40	**1.00**	1.60		○					
			LE 2.5	f_n ▸	0.10	**0.15**	0.20							
		16T308	RE 0.8	a_p ▸	0.40	**1.00**	1.60		○					
			LE 2.2	f_n ▸	0.15	**0.20**	0.25							
SLANT TIP – LARGE N (tip angle: 7°)	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	RE 0.8	a_p ▸	0.40	**1.50**	2.60		○					
			LE 3.7	f_n ▸	0.15	**0.20**	0.25							
	TCGT	16T304-LRG	RE 0.4	a_p ▸	0.40	**1.50**	2.60		○					
			LE 4.0	f_n ▸	0.10	**0.15**	0.20							
		16T308-LRG	RE 0.8	a_p ▸	0.40	**1.50**	2.60		○					
			LE 3.7	f_n ▸	0.15	**0.20**	0.25							
FLAT TIP – 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	RE 0.4	a_p ▸	0.40	**1.00**	1.60		●					
			LE 2.5	f_n ▸	0.10	**0.15**	0.20							
	TCGW	110202	RE 0.2	a_p ▸	0.40	**1.00**	1.60		○					
			LE 2.6	f_n ▸	0.05	**0.10**	0.15							
		110204	RE 0.4	a_p ▸	0.40	**1.00**	1.60	●	●		●			
			LE 2.5	f_n ▸	0.10	**0.15**	0.20							
		110208	RE 0.8	a_p ▸	0.40	**1.00**	1.60	●	○		○			
			LE 2.2	f_n ▸	0.15	**0.20**	0.25							
	TCGW	16T304	RE 0.4	a_p ▸	0.40	**1.00**	1.60		●					
			LE 2.5	f_n ▸	0.10	**0.15**	0.20							
		16T308	RE 0.8	a_p ▸	0.40	**1.00**	1.60	●	●		●			
			LE 2.2	f_n ▸	0.15	**0.20**	0.25							
FLAT TIP – 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	RE 0.8	a_p ▸	0.40	**1.50**	2.60		●					
			LE 3.7	f_n ▸	0.15	**0.20**	0.25							
	TCGW	16T304-LRG	RE 0.4	a_p ▸	0.40	**1.50**	2.60		●					
			LE 4.0	f_n ▸	0.10	**0.15**	0.20							
		16T308-LRG	RE 0.8	a_p ▸	0.40	**1.50**	2.60		●					
			LE 3.7	f_n ▸	0.15	**0.20**	0.25							
CHIPBREAKER – CBF N (finishing)	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	RE 0.4	a_p ▸	0.20	**0.60**	1.00			●				
			LE 3.5	f_n ▸	0.05	**0.10**	0.15							
	TCGX	110202-CBF	RE 0.2	a_p ▸	0.20	**0.60**	1.00			●				
			LE 4.1	f_n ▸	0.04	**0.08**	0.12							
		110204-CBF	RE 0.4	a_p ▸	0.20	**0.60**	1.00			●				
			LE 4.0	f_n ▸	0.05	**0.10**	0.15							
	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							





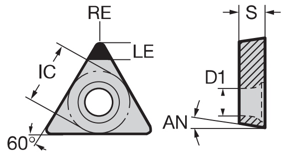
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL ► p. 135

HOLDERS INTERNAL ► p. 138

TC

DIAMOND
Positive



1 edge

Size	IC	S	D1	AN
0902□□	5.56	2.38	2.50	7°
1102□□	6.35	2.38	2.80	7°
16T3□□	9.525	3.97	4.40	7°

ISO513	ND050 (DP (PCD))	ND100 (DP (PCD))	ND120 (DP (PCD))	ND150 (DP (PCD))	ND190 (DP (PCD))	NDC300 (PD)	NDM500 (DM)
P							
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		Hardness	Toughness
	Stable machining, continuous cut	+	−
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut	−	+

	Type	Designation	RE / LE		min	rec.	max	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
CHIPBREAKER – CBG N, roughing	TCGX	090204-CBG	RE 0.4	a_p ►	0.50	**1.50**	2.50			●				
			LE 3.5	f_n ►	0.10	**0.15**	0.20							
	TCGX	110204-CBG	RE 0.4	a_p ►	0.50	**1.50**	2.50			●				
			LE 4.0	f_n ►	0.10	**0.15**	0.20							
		110208-CBG	RE 0.8	a_p ►	0.50	**1.50**	2.50			●				
			LE 3.7	f_n ►	0.15	**0.20**	0.25							
	TCGX	16T304-CBG	RE 0.4	a_p ►	0.50	**1.50**	2.50			●				
			LE 4.0	f_n ►	0.10	**0.15**	0.20							
		16T308-CBG	RE 0.8	a_p ►	0.50	**1.50**	2.50			●				
			LE 3.7	f_n ►	0.15	**0.20**	0.25							
FULL EDGE – 1S N, flat tip	TCGX	090204-1S	RE 0.4	a_p ►	0.50	**1.50**	2.50		●					
			LE 9.6	f_n ►	0.10	**0.15**	0.20							
	TCGX	110204-1S	RE 0.4	a_p ►	0.50	**2.00**	3.50		●					
			LE 11.0	f_n ►	0.10	**0.15**	0.20							
	TCGX	16T304-1S	RE 0.4	a_p ►	0.50	**3.00**	5.50		●					
			LE 16.5	f_n ►	0.10	**0.15**	0.20							

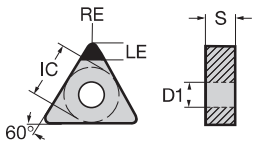
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL ► p. 135

HOLDERS INTERNAL ► p. 138

TN

DIAMOND
Negative



1 edge

Size	IC	S	D1	AN
1604□□	9.525	4.76	3.81	

ISO513	DP (PCD) ND050	ND100	ND120	ND150	ND190	PD NDC300	DM NDM500
P							
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
■ main application	General machining, light interruption
■ applicable	Unstable machining, interrupted cut

Hardness + / − Toughness − / +

SLANT TIP	**STANDARD** N	 tip angle: 7°	**TNGM**	**160404**	RE 0.4 LE 2.5	a_p ▸ 0.40	**1.00**	1.60	●					
				160408	RE 0.8 LE 2.0	a_p ▸ 0.40	**1.00**	1.60	●					
						f_n ▸ 0.15	**0.20**	0.25						
	LARGE N	 tip angle: 7°	**TNGM**	**160404-LRG**	RE 0.4 LE 4.0	a_p ▸ 0.40	**1.50**	2.60	○					
						f_n ▸ 0.10	**0.15**	0.20						
				160408-LRG	RE 0.8 LE 3.7	a_p ▸ 0.40	**1.50**	2.60	○					
						f_n ▸ 0.15	**0.20**	0.25						
FLAT TIP	**STANDARD** N		**TNGA**	**160404**	RE 0.4 LE 2.5	a_p ▸ 0.40	**1.00**	1.60	○					
						f_n ▸ 0.10	**0.15**	0.20						
				160408	RE 0.8 LE 2.0	a_p ▸ 0.40	**1.00**	1.60	○					
						f_n ▸ 0.15	**0.20**	0.25						
	LARGE N		**TNGA**	**160404-LRG**	RE 0.4 LE 4.0	a_p ▸ 0.40	**1.50**	2.60	○					
						f_n ▸ 0.10	**0.15**	0.20						
				160408-LRG	RE 0.8 LE 3.7	a_p ▸ 0.40	**1.50**	2.60	○					
						f_n ▸ 0.15	**0.20**	0.25						

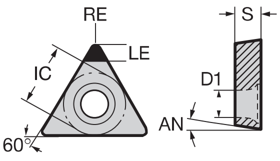
● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 142

HOLDERS INTERNAL p. 145

TP

DIAMOND
Positive



1 edge

Size	IC	S	D1	AN
0802□□	4.76	2.38	2.30	11°
0902□□	5.56	2.38	3.00	11°
1103□□	6.35	3.18	3.30	11°

ISO513	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
	DP (PCD)					PD	DM
P							
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / – ; Toughness – / +

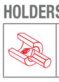
	Type	Code	RE / LE					ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
SLANT TIP – STANDARD N, tip angle: 7°	TPGT	080202	RE 0.2	a_p▸	0.40	**1.00**	1.60	○	○					
			LE 2.6	f_n▸	0.05	**0.10**	0.15							
		080204	RE 0.4	a_p▸	0.40	**1.00**	1.60		●					
			LE 2.5	f_n▸	0.10	**0.15**	0.20							
	TPGT	090202	RE 0.2	a_p▸	0.40	**1.00**	1.60		○					
			LE 2.6	f_n▸	0.05	**0.10**	0.15							
		090204	RE 0.4	a_p▸	0.40	**1.00**	1.60		○					
			LE 2.5	f_n▸	0.10	**0.15**	0.20							
	TPGT	110302	RE 0.2	a_p▸	0.40	**1.00**	1.60		●					
			LE 2.6	f_n▸	0.05	**0.10**	0.15							
		110304	RE 0.4	a_p▸	0.40	**1.00**	1.60		●					
			LE 2.2	f_n▸	0.10	**0.15**	0.20							
FLAT TIP – STANDARD N	TPGW	080202	RE 0.2	a_p▸	0.40	**1.00**	1.60		○					
			LE 2.6	f_n▸	0.05	**0.10**	0.15							
		080204	RE 0.4	a_p▸	0.40	**1.00**	1.60		○					
			LE 2.5	f_n▸	0.10	**0.15**	0.20							
	TPGW	090202	RE 0.2	a_p▸	0.40	**1.00**	1.60		○					
			LE 2.6	f_n▸	0.05	**0.10**	0.15							
		090204	RE 0.4	a_p▸	0.40	**1.00**	1.60		●					
			LE 2.5	f_n▸	0.10	**0.15**	0.20							
	TPGW	110302	RE 0.2	a_p▸	0.40	**1.00**	1.60		○					
			LE 2.6	f_n▸	0.05	**0.10**	0.15							
		110304	RE 0.4	a_p▸	0.40	**1.00**	1.60		○					
			LE 2.2	f_n▸	0.10	**0.15**	0.20							
CHIPBREAKER – CBF N, finishing	TPGX	090202-CBF	RE 0.2	a_p▸	0.20	**0.60**	1.00			●				
			LE 3.2	f_n▸	0.05	**0.10**	0.15							
		090204-CBF	RE 0.4	a_p▸	0.20	**0.60**	1.00			●				
			LE 3.1	f_n▸	0.10	**0.15**	0.20							
	TPGX	110302-CBF	RE 0.2	a_p▸	0.20	**0.60**	1.00			●				
			LE 4.1	f_n▸	0.05	**0.10**	0.15							
		110304-CBF	RE 0.4	a_p▸	0.20	**0.60**	1.00			●				
			LE 4.0	f_n▸	0.10	**0.15**	0.20							
CHIPBREAKER – CBG N, roughing	TPGX	090204-CBG	RE 0.4	a_p▸	0.40	**1.20**	2.00			●				
			LE 3.1	f_n▸	0.10	**0.15**	0.20							
	TPGX	110304-CBG	RE 0.4	a_p▸	0.50	**1.50**	2.50			●				
			LE 4.0	f_n▸	0.10	**0.15**	0.20							






● stock standard, ○ non-standard stock

HOLDERS INTERNAL



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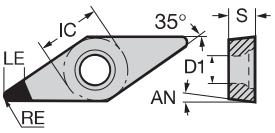
VB

DIAMOND
Positive



1 edge

Size	IC	S	D1	AN
1103□□	6.35	3.18	2.80	5°
1604□□	9.525	4.76	4.40	5°

ISO513	ND050	ND100	ND120	ND150	ND190	PD NDC300	DM NDMS00
P							
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	Hardness −	Toughness +

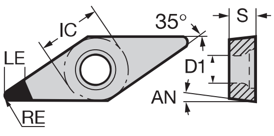
SLANT TIP	**STANDARD** N tip angle: 7°	VBGT	110302	RE 0.2 LE 3.0	a_p ▸ f_n ▸	0.40 0.05	**1.00** **0.10**	1.60 0.15		●		●		
			110304	RE 0.4 LE 2.5	a_p ▸ f_n ▸	0.40 0.10	**1.00** **0.15**	1.60 0.20		●				
		VBGT	160404	RE 0.4 LE 2.5	a_p ▸ f_n ▸	0.40 0.10	**1.00** **0.15**	1.60 0.20	●	●		●	○	○
			160408	RE 0.8 LE 2.2	a_p ▸ f_n ▸	0.40 0.15	**1.00** **0.20**	1.60 0.25	●	●		●	○	○
	LARGE N tip angle: 7°	VBGT	160404-LRG	RE 0.4 LE 4.5	a_p ▸ f_n ▸	0.40 0.10	**1.50** **0.15**	2.60 0.20		●				
			160408-LRG	RE 0.8 LE 3.7	a_p ▸ f_n ▸	0.40 0.15	**1.50** **0.20**	2.60 0.25		●				
FLAT TIP	**STANDARD** N	VBGW	110302	RE 0.2 LE 3.0	a_p ▸ f_n ▸	0.40 0.05	**1.00** **0.10**	1.60 0.15	●	●		○		
			110304	RE 0.4 LE 2.5	a_p ▸ f_n ▸	0.40 0.10	**1.00** **0.15**	1.60 0.20	○	●		○		
		VBGW	160404	RE 0.4 LE 2.5	a_p ▸ f_n ▸	0.40 0.10	**1.00** **0.15**	1.60 0.20	○	●		○	○	○
			160408	RE 0.8 LE 2.2	a_p ▸ f_n ▸	0.40 0.15	**1.00** **0.20**	1.60 0.25	○	○		○	○	○
	LARGE N	VBGW	160404-LRG	RE 0.4 LE 4.5	a_p ▸ f_n ▸	0.40 0.10	**1.50** **0.15**	2.60 0.20		●				
			160408-LRG	RE 0.8 LE 3.7	a_p ▸ f_n ▸	0.40 0.15	**1.50** **0.20**	2.60 0.25		●				
CHIPBREAKER	**CBF** N finishing	VBGX	110302-CBF	RE 0.2 LE 5.0	a_p ▸ f_n ▸	0.20 0.04	**0.60** **0.08**	1.00 0.12			●			
			110304-CBF	RE 0.4 LE 4.5	a_p ▸ f_n ▸	0.20 0.05	**0.60** **0.10**	1.00 0.15			●			
		VBGX	160404-CBF	RE 0.4 LE 4.5	a_p ▸ f_n ▸	0.20 0.05	**0.60** **0.10**	1.00 0.15			●			
	CBG N roughing	VBGX	110304-CBG	RE 0.4 LE 4.5	a_p ▸ f_n ▸	0.50 0.10	**1.50** **0.15**	2.50 0.20			●			
		VBGX	160404-CBG	RE 0.4 LE 4.5	a_p ▸ f_n ▸	0.50 0.10	**1.50** **0.15**	2.50 0.20			●			
			160408-CBG	RE 0.8 LE 3.7	a_p ▸ f_n ▸	0.50 0.15	**1.50** **0.20**	2.50 0.25			●			

● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 149

HOLDERS INTERNAL p. 152

VC
DIAMOND
Positive



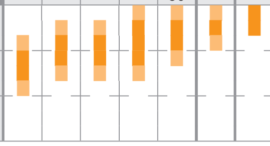
1 edge

Size	IC	S	D1	AN
1103□□	6.35	3.18	2.80	7°
1604□□	9.525	4.76	4.40	7°

ISO513	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
	DP (PCD)					PD	DM
P							
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	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / − ; Toughness − / +



Type	Shape	Insert	RE / LE		min	rec.	max	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
SLANT TIP – STANDARD N (tip angle: 7°)	VCGT	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		●					
			LE 2.5	f_n ►	0.10	**0.15**	0.20							
	VCGT	160402	RE 0.2	a_p ►	0.40	**1.00**	1.60		●				○	
			LE 3.0	f_n ►	0.05	**0.10**	0.15							
		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	●	●		●	○	○	
			LE 2.2	f_n ►	0.15	**0.20**	0.25							
SLANT TIP – LARGE N (tip angle: 7°)	VCGT	160404-LRG	RE 0.4	a_p ►	0.40	**1.50**	2.60		●					
			LE 4.5	f_n ►	0.10	**0.15**	0.20							
		160408-LRG	RE 0.8	a_p ►	0.40	**1.50**	2.60		●					
			LE 3.7	f_n ►	0.15	**0.20**	0.25							
FLAT TIP – STANDARD N	VCGW	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		●					
			LE 2.5	f_n ►	0.10	**0.15**	0.20							
	VCGW	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	●	●		●	○	○	○
			LE 2.2	f_n ►	0.15	**0.20**	0.25							
FLAT TIP – LARGE N	VCGW	110304-LRG	RE 0.4	a_p ►	0.40	**1.50**	2.60		●					
			LE 4.5	f_n ►	0.10	**0.15**	0.20							
	VCGW	160404-LRG	RE 0.4	a_p ►	0.40	**1.50**	2.60		●					
			LE 4.5	f_n ►	0.10	**0.15**	0.20							
		160408-LRG	RE 0.8	a_p ►	0.40	**1.50**	2.60		●					
			LE 3.7	f_n ►	0.15	**0.20**	0.25							
		160412-LRG	RE 1.2	a_p ►	0.40	**1.50**	2.60		○					
			LE 3.3	f_n ►	0.20	**0.25**	0.30							
CHIPBREAKER – CBF N (finishing)	VCGX	110302-CBF	RE 0.2	a_p ►	0.20	**0.60**	1.00			●				
			LE 5.0	f_n ►	0.04	**0.08**	0.12							
		110304-CBF	RE 0.4	a_p ►	0.20	**0.60**	1.00			●				
			LE 4.5	f_n ►	0.05	**0.10**	0.15							
	VCGX	160404-CBF	RE 0.4	a_p ►	0.20	**0.60**	1.00			●				
			LE 4.5	f_n ►	0.05	**0.10**	0.15							
CHIPBREAKER – CBG N (roughing)	VCGX	110304-CBG	RE 0.4	a_p ►	0.50	**1.50**	2.50			●				
			LE 4.5	f_n ►	0.10	**0.15**	0.20							
	VCGX	160404-CBG	RE 0.4	a_p ►	0.50	**1.50**	2.50			●				
			LE 4.5	f_n ►	0.10	**0.15**	0.20							
		160408-CBG	RE 0.8	a_p ►	0.50	**1.50**	2.50			●				
			LE 3.7	f_n ►	0.15	**0.20**	0.25							





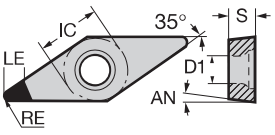



● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 153
HOLDERS INTERNAL p. 157

VC

DIAMOND
Positive



1 edge

Size	IC	S	D1	AN
1103□□	6.35	3.18	2.80	7°
1604□□	9.525	4.76	4.40	7°

ISO513	DP (PCD) ND050	ND100	ND120	ND150	ND190	PD NDC300	DM NDM500
P							
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	
■ main application	General machining, light interruption
■ applicable	Unstable machining, interrupted cut

Stable machining, continuous cut

Hardness + / −

Toughness − / +

FULL EDGE

1S **N**

flat tip, picture: right-hand

								ISO513 P	M	K	N	S	H	DP (PCD) ND050	ND100	ND120	ND150	ND190	PD NDC300	DM NDM500
VCGX	**110304$^{R}_{L}$-1S**	RE 0.4 LE 11.2	a_p ►	0.50	**2.00**	3.50	f_n ►	0.10	**0.15**	0.20					●						
VCGX	**160404$^{R}_{L}$-1S**	RE 0.4 LE 16.6	a_p ►	0.50	**3.00**	5.50	f_n ►	0.10	**0.15**	0.20					●						

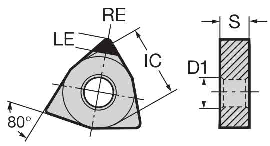
● stock standard

HOLDERS EXTERNAL p. 153

HOLDERS INTERNAL p. 157

WN

DIAMOND Negative



1 edge

Size	IC	S	D1
0804□□	12.70	4.76	5.16

ISO513	ND050 (DP (PCD))	ND100 (DP (PCD))	ND120 (DP (PCD))	ND150 (DP (PCD))	ND190 (DP (PCD))	NDC300 (PD)	NDM500 (DM)
P							
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	
■ main application	Stable machining, continuous cut
■ applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness: + … −; Toughness: − … +

	Type		Designation	RE / LE		min	rec.	max	ND050	ND100	ND120	ND150	ND190	NDC300	NDM500
SLANT TIP	STANDARD N  tip angle: 7°	WNGM	080404	RE 0.4 LE 2.8	a_p▸ f_n▸	0.40 0.10	**1.00** **0.15**	1.60 0.20		●					
			080408	RE 0.8 LE 2.7	a_p▸ f_n▸	0.40 0.15	**1.00** **0.20**	1.60 0.25		●					
	LARGE N  tip angle: 7°	WNGM	080404-LRG	RE 0.4 LE 4.3	a_p▸ f_n▸	0.40 0.10	**1.50** **0.15**	2.60 0.20		○					
			080408-LRG	RE 0.8 LE 4.2	a_p▸ f_n▸	0.40 0.15	**1.50** **0.20**	2.60 0.25		○					
FLAT TIP	STANDARD N 	WNGA	080404	RE 0.4 LE 2.8	a_p▸ f_n▸	0.40 0.10	**1.00** **0.15**	1.60 0.20		●					
			080408	RE 0.8 LE 2.7	a_p▸ f_n▸	0.40 0.15	**1.00** **0.20**	1.60 0.25		○					
	LARGE N 	WNGA	080404-LRG	RE 0.4 LE 4.3	a_p▸ f_n▸	0.40 0.10	**1.50** **0.15**	2.60 0.20		○					
			080408-LRG	RE 0.8 LE 4.2	a_p▸ f_n▸	0.40 0.15	**1.50** **0.20**	2.60 0.25		○					

● stock standard, ○ non-standard stock

HOLDERS EXTERNAL p. 166

HOLDERS INTERNAL p. 169

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

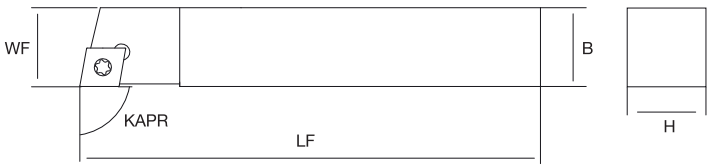
TURNING Holders

CC

EXTERNAL

S

Right-hand shown



SCAC

External turning (KAPR 90°)

		R	L	H	B	WF	LF	KG	MIID		
06	NT-SCAC$^{R}_{L}$0808K06	○	○	8	8	8	125		CC□□0602		
	NT-SCAC$^{R}_{L}$1010K06	●	●	10	10	10	125				
	NT-SCAC$^{R}_{L}$1212K06	●	●	12	12	12	125				
09	NT-SCAC$^{R}_{L}$1212K09	●	●	12	12	12	125		CC□□09T3		
	NT-SCAC$^{R}_{L}$1616K09	●	●	16	16	16	125				

● stock standard, ○ non-standard stock

Spare Parts

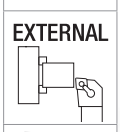
	INSERT SCREW	INSERT WRENCH
NT-SCAC$^{R}_{L}$0808K06	NT-ST010	NT-FT07
NT-SCAC$^{R}_{L}$1010K06		
NT-SCAC$^{R}_{L}$1212K06		
NT-SCAC$^{R}_{L}$1212K09	NT-ST030	NT-FT15
NT-SCAC$^{R}_{L}$1616K09		

Inserts

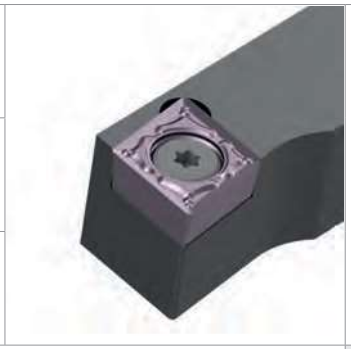
	CARBIDE	PCBN	CERAMIC	DIAMOND
CC□□0602	page 8	page 39	page 56	page 70
CC□□09T3	page 8	page 39	page 56	page 70

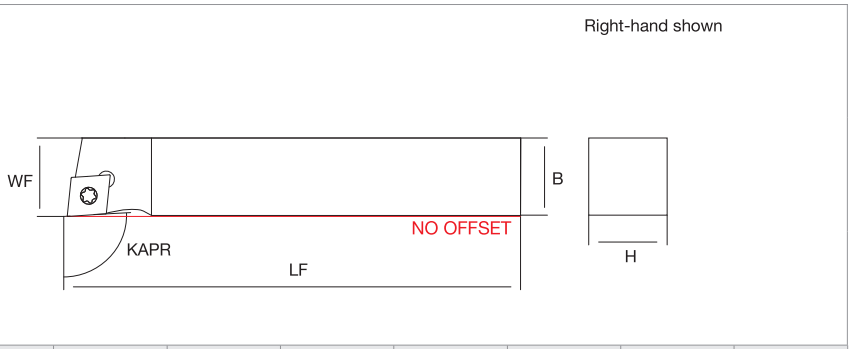
CC

EXTERNAL



S





SCLC N

External turning (KAPR 95°)

		R	L	H	B	WF	LF	KG	MIID		
06	NT-SCLC$^{R}_{L}$0808K06N	○	○	8	8	8	125		CC□□0602		
	NT-SCLC$^{R}_{L}$1010K06N	●	●	10	10	10	125				
09	NT-SCLC$^{R}_{L}$1212K09N	●	●	12	12	12	125		CC□□09T3		
	NT-SCLC$^{R}_{L}$1616K09N	●	●	16	16	16	125				

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-SCLC$^{R}_{L}$0808K06N	NT-ST010	NT-FT07
NT-SCLC$^{R}_{L}$1010K06N		
NT-SCLC$^{R}_{L}$1212K09N	NT-ST030	NT-FT15
NT-SCLC$^{R}_{L}$1616K09N		

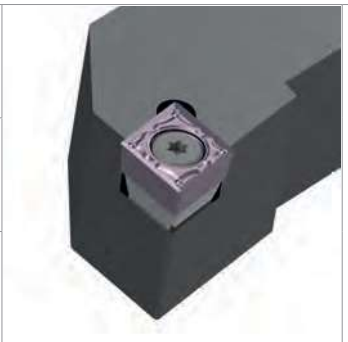
Inserts

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

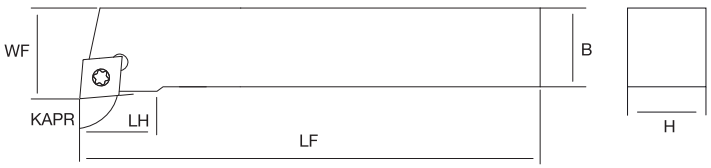
CC

EXTERNAL

S



Right-hand shown



SCLC

External turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
09	**NT-SCLC$^{R}_{L}$2020K09S**	●	●	20	20	25	125	22		CC□□09T3	
	NT-SCLC$^{R}_{L}$2525M09S	●	●	25	25	32	150	25			
12	**NT-SCLC$^{R}_{L}$2020K12S**	●	●	20	20	25	125	22		CC□□1204	
	NT-SCLC$^{R}_{L}$2525M12S	●	●	25	25	32	150	25			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SCLC$^{R}_{L}$2020K09S	NT-SH011	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SCLC$^{R}_{L}$2525M09S					
NT-SCLC$^{R}_{L}$2020K12S	NT-SH001	NT-SR001	NT-WR040	NT-ST007	NT-FT15
NT-SCLC$^{R}_{L}$2525M12S					

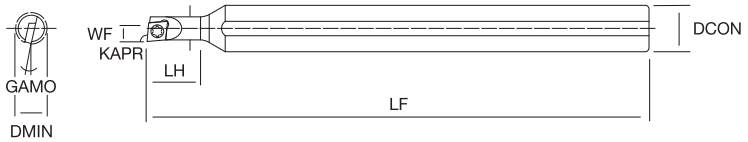
Inserts

	CARBIDE	PCBN	CERAMIC	DIAMOND
CC□□09T3	page 8	page 39	page 56	page 70
CC□□1204	page 8	-	page 56	page 70

CC

INTERNAL

S



STEEL

max 3xD

INTERNAL COOLANT

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

● stock standard

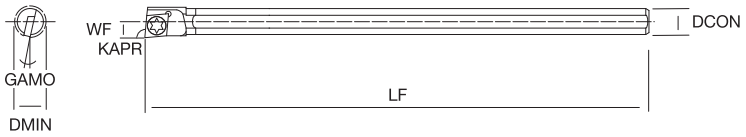
Spare Parts	INSERT SCREW	INSERT WRENCH
NT-A12H-MICRO-CC-RH	NT-ST002	NT-FT06
NT-A16H-MICRO-CC-RH		

Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO CC	page 8	page 39	-	page 70

CC

INTERNAL

S



CARBIDE

max 7xD

C MICRO

Internal turning (KAPR 95°)

		R	DMIN	DCON	WF	LF	GAMO	KG	MIID	
MICRO	NT-C04G-MICRO-CC-RH	●	5	4	2.5	90	15°		MICRO CC	
	NT-C05H-MICRO-CC-RH	●	6	5	3	100	13°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-C04G-MICRO-CC-RH NT-C05H-MICRO-CC-RH	NT-ST002	NT-FT06

Inserts

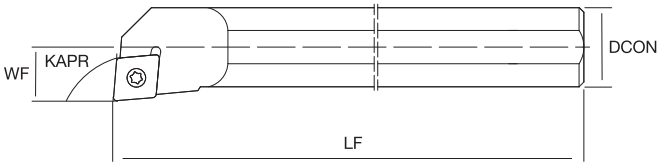
	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO CC	page 8	page 39	-	page 70

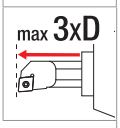
Please check page 285 for details and availability of sleeves for Microboring bars

CC

INTERNAL

S





S SCLC

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
06	NT-S08H-SCLC$^{R}_{L}$06	●	●	10	8	5	100	13°		CC□□0602	
	NT-S10K-SCLC$^{R}_{L}$06	●	●	12	10	6	125	12°			
	NT-S12M-SCLC$^{R}_{L}$06	●	●	14	12	7	150	9°			
	NT-S16Q-SCLC$^{R}_{L}$06	●	●	18	16	9	180	7°			
09	NT-S12M-SCLC$^{R}_{L}$09	●	●	14	12	7	150	13°		CC□□09T3	
	NT-S16Q-SCLC$^{R}_{L}$09	●	●	18	16	9	180	9°			
	NT-S20R-SCLC$^{R}_{L}$09	●	●	22	20	11	200	5°			
12	NT-S20R-SCLC$^{R}_{L}$12	●	●	25	20	13	200	8°		CC□□1204	
	NT-S25R-SCLC$^{R}_{L}$12	●	●	32	25	17	200	8°			
	NT-S32S-SCLC$^{R}_{L}$12S	●	●	40	32	22	250	6°		CC□□1204	
	NT-S40T-SCLC$^{R}_{L}$12S	●	●	50	40	27	300	4°			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-S08H-SCLC$^{R}_{L}$06	-	-	-	NT-ST006	NT-FT07
NT-S10K-SCLC$^{R}_{L}$06				NT-ST010	
NT-S12M-SCLC$^{R}_{L}$06					
NT-S16Q-SCLC$^{R}_{L}$06					
NT-S12M-SCLC$^{R}_{L}$09	-	-	-	NT-ST025	NT-FT15
NT-S16Q-SCLC$^{R}_{L}$09					
NT-S20R-SCLC$^{R}_{L}$09				NT-ST030	
NT-S20R-SCLC$^{R}_{L}$12	-	-	-	NT-ST050	NT-FT15
NT-S25R-SCLC$^{R}_{L}$12					
NT-S32S-SCLC$^{R}_{L}$12S	NT-SH001	NT-SR001	NT-WR040	NT-ST007	NT-FT15
NT-S40T-SCLC$^{R}_{L}$12S					

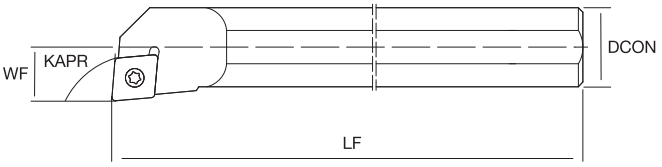
Inserts

	CARBIDE	PCBN	CERAMIC	DIAMOND
CC□□0602	page 8	page 39	-	page 70
CC□□09T3	page 8	page 39	page 56	page 70
CC□□1204	page 8	-	page 56	page 70

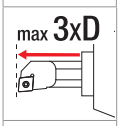
CC

INTERNAL

S



STEEL



INTERNAL COOLANT

A SCLC

Internal turning (KAPR 95°)

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

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-A08H-SCLC$^{R}_{L}$06	NT-ST006	NT-FT07
NT-A10K-SCLC$^{R}_{L}$06	NT-ST010	
NT-A12M-SCLC$^{R}_{L}$06		
NT-A16Q-SCLC$^{R}_{L}$06		
NT-A12M-SCLC$^{R}_{L}$09	NT-ST025	NT-FT15
NT-A16Q-SCLC$^{R}_{L}$09		
NT-A20R-SCLC$^{R}_{L}$09	NT-ST030	

Inserts

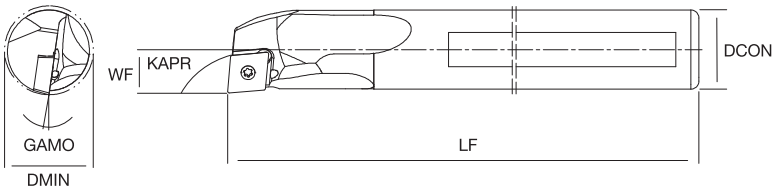
	CARBIDE	PCBN	CERAMIC	DIAMOND
CC□□0602	page 8	page 39	-	page 70
CC□□09T3	page 8	page 39	page 56	page 70

CC

INTERNAL

S

Right-hand shown



VORTEX

max 5xD

INTERNAL COOLANT

V SCLC

Internal turning (KAPR 95°)

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

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-V08H-SCLC$^{R}_{L}$06-10	NT-ST006	NT-FT07
NT-V10K-SCLC$^{R}_{L}$06-12	NT-ST010	
NT-V12M-SCLC$^{R}_{L}$06-14		
NT-V12M-SCLC$^{R}_{L}$09-14	NT-ST025	NT-FT15
NT-V16Q-SCLC$^{R}_{L}$09-18		
NT-V20R-SCLC$^{R}_{L}$09-22	NT-ST030	
NT-V25S-SCLC$^{R}_{L}$09-27		
NT-V20R-SCLC$^{R}_{L}$12-25	NT-ST050	NT-FT15
NT-V25S-SCLC$^{R}_{L}$12-32		

Inserts

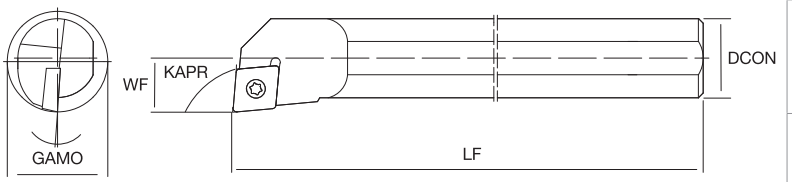
	CARBIDE	PCBN	CERAMIC	DIAMOND
CC□□0602	page 8	page 39	-	page 70
CC□□09T3	page 8	page 39	page 56	page 70
CC□□1204	page 8	-	page 56	page 70

CC

INTERNAL

S

Right-hand shown



CARBIDE

max 7xD

INTERNAL COOLANT

E SCLC

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
06	NT-E08K-SCLC$^{R}_{L}$06	●	●	10	8	5	125	9°		CC□□0602	
	NT-E10K-SCLC$^{R}_{L}$06	●	●	12	10	6	125	7°			
	NT-E12M-SCLC$^{R}_{L}$06	●	●	14	12	7	150	6°			
09	NT-E12M-SCLC$^{R}_{L}$09	●	●	14	12	7	150	6°		CC□□09T3	
	NT-E16R-SCLC$^{R}_{L}$09	●	●	18	16	9	200	7°			
	NT-E20R-SCLC$^{R}_{L}$09	●	●	22	20	11	200	5°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-E08K-SCLC$^{R}_{L}$06	NT-ST006	NT-FT07
NT-E10K-SCLC$^{R}_{L}$06	NT-ST010	
NT-E12M-SCLC$^{R}_{L}$06		
NT-E12M-SCLC$^{R}_{L}$09	NT-ST025	NT-FT15
NT-E16R-SCLC$^{R}_{L}$09		
NT-E20R-SCLC$^{R}_{L}$09	NT-ST030	

Inserts

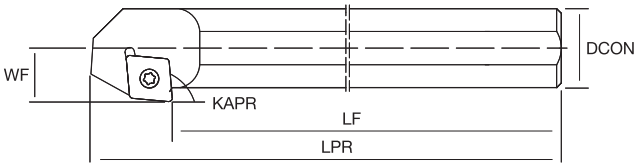
	CARBIDE	PCBN	CERAMIC	DIAMOND
CC□□0602	page 8	page 39	-	page 70
CC□□09T3	page 8	page 39	page 56	page 70

CC

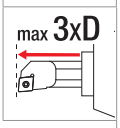
INTERNAL

S

Right-hand shown



STEEL



S SCZC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	LPR	GAMO	KG	MIID
06	NT-S08H-SCZC$^{R}_{L}$06	●	●	12	8	6.5	100	110	13°		CC□□0602
	NT-S10K-SCZC$^{R}_{L}$06	●	●	14	10	7.5	125	135	12°		
	NT-S12M-SCZC$^{R}_{L}$06	●	●	16	12	8.5	150	160	10°		
09	NT-S16Q-SCZC$^{R}_{L}$09	●	●	21	16	11.5	180	196	10°		CC□□09T3
	NT-S20R-SCZC$^{R}_{L}$09	●	●	25	20	13.5	200	218	8°		
	NT-S25R-SCZC$^{R}_{L}$09	●	●	32	25	16	200	218	8°		

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
		
NT-S08H-SCZC$^{R}_{L}$06	NT-ST006	NT-FT07
NT-S10K-SCZC$^{R}_{L}$06	NT-ST010	
NT-S12M-SCZC$^{R}_{L}$06		
NT-S16Q-SCZC$^{R}_{L}$09	NT-ST030	NT-FT15
NT-S20R-SCZC$^{R}_{L}$09		
NT-S25R-SCZC$^{R}_{L}$09		

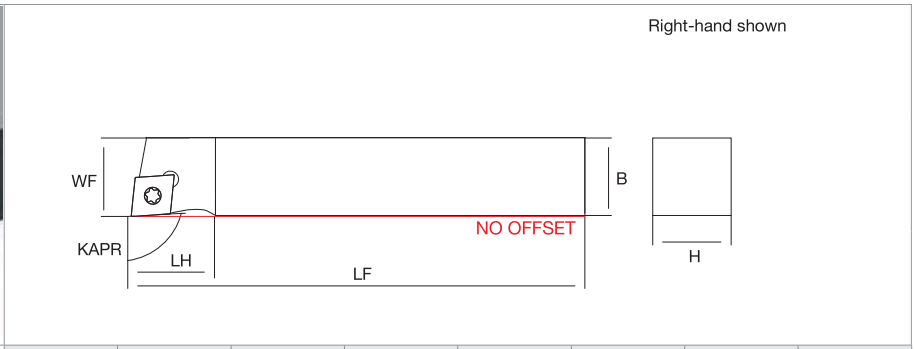
Inserts

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

CN

EXTERNAL

MICRONEGA



MICRO CN

External Turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
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

Spare Parts

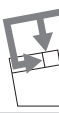
	INSERT SCREW	INSERT WRENCH
NT-EX10H-MICRO-CN RH/LH	NT-ST400	NT-FT10
NT-EX12H-MICRO-CN RH/LH		
NT-EX16K-MICRO-CN RH/LH		
NT-EX20K-MICRO-CN RH/LH		
NT-EX25M-MICRO-CN RH/LH		

Inserts

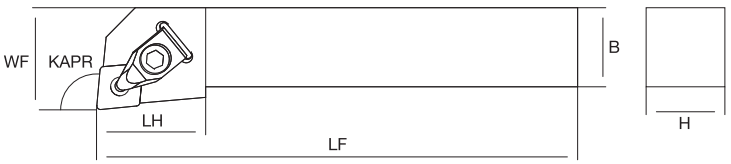
	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO CN	page 10	page 40	-	page 72

CN

EXTERNAL



Right-hand shown



DCLN
External Turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
09	NT-DCLN$^{R}_{L}$1616H09X	●	●	16	16	20	100	33		CN□□0903	
	NT-DCLN$^{R}_{L}$2020K09X	●	●	20	20	25	125	30			
	NT-DCLN$^{R}_{L}$2525M09X	●	●	25	25	32	150	30			
12	NT-DCLN$^{R}_{L}$2020K12X	●	●	20	20	25	125	40		CN□□1204	
	NT-DCLN$^{R}_{L}$2525M12X	●	●	25	25	32	150	36			
	NT-DCLN$^{R}_{L}$3225P12X	●	●	32	25	32	170	36			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-DCLN$^{R}_{L}$1616H09X	NT-SH012	NT-ST031	NT-WR020	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DCLN$^{R}_{L}$2020K09X							
NT-DCLN$^{R}_{L}$2525M09X							
NT-DCLN$^{R}_{L}$2020K12X	NT-SH030	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-DCLN$^{R}_{L}$2525M12X							
NT-DCLN$^{R}_{L}$3225P12X							

Inserts

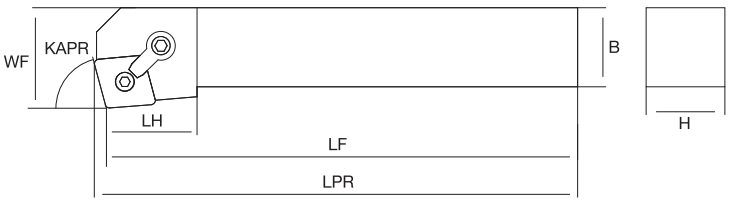
	CARBIDE	PCBN	CERAMIC	DIAMOND
CN□□0903	page 10	-	-	-
CN□□1204	page 10	page 40	page 57	page 72

CN

EXTERNAL

M

Right-hand shown



MCKN

External turning (KAPR 75°)

		R	L	H	B	WF	LF	LH	LPR	KG	MIID
12	NT-MCKN$^{R}_{L}$2020K12	●	●	20	20	25	122	37	125		CN□□1204
12	NT-MCKN$^{R}_{L}$2525M12	●	●	25	25	32	147	34	150		
12	NT-MCKN$^{R}_{L}$3232P12	●	●	32	32	40	167	40	170		
16	NT-MCKN$^{R}_{L}$3232P16	○	○	32	32	40	167	40	170		CN□□1606

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-MCKN$^{R}_{L}$2020K12	NT-SH030	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MCKN$^{R}_{L}$2525M12					
NT-MCKN$^{R}_{L}$3232P12					
NT-MCKN$^{R}_{L}$3232P16	NT-SH055	NT-SP040	NT-CS010	NT-SC010	NT-WR030

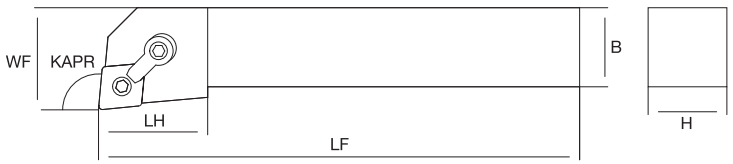
Inserts

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

CN

EXTERNAL

M



MCLN

External turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
12	**NT-MCLN$^{R}_{L}$2020K12**	●	●	20	20	25	125	33		CN□□1204	
	NT-MCLN$^{R}_{L}$2525M12	●	●	25	25	32	150	33			
	NT-MCLN$^{R}_{L}$3232P12	●	●	32	32	40	170	33			
16	**NT-MCLN$^{R}_{L}$2525M16**	●	●	25	25	32	150	33		CN□□1606	
	NT-MCLN$^{R}_{L}$3232P16	●	●	32	32	40	170	33			
19	**NT-MCLN$^{R}_{L}$3232P19**	○	○	32	32	40	170	38		CN□□1906	
	NT-MCLN$^{R}_{L}$4040S19	○	○	40	40	50	250	38			

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-MCLN$^{R}_{L}$2020K12	NT-SH030	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MCLN$^{R}_{L}$2525M12					
NT-MCLN$^{R}_{L}$3232P12					
NT-MCLN$^{R}_{L}$2525M16	NT-SH055	NT-SP040	NT-CS010	NT-SC010	NT-WR030
NT-MCLN$^{R}_{L}$3232P16					
NT-MCLN$^{R}_{L}$3232P19	NT-SH080	NT-SP050	NT-CS015	NT-SC070	NT-WR040
NT-MCLN$^{R}_{L}$4040S19					

Inserts

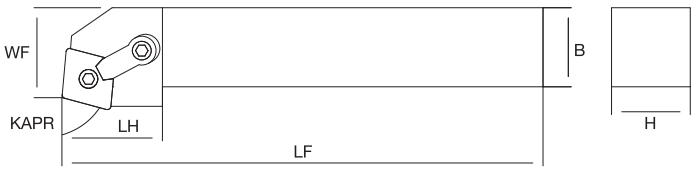
	CARBIDE	PCBN	CERAMIC	DIAMOND
CN□□1204	page 10	page 40	page 57	page 72
CN□□1606	page 10	-	page 57	-
CN□□1906	page 11	-	-	-

CN

EXTERNAL

M

Right-hand shown



MCRN

External turning (KAPR 75°)

		R	L	H	B	WF	LF	LH	KG	MIID	
12	NT-MCRN^{R}/L2020K12	●	●	20	20	22	125	37		CN□□1204	
12	NT-MCRN^{R}/L2525M12	●	●	25	25	27	150	34		CN□□1204	
12	NT-MCRN^{R}/L3232P12	●	●	32	32	35	170	40		CN□□1204	
16	NT-MCRN^{R}/L3232P16	○	○	32	32	35	170	40		CN□□1606	

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-MCRN^{R}/L2020K12	NT-SH030	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MCRN^{R}/L2525M12					
NT-MCRN^{R}/L3232P12					
NT-MCRN^{R}/L3232P16	NT-SH055	NT-SP040	NT-CS010	NT-SC010	NT-WR030

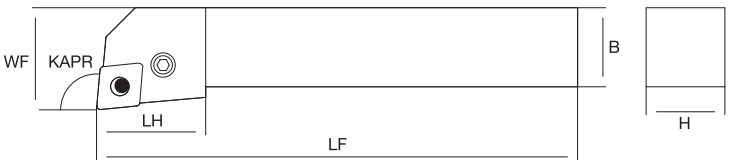
Inserts

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

CN

EXTERNAL

P



PCLN

External turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
09	NT-PCLN$^{R}_{L}$1616H09	●	●	16	16	20	100	20		CN□□0903	
	NT-PCLN$^{R}_{L}$2020K09	●	●	20	20	25	125	20			
	NT-PCLN$^{R}_{L}$2525M09	●	●	25	25	32	150	23			
12	NT-PCLN$^{R}_{L}$2020K12	●	●	20	20	25	125	26		CN□□1204	
	NT-PCLN$^{R}_{L}$2525M12	●	●	25	25	32	150	26			

● stock standard

Spare Parts

	SHIM	PLUG	LEVER	LEVER SCREW	WRENCH
NT-PCLN$^{R}_{L}$1616H09	NT-SH012	NT-SR012	NT-LL012	NT-SC015	NT-WR025
NT-PCLN$^{R}_{L}$2020K09					
NT-PCLN$^{R}_{L}$2525M09					
NT-PCLN$^{R}_{L}$2020K12	NT-SH035	NT-SR020	NT-LL020	NT-SC025	NT-WR030
NT-PCLN$^{R}_{L}$2525M12					

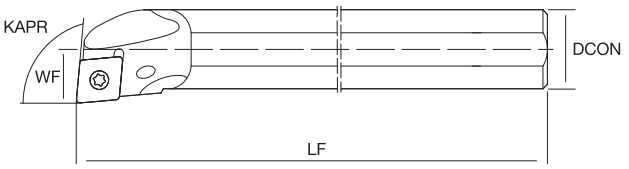
Inserts

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

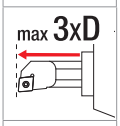
CN

INTERNAL

MICRONEGA



STEEL



INTERNAL COOLANT

A MICRO CN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
MICRO	NT-A08K-MICRO-CN RH/LH	●	●	10	8	5.5	125	21°		MICRO CN	
	NT-A10K-MICRO-CN RH/LH	●	●	12	10	6	125	21°			
	NT-A12M-MICRO-CN RH/LH	●	●	14	12	7	150	19°			
	NT-A16R-MICRO-CN RH/LH	●	●	20	16	10	200	16°			
	NT-A20R-MICRO-CN RH/LH	●	●	24	20	12.5	200	16°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
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		

Inserts

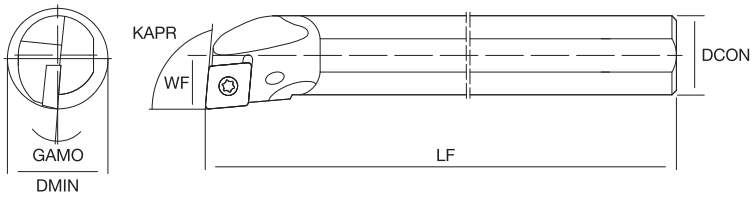
	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO CN	page 10	page 40	-	page 72

CN

INTERNAL

MICRONEGA

Right-hand shown



CARBIDE

max 7xD

INTERNAL COOLANT

E MICRO CN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
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

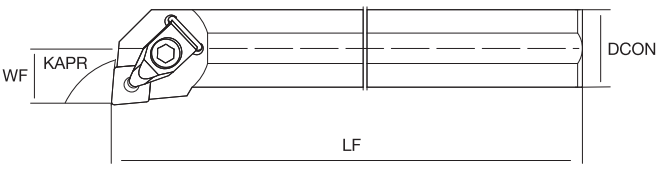
	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO CN	page 10	page 40	-	page 72

CN

INTERNAL

D

Right-hand shown



STEEL

max 3xD

INTERNAL COOLANT

A DCLN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
12	NT-A25R-DCLN$^{R}_{L}$12	●	●	32	25	17	200	14°		CN□□1204	
	NT-A32S-DCLN$^{R}_{L}$12	●	●	40	32	22	250	14°			
	NT-A40T-DCLN$^{R}_{L}$12	●	●	50	40	27	300	12°			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-A25R-DCLN$^{R}_{L}$12	NT-SH035	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-A32S-DCLN$^{R}_{L}$12							
NT-A40T-DCLN$^{R}_{L}$12							

Inserts

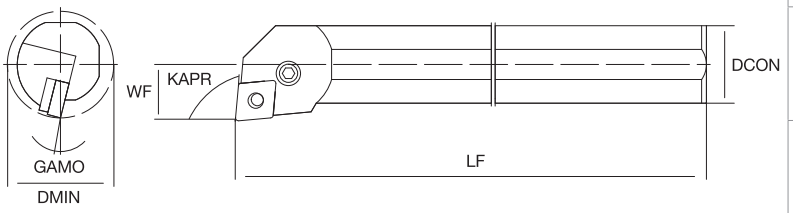
	CARBIDE	PCBN	CERAMIC	DIAMOND
CN□□1204	page 10	page 40	page 57	page 72

CN

INTERNAL

P

Right-hand shown



STEEL

max 3xD

INTERNAL COOLANT

A PCLN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
12	NT-A25R-PCLN$^{R}_{L}$12	●	●	32	25	17	200	11°		CN□□1204	
	NT-A32S-PCLN$^{R}_{L}$12	●	●	40	32	22	250	11°			
	NT-A40T-PCLN$^{R}_{L}$12	●	●	50	40	27	300	10°			

● stock standard

Spare Parts

	SHIM	PLUG	LEVER	LEVER SCREW	WRENCH
NT-A25R-PCLN$^{R}_{L}$12	-	NT-SR015	NT-LL015	NT-SC015	NT-WR025
NT-A32S-PCLN$^{R}_{L}$12	NT-SH035	NT-SR020	NT-LL020	NT-SC025	NT-WR030
NT-A40T-PCLN$^{R}_{L}$12					

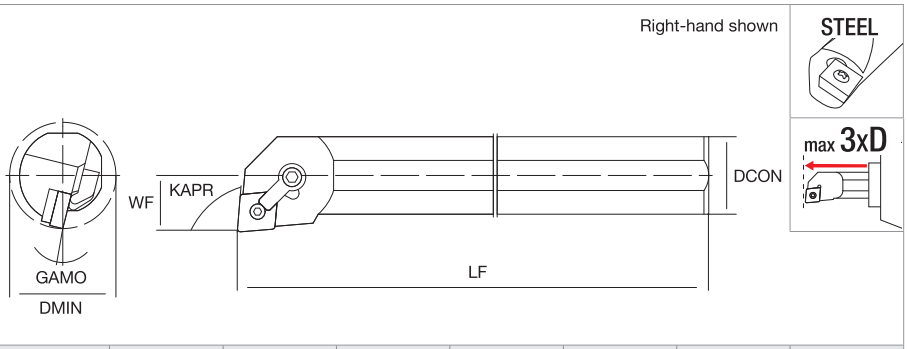
Inserts

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

CN

INTERNAL

M



S MCLN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
12	**NT-S20R-MCLN^{R}/L12**	●	●	25	20	13	200	17°		CN□□1204	
	NT-S25R-MCLN^{R}/L12	●	●	32	25	17	200	14°			
	NT-S32S-MCLN^{R}/L12	●	●	40	32	22	250	14°			
	NT-S40T-MCLN^{R}/L12	●	●	50	40	27	300	12°			
	NT-S50U-MCLN^{R}/L12	●	●	63	50	35	350	12°			
16	**NT-S40T-MCLN^{R}/L16**	●	●	50	40	27	300	11°		CN□□1606	
	NT-S50U-MCLN^{R}/L16	●	●	63	50	35	350	12°			
19	**NT-S50U-MCLN^{R}/L19**	●	●	63	50	35	350	12°		CN□□1906	

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH
NT-S20R-MCLN^{R}/L12	-	NT-SP035	NT-WR025	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MCLN^{R}/L12				NT-CS010	NT-SC008	NT-WR030
NT-S32S-MCLN^{R}/L12	NT-SH030	NT-SP010	NT-WR030		NT-SC010	
NT-S40T-MCLN^{R}/L12						
NT-S50U-MCLN^{R}/L12						
NT-S40T-MCLN^{R}/L16	NT-SH055	NT-SP040	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S50U-MCLN^{R}/L16						
NT-S50U-MCLN^{R}/L19	NT-SH080	NT-SP050	NT-WR030	NT-CS015	NT-SC070	NT-WR040

Inserts

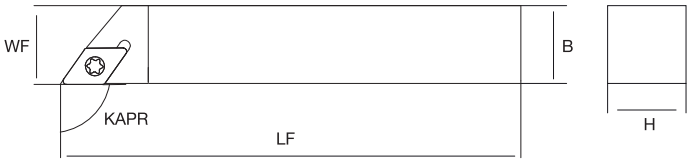
	CARBIDE	PCBN	CERAMIC	DIAMOND
CN□□1204	page 10	page 40	page 57	page 72
CN□□1606	page 10	-	page 57	-
CN□□1906	page 11	-	-	-

DC

EXTERNAL

S

Right-hand shown



SDAC

External turning (KAPR 90°)

		R	L	H	B	WF	LF	KG	MIID		
07	NT-SDAC$^{R}_{L}$0808K07	○	○	8	8	8	125		DC□□0702		
	NT-SDAC$^{R}_{L}$1010K07	●	●	10	10	10	125				
	NT-SDAC$^{R}_{L}$1212K07	●	●	12	12	12	125				
11	NT-SDAC$^{R}_{L}$1212K11	●	●	12	12	12	125		DC□□11T3		
	NT-SDAC$^{R}_{L}$1616K11	●	●	16	16	16	125				

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-SDAC$^{R}_{L}$0808K07	NT-ST010	NT-FT07
NT-SDAC$^{R}_{L}$1010K07		
NT-SDAC$^{R}_{L}$1212K07		
NT-SDAC$^{R}_{L}$1212K11	NT-ST035	NT-FT15
NT-SDAC$^{R}_{L}$1616K11		

Inserts

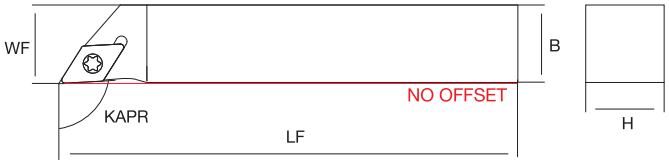
	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

DC

EXTERNAL

S

Right-hand shown



SDJC N

External turning (KAPR 93°)

		R	L	H	B	WF	LF	KG	MIID		
07	NT-SDJC$^{R}_{L}$0808K07N	○	○	8	8	8	125		DC□□0702		
	NT-SDJC$^{R}_{L}$1010K07N	●	●	10	10	10	125				
	NT-SDJC$^{R}_{L}$1212K07N	●	●	12	12	12	125				
11	NT-SDJC$^{R}_{L}$1212K11N	●	●	12	12	12	125		DC□□11T3		
	NT-SDJC$^{R}_{L}$1616K11N	●	●	16	16	16	125				

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-SDJC$^{R}_{L}$0808K07N	NT-ST010	NT-FT07
NT-SDJC$^{R}_{L}$1010K07N		
NT-SDJC$^{R}_{L}$1212K07N		
NT-SDJC$^{R}_{L}$1212K11N	NT-ST035	NT-FT15
NT-SDJC$^{R}_{L}$1616K11N		

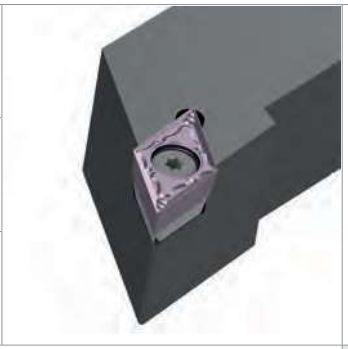
Inserts

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

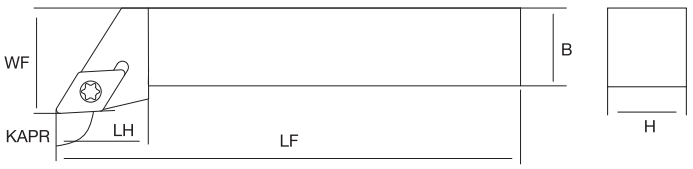
DC

EXTERNAL

S



Right-hand shown



SDJC
External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
11	NT-SDJC$^{R}_{L}$1616H11	●	●	16	16	20	100	18		DC□□11T3	
	NT-SDJC$^{R}_{L}$2020K11	●	●	20	20	25	125	23			
	NT-SDJC$^{R}_{L}$2525M11	●	●	25	25	32	150	27			
	NT-SDJC$^{R}_{L}$2020K11S	●	●	20	20	25	125	22		DC□□11T3	
	NT-SDJC$^{R}_{L}$2525M11S	●	●	25	25	32	150	25			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SDJC$^{R}_{L}$1616H11	-	-	-	NT-ST035	NT-FT15
NT-SDJC$^{R}_{L}$2020K11					
NT-SDJC$^{R}_{L}$2525M11					
NT-SDJC$^{R}_{L}$2020K11S	NT-SH007	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SDJC$^{R}_{L}$2525M11S					

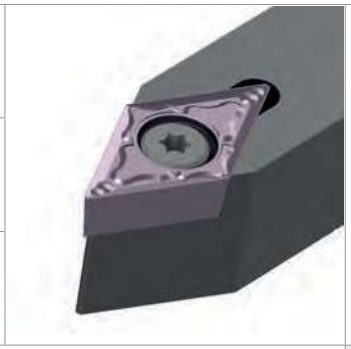
Inserts

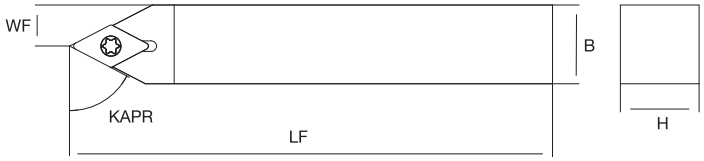
	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□11T3	page 14	page 42	-	page 73

DC

EXTERNAL

S





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

Spare Parts

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

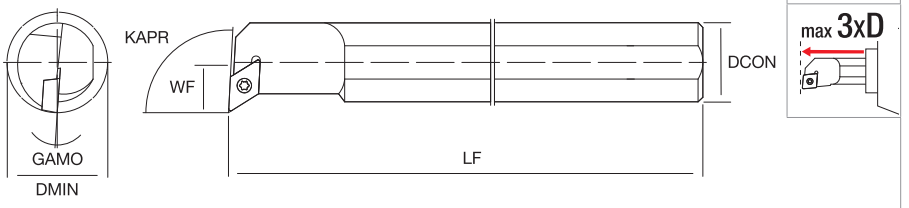
Inserts

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

DC

INTERNAL

S



S SDUC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
07	NT-S10M-SDUC$^{R}_{L}$07	●	●	13	10	7	150	10°		DC□□0702	
	NT-S12M-SDUC$^{R}_{L}$07	●	●	16	12	9	150	8°			
	NT-S16Q-SDUC$^{R}_{L}$07	●	●	20	16	11	180	6°			
	NT-S20R-SDUC$^{R}_{L}$07	●	●	25	20	13	200	5°			
11	NT-S16Q-SDUC$^{R}_{L}$11	●	●	20	16	11	180	7°		DC□□11T3	
	NT-S20R-SDUC$^{R}_{L}$11	●	●	25	20	13	200	8°			
	NT-S25R-SDUC$^{R}_{L}$11	●	●	32	25	17	200	4°			
	NT-S32S-SDUC$^{R}_{L}$11	●	●	39	32	22	250	4°			
	NT-S40T-SDUC$^{R}_{L}$11	●	●	50	40	24	300	2°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-S10M-SDUC$^{R}_{L}$07	NT-ST010	NT-FT07
NT-S12M-SDUC$^{R}_{L}$07		
NT-S16Q-SDUC$^{R}_{L}$07		
NT-S20R-SDUC$^{R}_{L}$07		
NT-S16Q-SDUC$^{R}_{L}$11	NT-ST035	NT-FT15
NT-S20R-SDUC$^{R}_{L}$11		
NT-S25R-SDUC$^{R}_{L}$11		
NT-S32S-SDUC$^{R}_{L}$11		
NT-S40T-SDUC$^{R}_{L}$11		

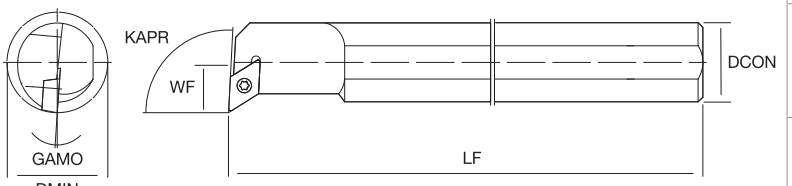
Inserts

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

DC

INTERNAL

S



STEEL

max 3xD

INTERNAL COOLANT

A SDUC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
07	NT-A10M-SDUC$^{R}_{L}$07	●	●	13	10	7	150	10°		DC□□0702	
	NT-A12M-SDUC$^{R}_{L}$07	●	●	16	12	9	150	8°			
	NT-A16Q-SDUC$^{R}_{L}$07	●	●	20	16	11	180	6°			
	NT-A20R-SDUC$^{R}_{L}$07	●	●	25	20	13	200	5°			
11	NT-A16Q-SDUC$^{R}_{L}$11	●	●	20	16	11	180	7°		DC□□11T3	
	NT-A20R-SDUC$^{R}_{L}$11	●	●	25	20	13	200	8°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-A10M-SDUC$^{R}_{L}$07	NT-ST010	NT-FT07
NT-A12M-SDUC$^{R}_{L}$07		
NT-A16Q-SDUC$^{R}_{L}$07		
NT-A20R-SDUC$^{R}_{L}$07		
NT-A16Q-SDUC$^{R}_{L}$11	NT-ST035	NT-FT15
NT-A20R-SDUC$^{R}_{L}$11		

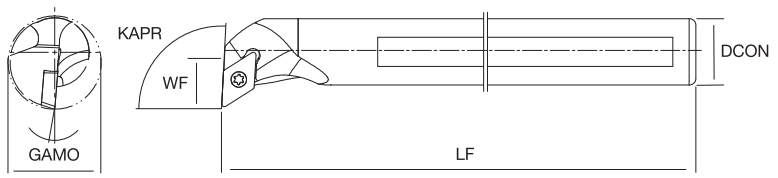
Inserts

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

DC

INTERNAL

S



VORTEX

max 5xD

INTERNAL COOLANT

V SDUC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
07	NT-V10K-SDUC$^{R}_{L}$07-14	●	●	14	10	8.7	125	5°		DC□□0702	
	NT-V12M-SDUC$^{R}_{L}$07-16	●	●	16	12	9.7	150	5°			
	NT-V16Q-SDUC$^{R}_{L}$07-20	●	●	20	16	11.7	180	5°			
	NT-V20R-SDUC$^{R}_{L}$07-25	●	●	25	20	13.7	200	5°			
11	NT-V16Q-SDUC$^{R}_{L}$11-23	●	●	23	16	14.5	180	5°		DC□□11T3	
	NT-V20R-SDUC$^{R}_{L}$11-27	●	●	27	20	16.5	200	5°			
	NT-V25S-SDUC$^{R}_{L}$11-32	●	●	32	25	19	250	5°			

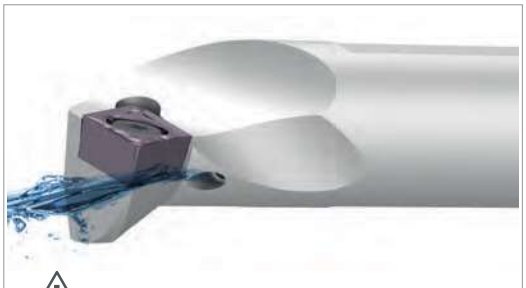
● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-V10K-SDUC$^{R}_{L}$07-14	NT-ST010	NT-FT07
NT-V12M-SDUC$^{R}_{L}$07-16		
NT-V16Q-SDUC$^{R}_{L}$07-20		
NT-V20R-SDUC$^{R}_{L}$07-25		
NT-V16Q-SDUC$^{R}_{L}$11-23	NT-ST035	NT-FT15
NT-V20R-SDUC$^{R}_{L}$11-27		
NT-V25S-SDUC$^{R}_{L}$11-32		

Inserts

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



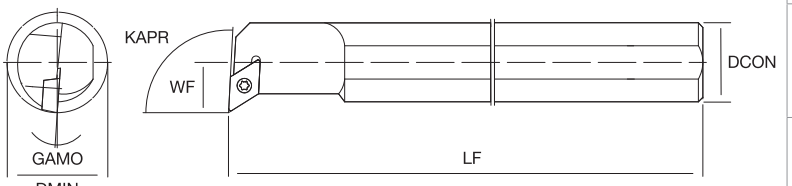
COOLANT HOLE POSITION

Improved chip evacuation thanks to optimized direction of coolant jet

DC

INTERNAL

S



CARBIDE

max 7xD

INTERNAL COOLANT

E SDUC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
07	NT-E10K-SDUC$^{R}_{L}$07	●	●	13	10	7	125	10°		DC□□0702	
	NT-E12M-SDUC$^{R}_{L}$07	●	●	16	12	9	150	8°			
11	NT-E16R-SDUC$^{R}_{L}$11	●	●	20	16	11	200	7°		DC□□11T3	
	NT-E20R-SDUC$^{R}_{L}$11	●	●	25	20	13	200	8°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-E10K-SDUC$^{R}_{L}$07	NT-ST010	NT-FT07
NT-E12M-SDUC$^{R}_{L}$07		
NT-E16R-SDUC$^{R}_{L}$11	NT-ST035	NT-FT15
NT-E20R-SDUC$^{R}_{L}$11		

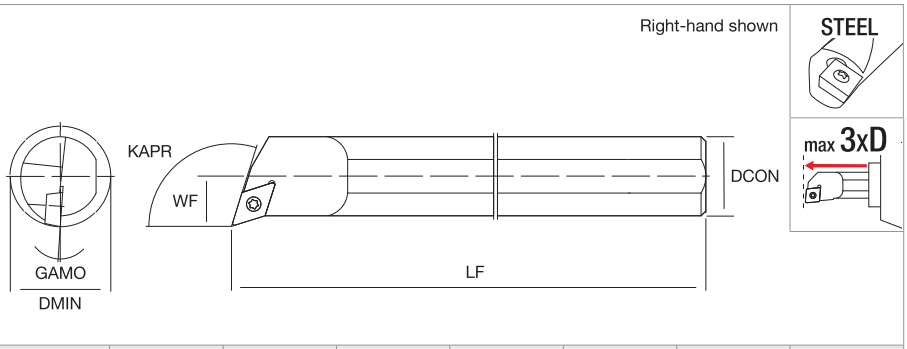
Inserts

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

DC

INTERNAL

S



S SDQC

Internal turning (KAPR 107.5°)

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

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-S10M-SDQC$^{R}_{L}$07	NT-ST010	NT-FT07
NT-S12M-SDQC$^{R}_{L}$07		
NT-S16Q-SDQC$^{R}_{L}$07		
NT-S20R-SDQC$^{R}_{L}$07		
NT-S16Q-SDQC$^{R}_{L}$11	NT-ST035	NT-FT15
NT-S20R-SDQC$^{R}_{L}$11		
NT-S25R-SDQC$^{R}_{L}$11		
NT-S32S-SDQC$^{R}_{L}$11		

Inserts

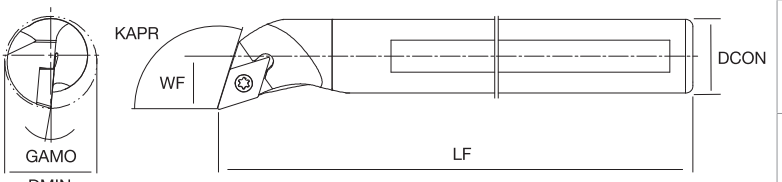
	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

DC

INTERNAL

S

Right-hand shown



VORTEX

max 5xD

INTERNAL COOLANT

V SDQC

Internal turning (KAPR 107.5°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
07	NT-V10K-SDQC$^{R}_{L}$07-13	●	●	13	10	7.7	125	10°		DC□□0702	
	NT-V12M-SDQC$^{R}_{L}$07-16	●	●	16	12	9.7	150	8°			
	NT-V16Q-SDQC$^{R}_{L}$07-20	●	●	20	16	11.7	180	6°			
	NT-V20R-SDQC$^{R}_{L}$07-25	●	●	25	20	13.7	200	5°			
11	NT-V16Q-SDQC$^{R}_{L}$11-20	●	●	20	16	11.5	180	6°		DC□□11T3	
	NT-V20R-SDQC$^{R}_{L}$11-25	●	●	25	20	14.4	200	5°			
	NT-V25S-SDQC$^{R}_{L}$11-30	●	●	30	25	16.9	250	4°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-V10K-SDQC$^{R}_{L}$07-13	NT-ST010	NT-FT07
NT-V12M-SDQC$^{R}_{L}$07-16		
NT-V16Q-SDQC$^{R}_{L}$07-20		
NT-V20R-SDQC$^{R}_{L}$07-25		
NT-V16Q-SDQC$^{R}_{L}$11-20	NT-ST035	NT-FT15
NT-V20R-SDQC$^{R}_{L}$11-25		
NT-V25S-SDQC$^{R}_{L}$11-30		

Inserts

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

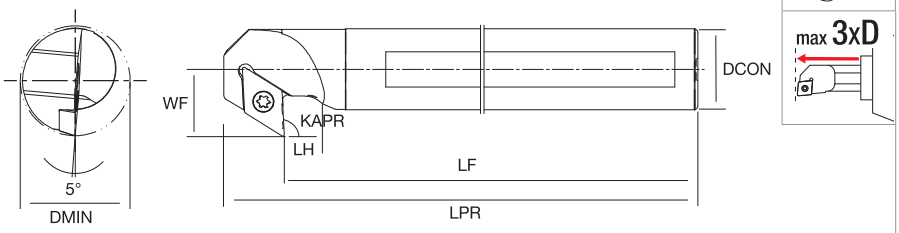
COOLANT HOLE POSITION

Improved chip evacuation thanks to optimized direction of coolant jet

DC

INTERNAL

S



S SDZC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	LPR	GAMO	KG	MIID
07	NT-S10M-SDZC$^{R}_{L}$07	●	●	14	10	8.5	139	150	10°		DC□□0702
	NT-S12M-SDZC$^{R}_{L}$07	●	●	17	12	10.5	139	150	9°		
	NT-S16Q-SDZC$^{R}_{L}$07	●	●	21	16	12.5	169	180	8°		
11	NT-S20R-SDZC$^{R}_{L}$11	●	●	26	20	15.5	184	200	8°		DC□□11T3
	NT-S25R-SDZC$^{R}_{L}$11	○	○	33	25	18	180	200	6°		
	NT-S32S-SDZC$^{R}_{L}$11	○	○	38	32	21.5	230	250	4°		

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-S10M-SDZC$^{R}_{L}$07	NT-ST010	NT-FT07
NT-S12M-SDZC$^{R}_{L}$07		
NT-S16Q-SDZC$^{R}_{L}$07		
NT-S20R-SDZC$^{R}_{L}$11	NT-ST035	NT-FT15
NT-S25R-SDZC$^{R}_{L}$11		
NT-S32S-SDZC$^{R}_{L}$11		

Inserts

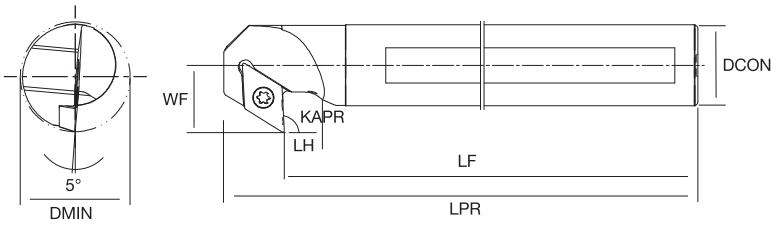
	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

DC

INTERNAL

S

Right-hand shown



VORTEX

max 5xD

INTERNAL COOLANT

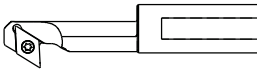
V SDZC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	LH	LPR	KG	MIID
07	NT-V10L-SDZC$^{R}_{L}$07-14	●	●	14	10	8.7	130.5	14	140		DC□□0702
	NT-V12M-SDZC$^{R}_{L}$07-16	●	●	16	12	9.7	139.5	12.5	150		
	NT-V16Q-SDZC$^{R}_{L}$07-14*	●	●	14	16	13	170	30	180		
	NT-V16Q-SDZC$^{R}_{L}$07-20	●	●	20	16	11.7	169.5	17.5	180		
11	NT-V16Q-SDZC$^{R}_{L}$11-23	●	●	23	16	14.5	165	15	180		DC□□11T3
	NT-V20R-SDZC$^{R}_{L}$11-20*	●	●	20	20	16.1	185	40	200		
	NT-V20R-SDZC$^{R}_{L}$11-27	●	●	27	20	16.5	185	15	200		
	NT-V25S-SDZC$^{R}_{L}$11-32	●	●	32	25	19	235	15	250		

● stock standard

*Reduced neck



Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-V10L-SDZC$^{R}_{L}$07-14	NT-ST010	NT-FT07
NT-V12M-SDZC$^{R}_{L}$07-16		
NT-V16Q-SDZC$^{R}_{L}$07-14		
NT-V16Q-SDZC$^{R}_{L}$07-20		
NT-V16Q-SDZC$^{R}_{L}$11-23	NT-ST035	NT-FT15
NT-V20R-SDZC$^{R}_{L}$11-20		
NT-V20R-SDZC$^{R}_{L}$11-27		
NT-V25S-SDZC$^{R}_{L}$11-32		

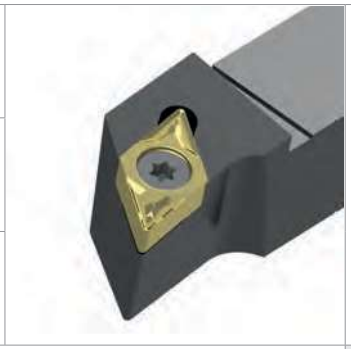
Inserts

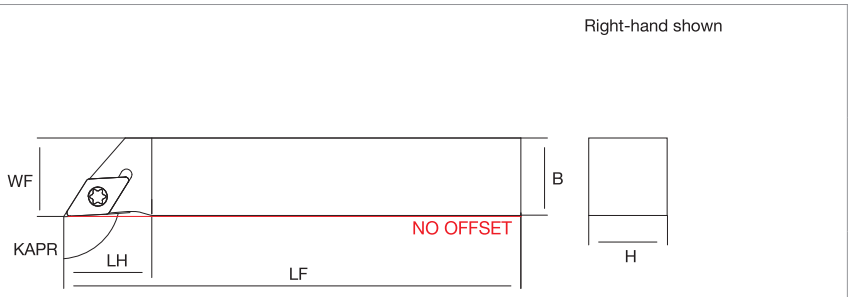
	CARBIDE	PCBN	CERAMIC	DIAMOND
DC□□0702	page 14	page 42	-	page 73
DC□□11T3	page 14	page 42	-	page 73

DN

EXTERNAL

MICRONEGA





MICRO DN

External Turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
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		

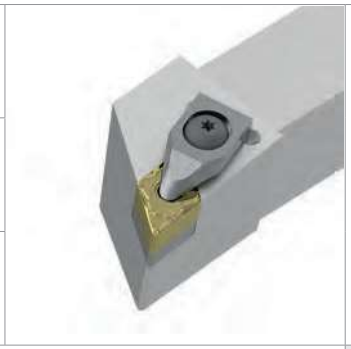
Inserts

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

DN

EXTERNAL

D



Right-hand shown

DDJN

External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
11	NT-DDJN[R]/L1616H11X	●	●	16	16	20	100	36		DN□□1104	
	NT-DDJN[R]/L2020K11X	●	●	20	20	25	125	36			
	NT-DDJN[R]/L2525M11X	●	●	25	25	32	150	36			
15	NT-DDJN[R]/L2020K1506X	●	●	20	20	25	125	43		DN□□1506 (DN□□1504)*	
	NT-DDJN[R]/L2525M1506X	●	●	25	25	32	150	43			
	NT-DDJN[R]/L3225P1506X	●	●	32	25	32	170	43			

● stock standard

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

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-DDJN[R]/L1616H11X	NT-SH007	NT-ST250	NT-WR020	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DDJN[R]/L2020K11X							
NT-DDJN[R]/L2525M11X							
NT-DDJN[R]/L2020K1506X	NT-SH045*	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-DDJN[R]/L2525M1506X							
NT-DDJN[R]/L3225P1506X							

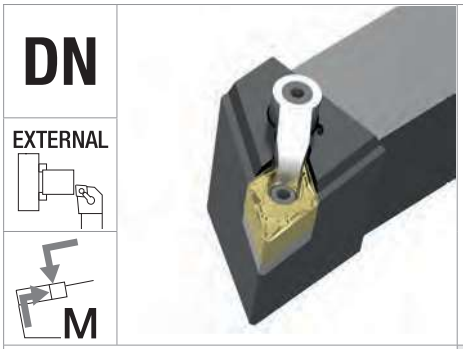
*Shim for DNMG1504: **NT-SH025**

Inserts

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

DN

EXTERNAL



MDJN
External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
15	NT-MDJN$^{R}_{L}$2020K1506	●	●	20	20	25	125	37		DN□□1506 (DN□□1504)*	
	NT-MDJN$^{R}_{L}$2525M1506	●	●	25	25	32	150	37			
	NT-MDJN$^{R}_{L}$3232P1506	●	●	32	32	40	170	42			

● stock standard

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

Spare Parts

	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-MDJN$^{R}_{L}$2020K1506	NT-SH045*	NT-SP025	NT-CS025	NT-SC010	NT-WR030
NT-MDJN$^{R}_{L}$2525M1506					
NT-MDJN$^{R}_{L}$3232P1506					

*Shim for DNMG1504: **NT-SH025**

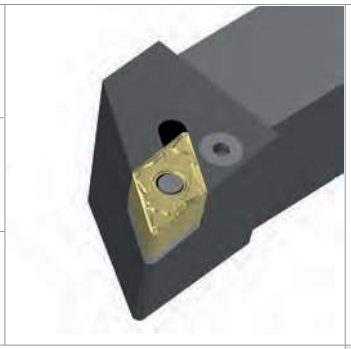
Inserts

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

DN

EXTERNAL

P



Right-hand shown

PDJN

External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
15	NT-PDJN[R/L]2525M1506	●	●	25	25	32	150	36		DN□□1506	

● stock standard

Spare Parts

	SHIM	PLUG	LEVER	LEVER SCREW	WRENCH
					
NT-PDJN[R/L]2525M1506	NT-SH020	NT-SR020	NT-LL020	NT-SC020	NT-WR030

Inserts

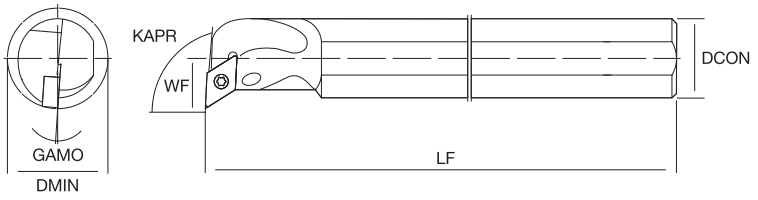
	CARBIDE	PCBN	CERAMIC	DIAMOND
				
DN□□1506	page 16	page 43	page 59	page 75

DN

INTERNAL

MICRONEGA

Right-hand shown



STEEL

max 3xD

INTERNAL COOLANT

A MICRO DN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
MICRO	NT-A10K-MICRO-DN RH/LH	●	●	15	10	9.3	125	19°		MICRO DN	
	NT-A12M-MICRO-DN RH/LH	●	●	16	12	9	150	17°			
	NT-A16R-MICRO-DN RH/LH	●	●	20	16	11	200	17°			
	NT-A20R-MICRO-DN RH/LH	●	●	24	20	13	200	17°			

● stock standard

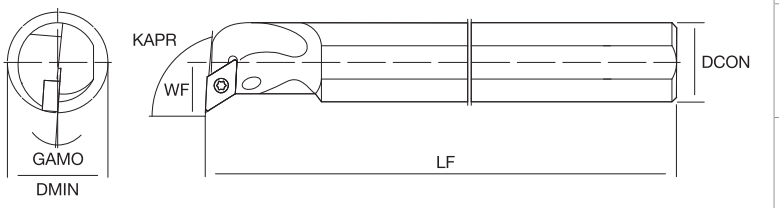
Spare Parts	INSERT SCREW	INSERT WRENCH
NT-A10K-MICRO-DN RH/LH	NT-ST400	NT-FT10
NT-A12M-MICRO-DN RH/LH		
NT-A16R-MICRO-DN RH/LH		
NT-A20R-MICRO-DN RH/LH		

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

DN

INTERNAL

MICRONEGA



CARBIDE

max 7xD

INTERNAL COOLANT

E MICRO DN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
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

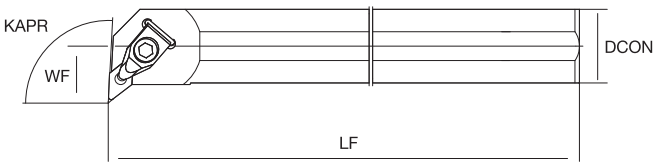
	CARBIDE	PCBN	CERAMIC	DIAMOND
MICRO DN	page 16	page 43	-	page 75

DN

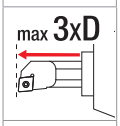
INTERNAL

D

Right-hand shown



STEEL



INTERNAL COOLANT

A DDUN

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
15	NT-A25R-DDUN$^{R}_{L}$1506	●	●	32	25	17	200	16°		DN□□1506	
	NT-A32S-DDUN$^{R}_{L}$1506	●	●	40	32	22	250	12°			
	NT-A40T-DDUN$^{R}_{L}$1506	●	●	50	40	27	300	10°			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-A25R-DDUN$^{R}_{L}$1506	NT-SH020	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-A32S-DDUN$^{R}_{L}$1506							
NT-A40T-DDUN$^{R}_{L}$1506							

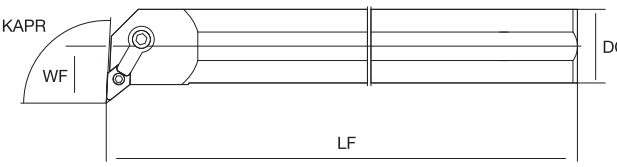
Inserts

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

DN

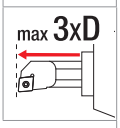
INTERNAL

M



Right-hand shown

STEEL



S MDUN

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
15	NT-S32S-MDUN$^{R}_{L}$1506	●	●	40	32	22	250	17°		DN□□1506 (DN□□1504)*	
	NT-S40T-MDUN$^{R}_{L}$1506	●	●	50	40	27	350	15°			
	NT-S50U-MDUN$^{R}_{L}$1506	●	●	63	50	35	300	12°			

● stock standard

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

Spare Parts

	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-S32S-MDUN$^{R}_{L}$1506	NT-SH045*	NT-SP025	NT-CS025	NT-SC008	NT-WR030
NT-S40T-MDUN$^{R}_{L}$1506				NT-SC010	
NT-S50U-MDUN$^{R}_{L}$1506					

*Shim for DNMG1504: **NT-SH025**

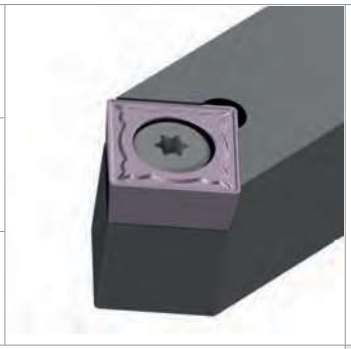
Inserts

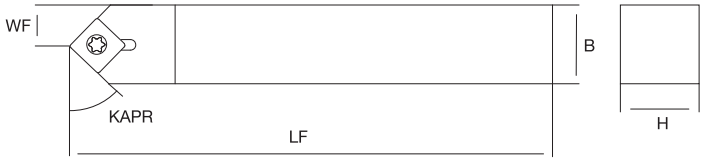
	CARBIDE	PCBN	CERAMIC	DIAMOND
DN□□1504	-	page 43	-	-
DN□□1506	page 16	page 43	page 59	page 75

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

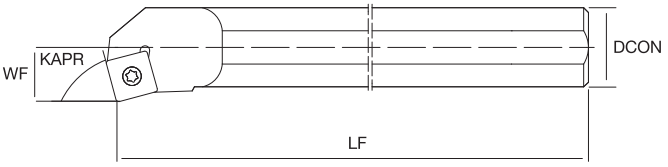
	INSERT SCREW	INSERT WRENCH
NT-SSDCN2020K09	NT-ST020	NT-FT15
NT-SSDCN2525M09		
NT-SSDCN2020K12	NT-ST050	NT-FT15
NT-SSDCN2525M12		

Inserts

	CARBIDE	PCBN	CERAMIC	DIAMOND
SC□□09T3	page 20	-	page 62	-
SC□□1204	page 20	-	page 62	-

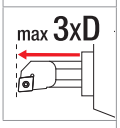
SC

INTERNAL



Right-hand shown

STEEL



S SSKC

Internal turning (KAPR 75°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
09	NT-S12M-SSKC$^{R}_{L}$09	●	●	16	12	8.5	150	12°		SC□□09T3	
	NT-S16Q-SSKC$^{R}_{L}$09	●	●	20	16	11	180	11°			
	NT-S20R-SSKC$^{R}_{L}$09	●	●	25	20	13	200	6°			
	NT-S25R-SSKC$^{R}_{L}$09	●	●	31	25	15	200	6°			
12	NT-S25R-SSKC$^{R}_{L}$12	●	●	32	25	17	200	7°		SC□□1204	
	NT-S32S-SSKC$^{R}_{L}$12	●	●	40	32	22	250	7°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
		
NT-S12M-SSKC$^{R}_{L}$09	NT-ST020	NT-FT15
NT-S16Q-SSKC$^{R}_{L}$09		
NT-S20R-SSKC$^{R}_{L}$09		
NT-S25R-SSKC$^{R}_{L}$09		
NT-S25R-SSKC$^{R}_{L}$12	NT-ST050	NT-FT15
NT-S32S-SSKC$^{R}_{L}$12		

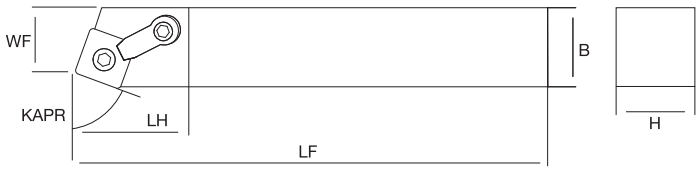
Inserts

	CARBIDE	PCBN	CERAMIC	DIAMOND
				
SC□□09T3	page 20	-	page 62	-
SC□□1204	page 20	-	page 62	-

SN

EXTERNAL

Right-hand shown



MSBN

External turning (KAPR 75°)

		R	L	H	B	WF	LF	LH	KG	MIID	
12	NT-MSBN$^{R}_{L}$2020K12	●	●	20	20	17	125	37		SN□□1204	
12	NT-MSBN$^{R}_{L}$2525M12	●	●	25	25	22	150	37		SN□□1204	
12	NT-MSBN$^{R}_{L}$3232P12	○	○	32	32	27	170	42		SN□□1204	
19	NT-MSBN$^{R}_{L}$3232P19	○	○	32	32	27	170	42		SN□□1906	
19	NT-MSBN$^{R}_{L}$4040S19	○	○	40	40	35	250	42		SN□□1906	

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
					
NT-MSBN$^{R}_{L}$2020K12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSBN$^{R}_{L}$2525M12					
NT-MSBN$^{R}_{L}$3232P12					
NT-MSBN$^{R}_{L}$3232P19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040
NT-MSBN$^{R}_{L}$4040S19					

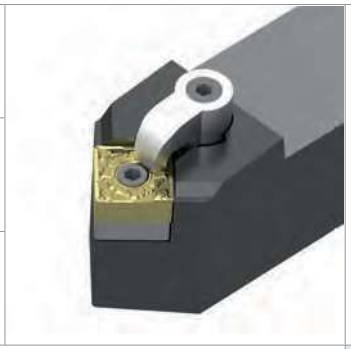
Inserts

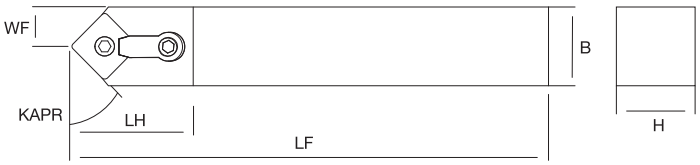
	CARBIDE	PCBN	CERAMIC	DIAMOND
				
SN□□1204	page 21	page 46	page 63	-
SN□□1906	page 22	-	-	-

SN

EXTERNAL

M





MSDNN

External turning (KAPR 45°)

			H	B	WF	LF	LH	KG	MIID	
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

Spare Parts

	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
					
NT-MSDNN2020K12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSDNN2525M12					
NT-MSDNN3232P12					

Inserts

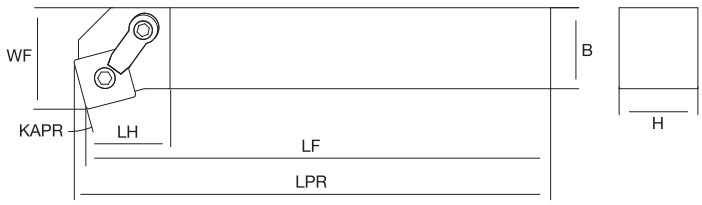
	CARBIDE	PCBN	CERAMIC	DIAMOND
				
SN□□1204	page 21	page 46	page 63	-

SN

EXTERNAL

M

Right-hand shown



MSKN

External turning (KAPR 75°)

		R	L	H	B	WF	LF	LH	LPR	KG	MIID
12	NT-MSKN$^{R}_{L}$2020K12	●	●	20	20	25	122	37	125		SN□□1204
12	NT-MSKN$^{R}_{L}$2525M12	●	●	25	25	32	147	37	150		SN□□1204
12	NT-MSKN$^{R}_{L}$3232P12	○	○	32	32	40	167	42	170		SN□□1204
19	NT-MSKN$^{R}_{L}$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$^{R}_{L}$2020K12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSKN$^{R}_{L}$2525M12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSKN$^{R}_{L}$3232P12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSKN$^{R}_{L}$4040S19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040

Inserts

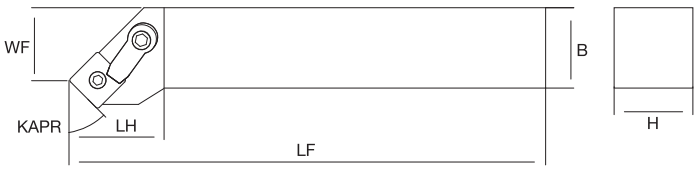
	CARBIDE	PCBN	CERAMIC	DIAMOND
SN□□1204	page 21	page 46	page 63	-
SN□□1906	page 22	-	-	-

SN

EXTERNAL

M

Right-hand shown



MSSN

External turning (KAPR 45°)

		R	L	H	B	WF	LF	LH	KG	MIID	
12	NT-MSSN$^{R}_{L}$2020K12	●	●	20	20	25	125	35		SN□□1204	
	NT-MSSN$^{R}_{L}$2525M12	●	●	25	25	32	150	35			
	NT-MSSN$^{R}_{L}$3232P12	○	○	32	32	40	170	42			
19	NT-MSSN$^{R}_{L}$3232P19	○	○	32	32	40	170	42		SN□□1906	
	NT-MSSN$^{R}_{L}$4040S19	○	○	40	40	40	250	42			

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	ECCENTRIC PIN	CLAMP	CLAMP SCREW	WRENCH
NT-MSSN$^{R}_{L}$2020K12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSSN$^{R}_{L}$2525M12					
NT-MSSN$^{R}_{L}$3232P12					
NT-MSSN$^{R}_{L}$3232P19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040
NT-MSSN$^{R}_{L}$4040S19					

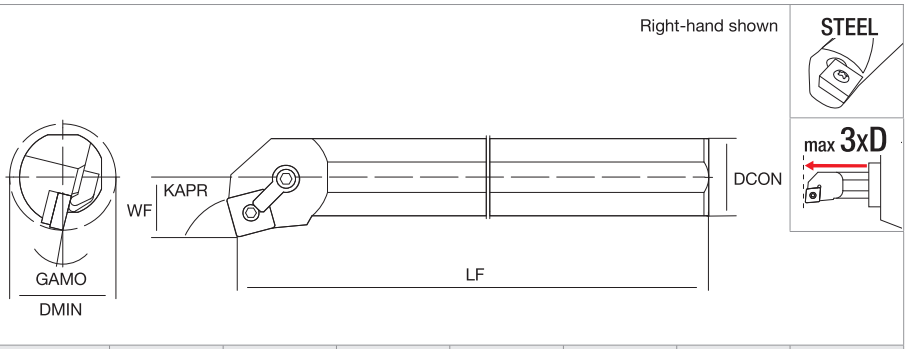
Inserts

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

SN

INTERNAL

M



S MSKN

Internal turning (KAPR 75°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
12	NT-S20R-MSKN$^{R}_{L}$12	●	●	25	20	13	200	17°		SN□□1204	
	NT-S25R-MSKN$^{R}_{L}$12	●	●	32	25	17	200	14°			
	NT-S32S-MSKN$^{R}_{L}$12	●	●	40	32	22	250	14°			
	NT-S40T-MSKN$^{R}_{L}$12	●	●	50	40	27	300	15°			
	NT-S50U-MSKN$^{R}_{L}$12	●	●	63	50	35	350	12°			
19	NT-S50U-MSKN$^{R}_{L}$19	○	○	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$^{R}_{L}$12	-	NT-SP035	NT-WR025	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MSKN$^{R}_{L}$12				NT-CS010	NT-SC008	NT-WR030
NT-S32S-MSKN$^{R}_{L}$12	NT-SH070	NT-SP010	NT-WR030		NT-SC010	
NT-S40T-MSKN$^{R}_{L}$12						
NT-S50U-MSKN$^{R}_{L}$12						
NT-S50U-MSKN$^{R}_{L}$19	NT-SH090	NT-SP050	NT-WR030	NT-CS015	NT-SC070	NT-WR040

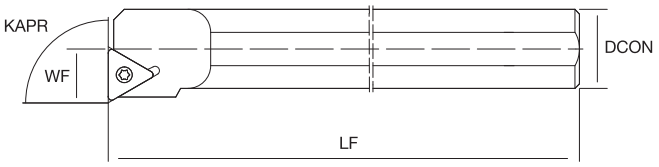
Inserts

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

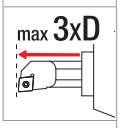
TB

INTERNAL

S



Right-hand shown



S STUB

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
06	NT-S08H-STUB$^{R}_{L}$06	●	●	10	8	4	100	12°		TB□□061	

● stock standard

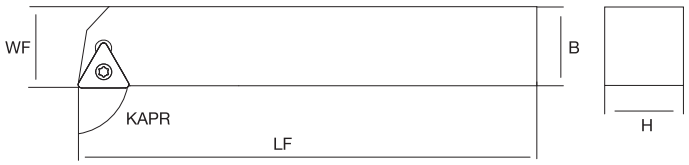
Spare Parts	INSERT SCREW	INSERT WRENCH
		
NT-S08H-STUB$^{R}_{L}$06	NT-ST003	NT-FT06

TC

EXTERNAL

S

Right-hand shown



STAC

External turning (KAPR 90°)

		R	L	H	B	WF	LF	KG	MIID		
09	NT-STAC$^{R}_{L}$0808H09	○	○	8	8	8.5	100		TC□□0902		
	NT-STAC$^{R}_{L}$1010H09	○	○	10	10	10.5	100				
11	NT-STAC$^{R}_{L}$1212H11	●	●	12	12	12.5	100		TC□□1102		
	NT-STAC$^{R}_{L}$1616H11	●	●	16	16	16.5	100				

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-STAC$^{R}_{L}$0808H09	NT-ST004	NT-FT07
NT-STAC$^{R}_{L}$1010H09		
NT-STAC$^{R}_{L}$1212H11	NT-ST010	NT-FT07
NT-STAC$^{R}_{L}$1616H11		

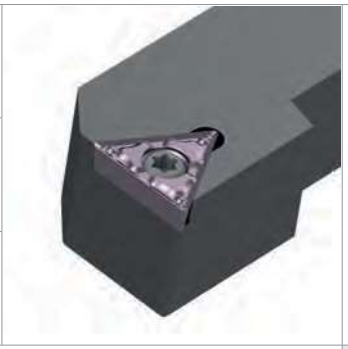
Inserts

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

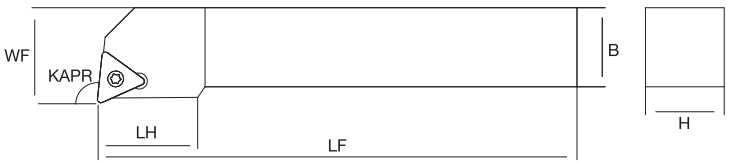
TC

EXTERNAL

S



Right-hand shown



STFC

External turning (KAPR 91°)

		R	L	H	B	WF	LF	LH	KG	MIID	
09	NT-STFC$^{R}_{L}$0808H09	○	○	8	8	10	100	12		TC□□0902	
	NT-STFC$^{R}_{L}$1010H09	○	○	10	10	12	100	12			
11	NT-STFC$^{R}_{L}$1212H11	●	●	12	12	16	100	17		TC□□1102	
	NT-STFC$^{R}_{L}$1616H11	●	●	16	16	20	100	18			
16	NT-STFC$^{R}_{L}$2020K16	●	●	20	20	25	125	22		TC□□16T3	
	NT-STFC$^{R}_{L}$2525M16	●	●	25	25	32	150	25			

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-STFC$^{R}_{L}$0808H09	NT-ST004	NT-FT07
NT-STFC$^{R}_{L}$1010H09		
NT-STFC$^{R}_{L}$1212H11	NT-ST010	NT-FT07
NT-STFC$^{R}_{L}$1616H11		
NT-STFC$^{R}_{L}$2020K16	NT-ST020	NT-FT15
NT-STFC$^{R}_{L}$2525M16		

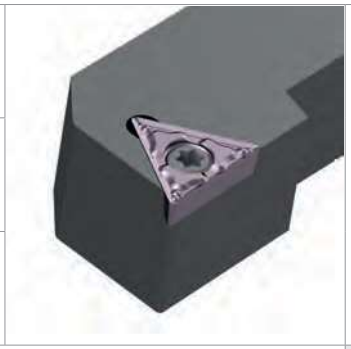
Inserts

	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

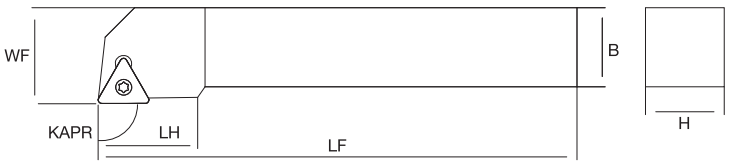
TC

EXTERNAL

S



Right-hand shown



STGC

External turning (KAPR 91°)

		R	L	H	B	WF	LF	LH	KG	MIID	
11	NT-STGC$^{R}_{L}$1212H11	○	○	12	12	16	100	17		TC□□1102	
	NT-STGC$^{R}_{L}$1616H11	○	●	16	16	20	100	18			
16	NT-STGC$^{R}_{L}$2020K16	●	●	20	20	25	125	22		TC□□16T3	
	NT-STGC$^{R}_{L}$2525M16	●	●	25	25	32	150	25			

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-STGC$^{R}_{L}$1212H11	NT-ST010	NT-FT07
NT-STGC$^{R}_{L}$1616H11		
NT-STGC$^{R}_{L}$2020K16	NT-ST020	NT-FT15
NT-STGC$^{R}_{L}$2525M16		

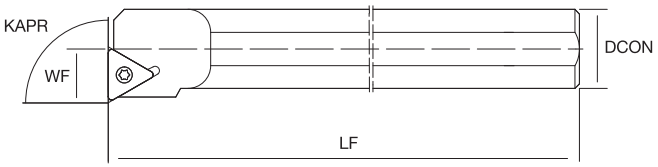
Inserts

	CARBIDE	PCBN	CERAMIC	DIAMOND
TC□□1102	page 24	page 47	-	page 76
TC□□16T3	page 24	page 47	-	page 76

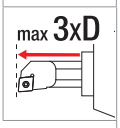
TC

INTERNAL

S



Right-hand shown



S STFC

Internal turning (KAPR 91°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
09	NT-S08H-STFC$^{R}_{L}$09	●	●	12	8	6	100	15°		TC□□0902	
	NT-S10K-STFC$^{R}_{L}$09	●	●	14	10	7	125	15°			
	NT-S12M-STFC$^{R}_{L}$09	●	●	16	12	9	150	10°			
11	NT-S10K-STFC$^{R}_{L}$11	●	●	14	10	7	125	15°		TC□□1102	
	NT-S12M-STFC$^{R}_{L}$11	●	●	14	12	7	150	10°			
	NT-S16K-STFC$^{R}_{L}$11	●	●	18	16	9	180	8°			
	NT-S20R-STFC$^{R}_{L}$11	●	●	25	20	13	200	3°			
16	NT-S20R-STFC$^{R}_{L}$16	●	●	25	20	13	200	8°		TC□□16T3	
	NT-S25R-STFC$^{R}_{L}$16	●	●	32	25	17	200	6°			
	NT-S32S-STFC$^{R}_{L}$16	●	●	39	32	22	250	4°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-S08H-STFC$^{R}_{L}$09	NT-ST004	NT-FT07
NT-S10K-STFC$^{R}_{L}$09		
NT-S12M-STFC$^{R}_{L}$09		
NT-S10K-STFC$^{R}_{L}$11	NT-ST010	NT-FT07
NT-S12M-STFC$^{R}_{L}$11		
NT-S16K-STFC$^{R}_{L}$11		
NT-S20R-STFC$^{R}_{L}$11		
NT-S20R-STFC$^{R}_{L}$16	NT-ST030	NT-FT15
NT-S25R-STFC$^{R}_{L}$16		
NT-S32S-STFC$^{R}_{L}$16		

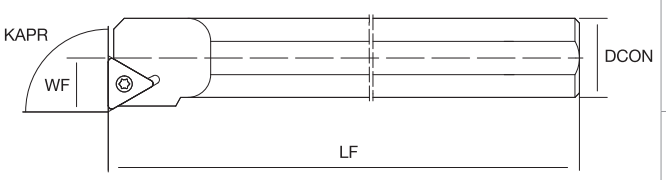
Inserts

	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



STEEL

max 3xD

INTERNAL COOLANT

A STFC

Internal turning (KAPR 91°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
11	NT-A10K-STFC$^{R}_{L}$11	●	●	14	10	7	125	15°		TC□□1102	
	NT-A12M-STFC$^{R}_{L}$11	●	●	14	12	7	150	10°			
	NT-A16Q-STFC$^{R}_{L}$11	●	●	18	16	9	180	8°			
	NT-A20R-STFC$^{R}_{L}$11	●	●	25	20	13	200	3°			

● stock standard

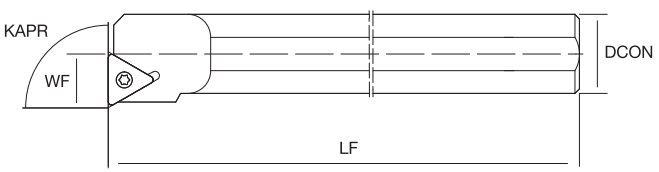
Spare Parts	INSERT SCREW	INSERT WRENCH
		
NT-A10K-STFC$^{R}_{L}$11 NT-A12M-STFC$^{R}_{L}$11 NT-A16Q-STFC$^{R}_{L}$11 NT-A20R-STFC$^{R}_{L}$11	NT-ST010	NT-FT07

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

TC

INTERNAL

S



CARBIDE

max 7xD

INTERNAL COOLANT

E STFC

Internal turning (KAPR 91°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
11	NT-E10K-STFC$^{R}_{L}$11	●	●	12	10	6	125	15°		TC□□1102	
	NT-E12M-STFC$^{R}_{L}$11	●	●	14	12	7	150	10°			
	NT-E16R-STFC$^{R}_{L}$11	●	●	18	16	9	200	8°			
	NT-E20R-STFC$^{R}_{L}$11	●	●	22	20	11	200	6°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
		
NT-E10K-STFC$^{R}_{L}$11 NT-E12M-STFC$^{R}_{L}$11 NT-E16R-STFC$^{R}_{L}$11 NT-E20R-STFC$^{R}_{L}$11	NT-ST010	NT-FT07

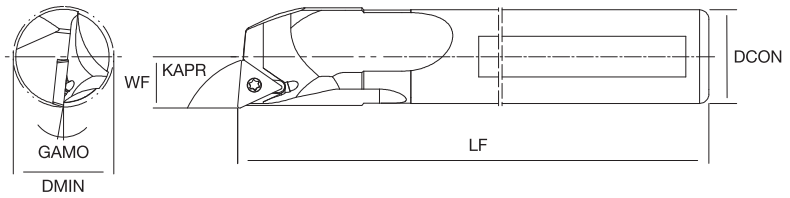
Inserts

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

TC

INTERNAL

S



VORTEX

max 5xD

INTERNAL COOLANT

V STLC

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
09	NT-V08H-STLC$^{R}_{L}$09-10	●	●	10	8	5	100	14°		TC□□0902	
	NT-V10K-STLC$^{R}_{L}$09-12	●	●	12	10	6	125	12°			
	NT-V12M-STLC$^{R}_{L}$09-14	●	●	14	12	7	150	10°			
11	NT-V10K-STLC$^{R}_{L}$11-12	●	●	12	10	6	125	12°		TC□□1102	
	NT-V12M-STLC$^{R}_{L}$11-14	●	●	14	12	7	150	10°			
	NT-V16Q-STLC$^{R}_{L}$11-18	●	●	18	16	9	180	8°			
	NT-V20R-STLC$^{R}_{L}$11-22	●	●	22	20	11	200	6°			
16	NT-V20R-STLC$^{R}_{L}$16-25	●	●	25	20	12.5	200	8°		TC□□16T3	
	NT-V25S-STLC$^{R}_{L}$16-32	●	●	32	25	16	250	6°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-V08H-STLC$^{R}_{L}$09-10	NT-ST004	NT-FT07
NT-V10K-STLC$^{R}_{L}$09-12		
NT-V12M-STLC$^{R}_{L}$09-14		
NT-V10K-STLC$^{R}_{L}$11-12	NT-ST010	NT-FT07
NT-V12M-STLC$^{R}_{L}$11-14		
NT-V16Q-STLC$^{R}_{L}$11-18		
NT-V20R-STLC$^{R}_{L}$11-22		
NT-V20R-STLC$^{R}_{L}$16-25	NT-ST030	NT-FT15
NT-V25S-STLC$^{R}_{L}$16-32		

Inserts

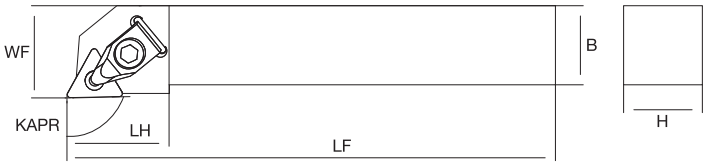
	CARBIDE	PCBN	CERAMIC	DIAMOND
TC□□0902	page 24	-	-	page 76
TC□□1102	page 24	page 47	-	page 76
TC□□16T3	page 24	page 47	-	page 76

TN

EXTERNAL

D

Right-hand shown



DTGN

External turning (KAPR 91°)

		R	L	H	B	WF	LF	LH	KG	MIID	
16	NT-DTGN$^{R}_{L}$2020K16X	●	●	20	20	25	125	33		TN□□1604	
	NT-DTGN$^{R}_{L}$2525M16X	●	●	25	25	32	150	33			

● stock standard

Spare Parts

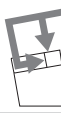
	SHIM	SHIM SCREW	CLAMP	SPRING	CLAMP SCREW	WRENCH
						
NT-DTGN$^{R}_{L}$2020K16X	NT-SH006	NT-ST250	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DTGN$^{R}_{L}$2525M16X						

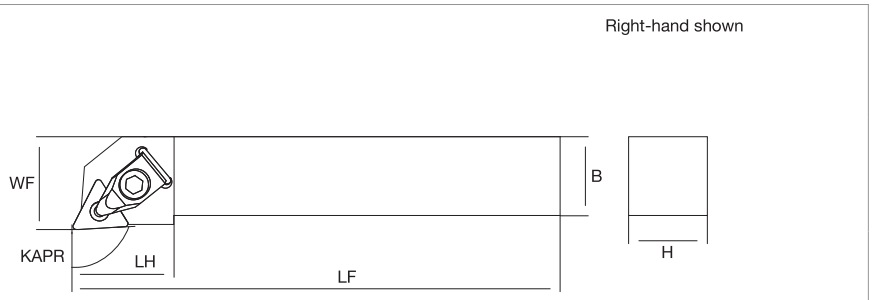
Inserts

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

TN

EXTERNAL





DTJN

External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
16	NT-DTJN$^{R}_{L}$2020K16X	●	●	20	20	25	125	33		TN□□1604	
	NT-DTJN$^{R}_{L}$2525M16X	●	●	25	25	32	150	33			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	CLAMP	SPRING	CLAMP SCREW	WRENCH
NT-DTJN$^{R}_{L}$2020K16X NT-DTJN$^{R}_{L}$2525M16X	NT-SH006	NT-ST250	NT-CS250	NT-SG250	NT-SC250	NT-TX15

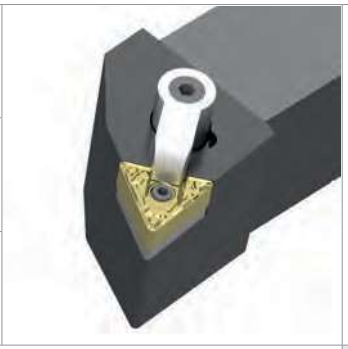
Inserts

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

TN

EXTERNAL

M



Right-hand shown

MTJN
External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
16	NT-MTJN$^{R}_{L}$2020K16	●	●	20	20	25	125	33		TN□□1604	
	NT-MTJN$^{R}_{L}$2525M16	●	●	25	25	32	150	35			
	NT-MTJN$^{R}_{L}$3232P16	●	●	32	32	40	170	43			
22	NT-MTJN$^{R}_{L}$2525M22	●	●	25	25	32	150	43		TN□□2204	
	NT-MTJN$^{R}_{L}$3225P22	●	●	32	25	32	170	43			

● stock standard

Spare Parts

	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH
NT-MTJN$^{R}_{L}$2020K16	NT-SH005	NT-SP020	NT-WR020	NT-CS010	NT-SC008	NT-WR030
NT-MTJN$^{R}_{L}$2525M16					NT-SC010	
NT-MTJN$^{R}_{L}$3232P16						
NT-MTJN$^{R}_{L}$2525M22	NT-SH008	NT-SP010	NT-WR030	NT-CS070	NT-SC070	NT-WR040
NT-MTJN$^{R}_{L}$3225P22						

Inserts

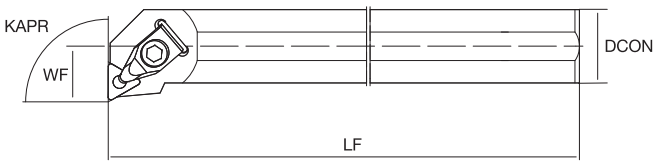
	CARBIDE	PCBN	CERAMIC	DIAMOND
TN□□1604	page 25	page 48	page 65	page 78
TN□□2204	page 25	-	-	-

TN

INTERNAL

D

Right-hand shown



STEEL

max 3xD

INTERNAL COOLANT

A DTFN

Internal turning (KAPR 91°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
16	NT-A25R-DTFN$^{R}_{L}$16	●	●	32	25	17	200	13°		TN□□1604	
	NT-A32S-DTFN$^{R}_{L}$16	●	●	40	32	22	250	13°			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	CLAMP	SPRING	CLAMP SCREW	WRENCH
NT-A25R-DTFN$^{R}_{L}$16	NT-SH006	NT-ST250	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-A32S-DTFN$^{R}_{L}$16						

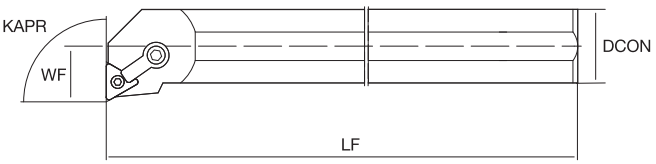
Inserts

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

TN

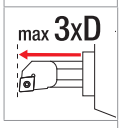
INTERNAL

M



Right-hand shown

STEEL



S MTUN

Internal turning (KAPR 93°)

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

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH
NT-S20R-MTUN$^{R}_{L}$16	-	NT-SP030	NT-WR020	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MTUN$^{R}_{L}$16				NT-CS010	NT-SC008	NT-WR030
NT-S32S-MTUN$^{R}_{L}$16	NT-SH005	NT-SP020			NT-SC010	
NT-S40T-MTUN$^{R}_{L}$16						
NT-S50U-MTUN$^{R}_{L}$16						
NT-S40T-MTUN$^{R}_{L}$22	NT-SH008	NT-SP010	NT-WR030	NT-CS070	NT-SC070	NT-WR040
NT-S50U-MTUN$^{R}_{L}$22						

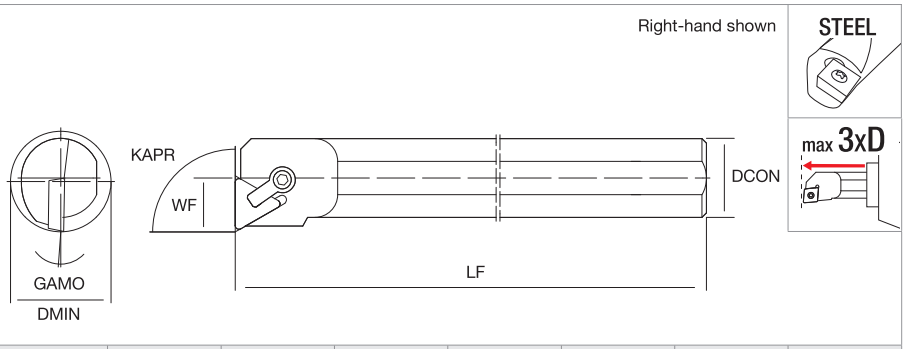
Inserts

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

TP

INTERNAL

C



S CTUP

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
11	NT-S12M-CTUP$^{R}_{L}$11	●	●	16	12	9	150	0°		TP□□1103	
11	NT-S16Q-CTUP$^{R}_{L}$11	●	●	20	16	11	180	3°		TP□□1103	
11	NT-S20R-CTUP$^{R}_{L}$11	●	●	25	20	13	200	3°		TP□□1103	
16	NT-S25R-CTUP$^{R}_{L}$16	●	●	32	25	17	200	3°		TP□□1604	
16	NT-S32S-CTUP$^{R}_{L}$16	●	●	40	32	22	250	3°		TP□□1604	

● 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						

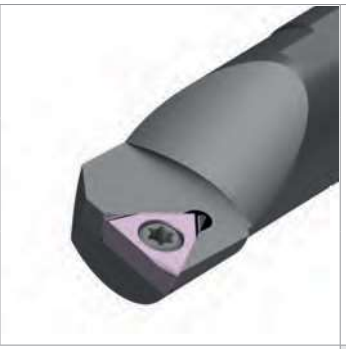
Inserts

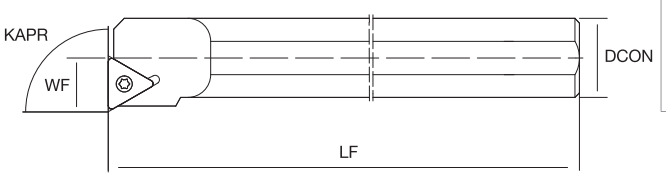
	CARBIDE	PCBN	CERAMIC	DIAMOND
TP□□1103	-	-	page 66	-
TP□□1604	-	-	page 66	-

TP

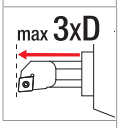
INTERNAL

S





Right-hand shown



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

Spare Parts

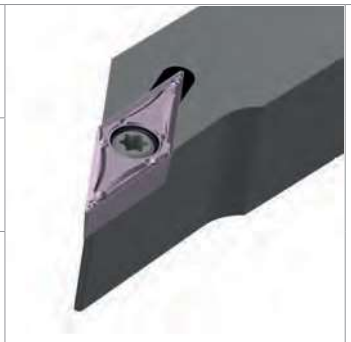
	INSERT SCREW	INSERT WRENCH
NT-S10K-STUP$^{R}_{L}$09	NT-ST005	NT-FT08
NT-S12M-STUP$^{R}_{L}$09		
NT-S10K-STUP$^{R}_{L}$11	NT-ST014	NT-FT10
NT-S12M-STUP$^{R}_{L}$11		
NT-S16K-STUP$^{R}_{L}$11	NT-ST015	
NT-S20R-STUP$^{R}_{L}$11		

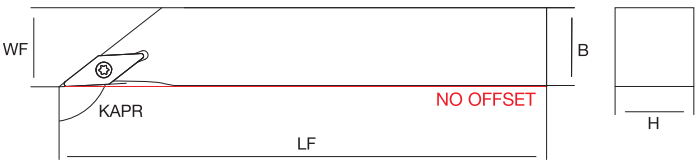
Inserts

	CARBIDE	PCBN	CERAMIC	DIAMOND
TP□□0902	page 28	page 49	-	page 79
TP□□1103	page 28	page 49	-	page 79

VB

EXTERNAL





SVJB N

External turning (KAPR 93°)

		R	L	H	B	WF	LF	KG	MIID		
11	NT-SVJB$^{R}_{L}$1212K11N	●	●	12	12	12	125		VB□□1103		
	NT-SVJB$^{R}_{L}$1616K11N	●	●	16	16	16	125				
16	NT-SVJB$^{R}_{L}$1616H16N	●	●	16	16	16	100		VB□□1604		

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVJB$^{R}_{L}$1212K11N	-	-	-	NT-ST010	NT-FT07
NT-SVJB$^{R}_{L}$1616K11N					
NT-SVJB$^{R}_{L}$1616H16N	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15

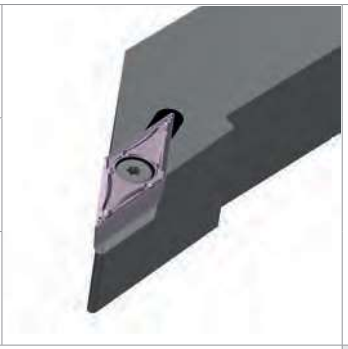
Inserts

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

VB

EXTERNAL

S



Right-hand shown

SVJB
External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
11	NT-SVJB$^{R}_{L}$2020K11	●	●	20	20	25	125	22		VB□□1103	
16	NT-SVJB$^{R}_{L}$2020K16	●	●	20	20	25	125	33		VB□□1604	
	NT-SVJB$^{R}_{L}$2525M16	●	●	25	25	32	150	38			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVJB$^{R}_{L}$2020K11	-	-	-	NT-ST010	NT-FT07
NT-SVJB$^{R}_{L}$2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVJB$^{R}_{L}$2525M16					

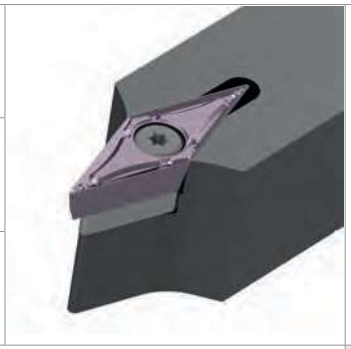
Inserts

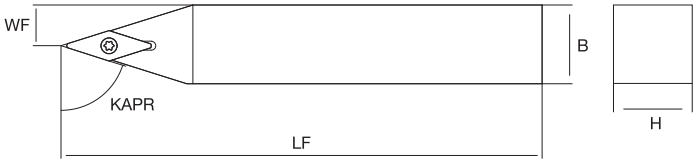
	CARBIDE	PCBN	CERAMIC	DIAMOND
VB□□1103	page 29	page 50	-	page 80
VB□□1604	page 29	page 50	-	page 80

VB

EXTERNAL

S





SVVBN

External turning (KAPR 72.5°)

			H	B	WF	LF	KG	MIID		
11	**NT-SVVBN2020K11**	●	20	20	10	125		VB□□1103		
	NT-SVVBN2525M11	●	25	25	12.5	150				
16	**NT-SVVBN2020K16**	●	20	20	10	125		VB□□1604		
	NT-SVVBN2525M16	●	25	25	12.5	150				

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVVBN2020K11	-	-	-	NT-ST010	NT-FT07
NT-SVVBN2525M11					
NT-SVVBN2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVVBN2525M16					

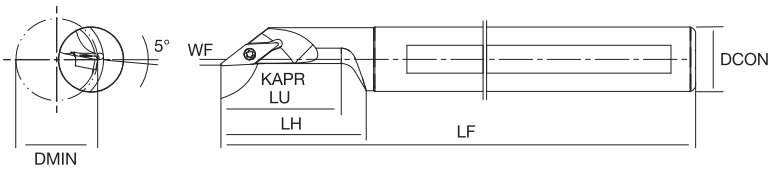
Inserts

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

VB

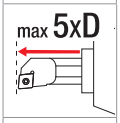
INTERNAL

Right-hand shown



VORTEX

max 5xD



INTERNAL COOLANT

V SVJB

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	LH	LU	KG	MIID
11	NT-V20R-SVJB$^{R}_{L}$11-25	●	●	25	20	2	200	48	37.5		VB□□1103
	NT-V25S-SVJB$^{R}_{L}$11-30	●	●	30	25	3.5	250	58	46		

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
		
NT-V20R-SVJB$^{R}_{L}$11-25 NT-V25S-SVJB$^{R}_{L}$11-30	NT-ST010	NT-FT07

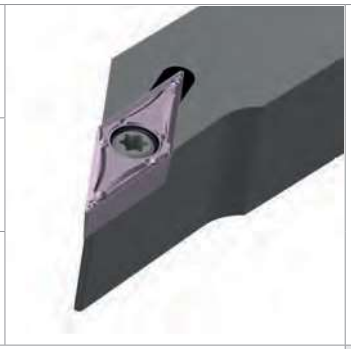
Inserts

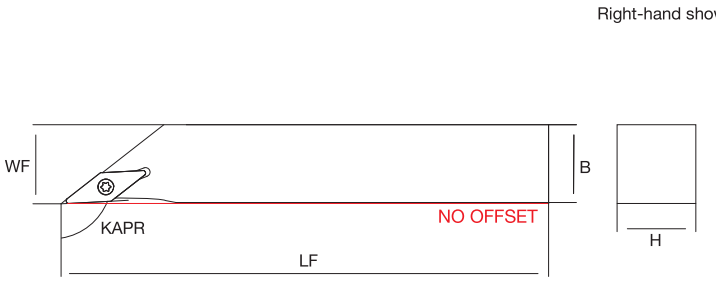
	CARBIDE	PCBN	CERAMIC	DIAMOND
				
VB□□1103	page 29	page 50	-	page 80

VC

EXTERNAL

S





SVJC N

External turning (KAPR 93°)

		R	L	H	B	WF	LF	KG	MIID		
11	NT-SVJC$^{R}_{L}$1010K11N	○	○	10	10	10	125		VC□□1103		
11	NT-SVJC$^{R}_{L}$1212K11N	●	●	12	12	12	125		VC□□1103		
11	NT-SVJC$^{R}_{L}$1616K11N	●	●	16	16	16	125		VC□□1103		
16	NT-SVJC$^{R}_{L}$1616H16N	●	●	16	16	16	100		VC□□1604		

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVJC$^{R}_{L}$1010K11N	-	-	-	NT-ST010	NT-FT07
NT-SVJC$^{R}_{L}$1212K11N					
NT-SVJC$^{R}_{L}$1616K11N					
NT-SVJC$^{R}_{L}$1616H16N	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15

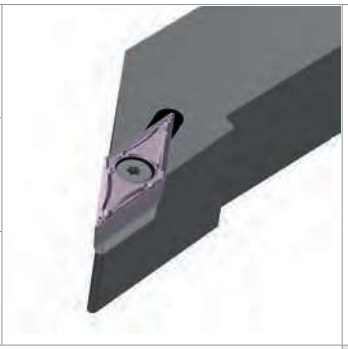
Inserts

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

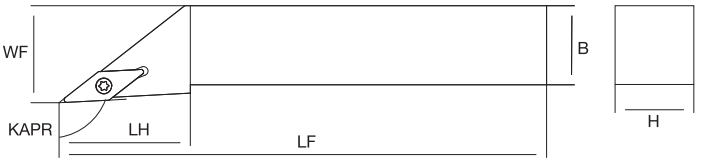
VC

EXTERNAL

S



Right-hand shown



SVJC
External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
11	NT-SVJC$^{R}_{L}$2020K11	●	●	20	20	25	125	22		VC□□1103	
16	NT-SVJC$^{R}_{L}$2020K16	●	●	20	20	25	125	33		VC□□1604	
16	NT-SVJC$^{R}_{L}$2525M16	●	●	25	25	32	150	38		VC□□1604	

● stock standard

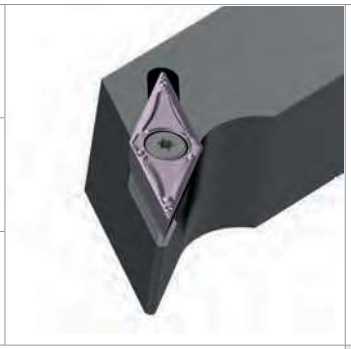
Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVJC$^{R}_{L}$2020K11	-	-	-	NT-ST010	NT-FT07
NT-SVJC$^{R}_{L}$2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVJC$^{R}_{L}$2525M16					

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

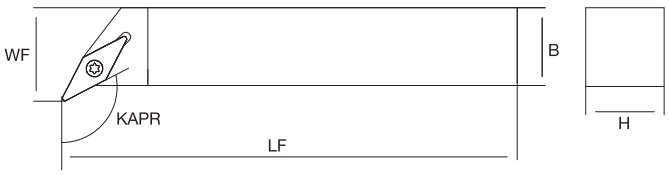
VC

EXTERNAL

S



Right-hand shown



SVPC
External turning (KAPR 117.5°)

		R	L	H	B	WF	LF	KG	MIID		
11	**NT-SVPC$^{R}_{L}$1010H11**	○	○	10	10	14.5	100		VC□□1103		
	NT-SVPC$^{R}_{L}$1212H11	●	●	12	12	16.5	100				
	NT-SVPC$^{R}_{L}$1616H11	●	●	16	16	20.5	100				
16	**NT-SVPC$^{R}_{L}$2020K16**	●	●	20	20	25	125		VC□□1604		
	NT-SVPC$^{R}_{L}$2525M16	●	●	25	25	32	150				

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVPC$^{R}_{L}$1010H11	-	-	-	NT-ST010	NT-FT07
NT-SVPC$^{R}_{L}$1212H11					
NT-SVPC$^{R}_{L}$1616H11					
NT-SVPC$^{R}_{L}$2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVPC$^{R}_{L}$2525M16					

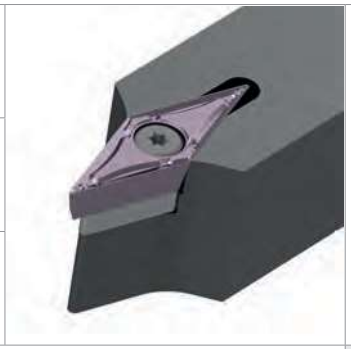
Inserts

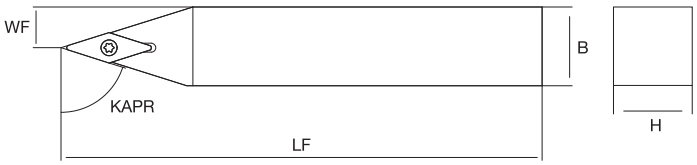
	CARBIDE	PCBN	CERAMIC	DIAMOND
VC□□1103	page 30	page 51	-	page 81
VC□□1604	page 30	page 51	-	page 81

VC

EXTERNAL

S





SVVCN
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

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SVVCN1010H11	-	-	-	NT-ST010	NT-FT07
NT-SVVCN1212H11					
NT-SVVCN1616H11					
NT-SVVCN2020K16	NT-SH050	NT-SR010	NT-WR035	NT-ST040	NT-FT15
NT-SVVCN2525M16					

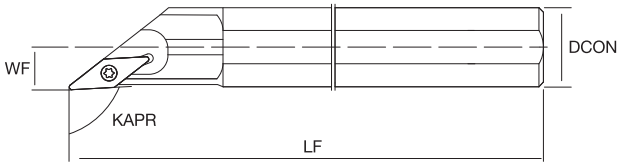
Inserts

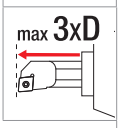
	CARBIDE	PCBN	CERAMIC	DIAMOND
VC□□1103	page 30	page 51	-	page 81
VC□□1604	page 30	page 51	-	page 81

VC

INTERNAL

S





S SVJC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
11	NT-S12M-SVJC$^{R}_{L}$11	●	●	14	12	7	150	7°		VC□□1103	
	NT-S16Q-SVJC$^{R}_{L}$11	●	●	18	16	9	180	7°			
16	NT-S16Q-SVJC$^{R}_{L}$16	●	●	18	16	9	180	7°		VC□□1604	
	NT-S20R-SVJC$^{R}_{L}$16	●	●	21	20	10.5	200	6°			
	NT-S25R-SVJC$^{R}_{L}$16	●	●	27	25	13.5	200	6°			
	NT-S32S-SVJC$^{R}_{L}$16	●	●	34	32	17	250	4°			
	NT-S40T-SVJC$^{R}_{L}$16	○	○	44	40	22	300	4°			

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-S12M-SVJC$^{R}_{L}$11	NT-ST010	NT-FT07
NT-S16Q-SVJC$^{R}_{L}$11		
NT-S16Q-SVJC$^{R}_{L}$16	NT-ST030	NT-FT15
NT-S20R-SVJC$^{R}_{L}$16		
NT-S25R-SVJC$^{R}_{L}$16		
NT-S32S-SVJC$^{R}_{L}$16		
NT-S40T-SVJC$^{R}_{L}$16		

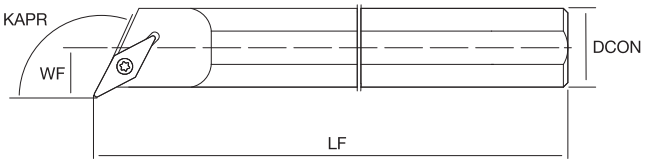
Inserts

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

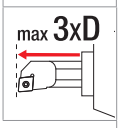
VC

INTERNAL

S



Right-hand shown



S SVQC

Internal turning (KAPR 107.5°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
11	NT-S16Q-SVQC$^{R}_{L}$11	●	●	22	16	13	180	7°		VC□□1103	
	NT-S20R-SVQC$^{R}_{L}$11	●	●	27	20	15	200	6°			
16	NT-S20R-SVQC$^{R}_{L}$16	●	●	30	20	19	200	8°		VC□□1604	
	NT-S25R-SVQC$^{R}_{L}$16	●	●	34	25	20.5	200	4°			
	NT-S32S-SVQC$^{R}_{L}$16	●	●	41	32	22.5	250	8°			
	NT-S40T-SVQC$^{R}_{L}$16	○	○	50	40	27	300	6°			

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-S16Q-SVQC$^{R}_{L}$11	NT-ST010	NT-FT07
NT-S20R-SVQC$^{R}_{L}$11		
NT-S20R-SVQC$^{R}_{L}$16	NT-ST030	NT-FT15
NT-S25R-SVQC$^{R}_{L}$16		
NT-S32S-SVQC$^{R}_{L}$16		
NT-S40T-SVQC$^{R}_{L}$16		

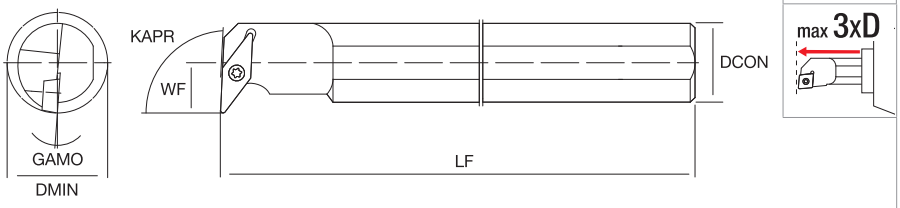
Inserts

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

VC

INTERNAL

S



S SVUC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
11	NT-S16Q-SVUC$^{R}_{L}$11	●	●	22	16	13	180	7°		VC□□1103	
	NT-S20R-SVUC$^{R}_{L}$11	●	●	27	20	15	200	6°			
16	NT-S20R-SVUC$^{R}_{L}$16	●	●	31	20	19	200	8°		VC□□1604	
	NT-S25R-SVUC$^{R}_{L}$16	●	●	33	25	20.5	200	7°			
	NT-S32S-SVUC$^{R}_{L}$16	●	●	42	32	22.5	250	5°			
	NT-S40T-SVUC$^{R}_{L}$16	○	○	51	40	27	300	4°			

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-S16Q-SVUC$^{R}_{L}$11	NT-ST010	NT-FT07
NT-S20R-SVUC$^{R}_{L}$11		
NT-S20R-SVUC$^{R}_{L}$16	NT-ST030	NT-FT15
NT-S25R-SVUC$^{R}_{L}$16		
NT-S32S-SVUC$^{R}_{L}$16		
NT-S40T-SVUC$^{R}_{L}$16		

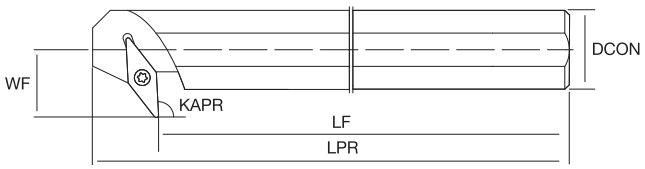
Inserts

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

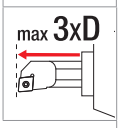
VC

INTERNAL

S



Right-hand shown



S SVZC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	LPR	GAMO	KG	MIID
16	NT-S20R-SVZC$^{R}_{L}$16	●	●	30	20	17	183	200	7.5°		VC□□1604
	NT-S25R-SVZC$^{R}_{L}$16	●	●	35	25	19.5	180	200	7.5°		
	NT-S32S-SVZC$^{R}_{L}$16	○	○	40	32	23	230	250	7.5°		

● stock standard, ○ non-standard stock

Spare Parts

	INSERT SCREW	INSERT WRENCH
		
NT-S20R-SVZC$^{R}_{L}$16	NT-ST030	NT-FT15
NT-S25R-SVZC$^{R}_{L}$16		
NT-S32S-SVZC$^{R}_{L}$16		

Inserts

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

VN

EXTERNAL

D

Right-hand shown

DVJN
External turning (KAPR 93°)

		R	L	H	B	WF	LF	LH	KG	MIID	
16	NT-DVJN$^{R}_{L}$2020K16X	●	●	20	20	25	125	50		VN□□1604	
	NT-DVJN$^{R}_{L}$2525M16X	●	●	25	25	32	150	46			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-DVJN$^{R}_{L}$2020K16X	NT-SH075	NT-ST250	NT-TX15	NT-CS210	NT-SG200	NT-SC200	NT-TX20
NT-DVJN$^{R}_{L}$2525M16X							

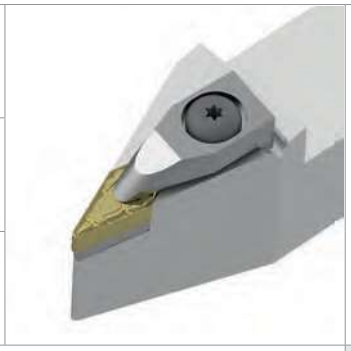
Inserts

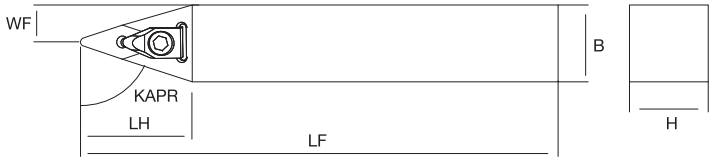
	CARBIDE	PCBN	CERAMIC	DIAMOND
VN□□1604	page 31	page 52	page 67	-

VN

EXTERNAL

D





DVVNN
External turning (KAPR 72.5°)

			H	B	WF	LF	LH	KG	MIID	
16	NT-DVVNN2020K16X	●	20	20	10	125	47		VN□□1604	
	NT-DVVNN2525M16X	●	25	25	12.5	150	47			

● stock standard

Spare Parts	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-DVVNN2020K16X NT-DVVNN2525M16X	NT-SH075	NT-ST250	NT-TX15	NT-CS210	NT-SG200	NT-SC200	NT-TX20

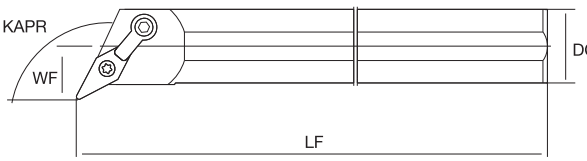
Inserts	CARBIDE	PCBN	CERAMIC	DIAMOND
VN□□1604	page 31	page 52	page 67	-

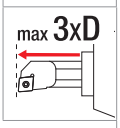
VN

INTERNAL

M

Right-hand shown





S MVQN

Internal turning (KAPR 107.5°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
16	NT-S25R-MVQN$^{R}_{L}$16	●	●	33	25	20	200	12°		VN□□1604	
	NT-S32S-MVQN$^{R}_{L}$16	●	●	40	32	23	250	17°			
	NT-S40T-MVQN$^{R}_{L}$16	●	●	50	40	27	300	15°			
	NT-S50U-MVQN$^{R}_{L}$16	●	●	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$^{R}_{L}$16	NT-SH075	NT-SP020	NT-WR020	NT-CS010	NT-SC008	NT-WR030
NT-S32S-MVQN$^{R}_{L}$16						
NT-S40T-MVQN$^{R}_{L}$16					NT-SC010	
NT-S50U-MVQN$^{R}_{L}$16						

Inserts

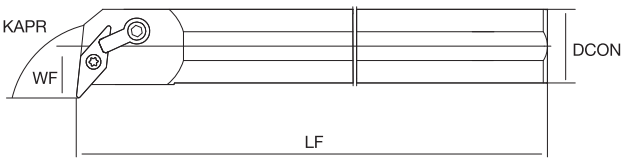
	CARBIDE	PCBN	CERAMIC	DIAMOND
VN□□1604	page 31	page 52	page 67	-

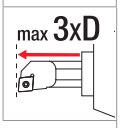
VN

INTERNAL

M

Right-hand shown





S MVUN

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
16	NT-S25R-MVUN$^{R}_{L}$16	●	●	37	25	20	200	12°		VN□□1604	
	NT-S32S-MVUN$^{R}_{L}$16	●	●	40	32	22	250	12°			
	NT-S40T-MVUN$^{R}_{L}$16	●	●	50	40	27	300	15°			
	NT-S50U-MVUN$^{R}_{L}$16	○	○	63	50	32	350	12°			

● stock standard, ○ non-standard stock

Spare Parts

	SHIM	ECCENTRIC PIN	PIN WRENCH	CLAMP	CLAMP SCREW	CLAMP WRENCH
NT-S25R-MVUN$^{R}_{L}$16	NT-SH075	NT-SP020	NT-WR020	NT-CS010	NT-SC008	NT-WR030
NT-S32S-MVUN$^{R}_{L}$16						
NT-S40T-MVUN$^{R}_{L}$16					NT-SC010	
NT-S50U-MVUN$^{R}_{L}$16						

Inserts

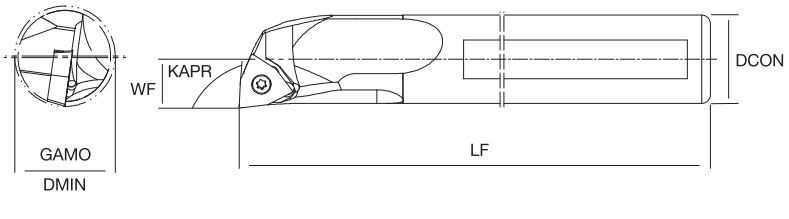
	CARBIDE	PCBN	CERAMIC	DIAMOND
VN□□1604	page 31	page 52	page 67	-

WC

INTERNAL

S

Right-hand shown



VORTEX

max 5xD

INTERNAL COOLANT

V SWUC

Internal turning (KAPR 93°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
12	NT-V12M-SWUC$^{R}_{L}$12-14	●	●	14	12	7	150	13°		WC□□12T3	
	NT-V16Q-SWUC$^{R}_{L}$12-18	●	●	18	16	9	180	10°			
	NT-V20R-SWUC$^{R}_{L}$12-22	●	●	22	20	11	200	8°			
	NT-V25S-SWUC$^{R}_{L}$12-27	●	●	27	25	13.5	250	8°			

● stock standard

Spare Parts

	INSERT SCREW	INSERT WRENCH
NT-V12M-SWUC$^{R}_{L}$12-14	NT-ST020	NT-FT15
NT-V16Q-SWUC$^{R}_{L}$12-18		
NT-V20R-SWUC$^{R}_{L}$12-22		
NT-V25S-SWUC$^{R}_{L}$12-27		

Inserts

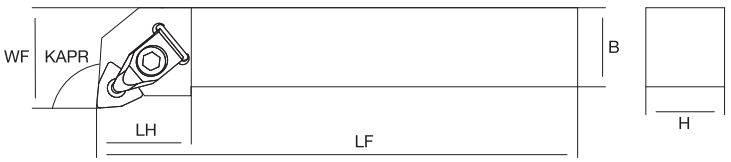
	CARBIDE	PCBN	CERAMIC	DIAMOND
WC□□12T3	page 33	-	-	-

WN

EXTERNAL

D

Right-hand shown



DWLN
External turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
06	NT-DWLN$^{R}_{L}$1616H06X	●	●	16	16	20	100	33		WN□□0604	
	NT-DWLN$^{R}_{L}$2020K06X	●	●	20	20	25	125	33			
	NT-DWLN$^{R}_{L}$2525M06X	●	●	25	25	32	150	33			
08	NT-DWLN$^{R}_{L}$2020K08X	●	●	20	20	25	125	40		WN□□0804	
	NT-DWLN$^{R}_{L}$2525M08X	●	●	25	25	32	150	40			
	NT-DWLN$^{R}_{L}$3225P08X	●	●	32	25	32	170	40			

● stock standard

Spare Parts

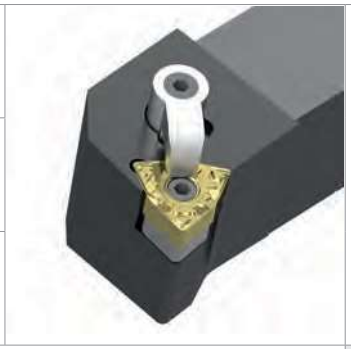
	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-DWLN$^{R}_{L}$1616H06X	NT-SH003	NT-ST250	NT-TX15	NT-CS250	NT-SG250	NT-SC250	NT-TX15
NT-DWLN$^{R}_{L}$2020K06X							
NT-DWLN$^{R}_{L}$2525M06X							
NT-DWLN$^{R}_{L}$2020K08X	NT-SH010	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-DWLN$^{R}_{L}$2525M08X							
NT-DWLN$^{R}_{L}$3225P08X							

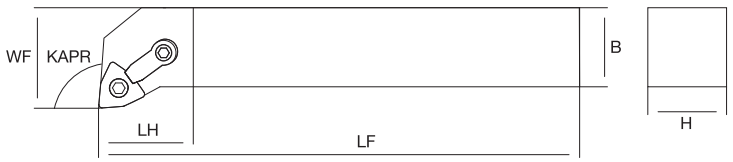
Inserts

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

WN

EXTERNAL





MWLN
External turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
06	**NT-MWLN$^{R}_{L}$2020K06**	○	○	20	20	25	125	34		WN□□0604	
	NT-MWLN$^{R}_{L}$2525M06	○	○	25	25	32	150	34			
08	**NT-MWLN$^{R}_{L}$2020K08**	●	●	20	20	25	125	34		WN□□0804	
	NT-MWLN$^{R}_{L}$2525M08	●	●	25	25	32	150	34			
	NT-MWLN$^{R}_{L}$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$^{R}_{L}$2020K06	NT-SH003	NT-SP020	NT-WR020	NT-CS009	NT-SC030	NT-WR025
NT-MWLN$^{R}_{L}$2525M06						
NT-MWLN$^{R}_{L}$2020K08	NT-SH010	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-MWLN$^{R}_{L}$2525M08						
NT-MWLN$^{R}_{L}$3232P08						

Inserts

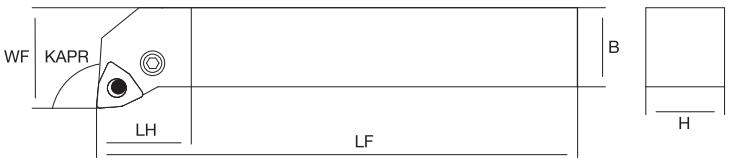
	CARBIDE	PCBN	CERAMIC	DIAMOND
				
WN□□0604	page 34	-	-	-
WN□□0804	page 34	page 53	page 68	page 83

WN

EXTERNAL

P

Right-hand shown



PWLN

External turning (KAPR 95°)

		R	L	H	B	WF	LF	LH	KG	MIID	
08	NT-PWLN$^{R}_{L}$2020K08	●	●	20	20	25	125	20		WN□□0804	
	NT-PWLN$^{R}_{L}$2525M08	●	●	25	25	32	150	26			

● stock standard

Spare Parts

	SHIM	PLUG	LEVER	LEVER SCREW	WRENCH
					
NT-PWLN$^{R}_{L}$2020K08 NT-PWLN$^{R}_{L}$2525M08	NT-SH015	NT-SR020	NT-LL020	NT-SC025	NT-WR030

Inserts

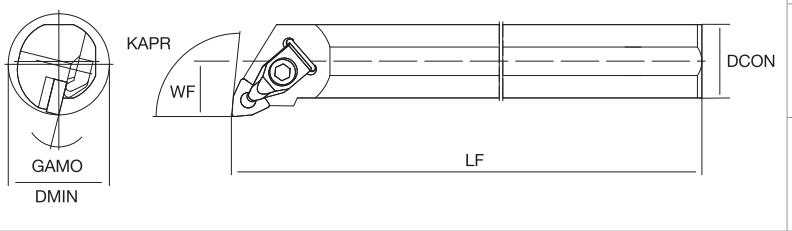
	CARBIDE	PCBN	CERAMIC	DIAMOND
				
WN□□0804	page 34	page 53	page 68	page 83

WN

INTERNAL

D

Right-hand shown



STEEL

max 3xD

INTERNAL COOLANT

A DWLN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
08	**NT-A25R-DWLN$^{R}_{L}$08**	●	●	32	25	17	200	14°		WN□□0804	
	NT-A32S-DWLN$^{R}_{L}$08	●	●	40	32	22	250	14°			
	NT-A40T-DWLN$^{R}_{L}$08	●	●	50	40	27	300	12°			

● stock standard

Spare Parts

	SHIM	SHIM SCREW	SHIM WRENCH	CLAMP	SPRING	CLAMP SCREW	CLAMP WRENCH
NT-A25R-DWLN$^{R}_{L}$08	NT-SH015	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20
NT-A32S-DWLN$^{R}_{L}$08							
NT-A40T-DWLN$^{R}_{L}$08							

Inserts

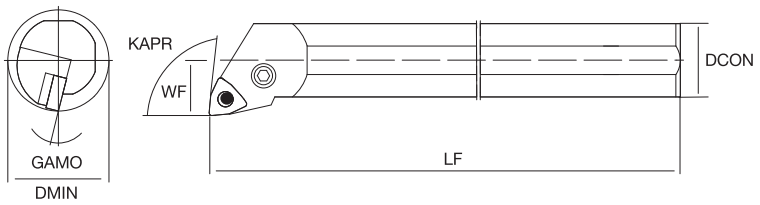
	CARBIDE	PCBN	CERAMIC	DIAMOND
WN□□0804	page 34	page 53	page 68	page 83

WN

INTERNAL

P

Right-hand shown



STEEL

max 3xD

INTERNAL COOLANT

A PWLN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
08	NT-A25R-PWLN$^{R}_{L}$08	●	●	30	25	17	200	12°		WN□□0804	
	NT-A32S-PWLN$^{R}_{L}$08	●	●	40	32	22	250	10°			
	NT-A40T-PWLN$^{R}_{L}$08	●	●	48	40	27	300	8°			

● stock standard

Spare Parts

	SHIM	PLUG	LEVER	LEVER SCREW	WRENCH
NT-A25R-PWLN$^{R}_{L}$08	-	NT-SR015	NT-LL015	NT-SC015	NT-WR025
NT-A32S-PWLN$^{R}_{L}$08	NT-SH015	NT-SR020	NT-LL020	NT-SC025	NT-WR030
NT-A40T-PWLN$^{R}_{L}$08					

Inserts

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

WN

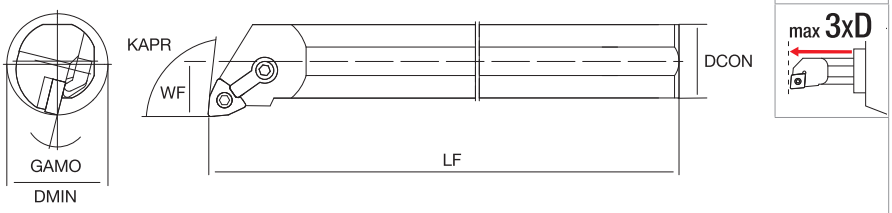
INTERNAL

M

Right-hand shown

STEEL

max 3xD



S MWLN

Internal turning (KAPR 95°)

		R	L	DMIN	DCON	WF	LF	GAMO	KG	MIID	
06	NT-S16Q-MWLN$^{R}_{L}$06	○	○	22	16	11	180	18°		WN□□0604	
08	NT-S20R-MWLN$^{R}_{L}$08	●	●	25	20	13	200	17°		WN□□0804	
08	NT-S25R-MWLN$^{R}_{L}$08	●	●	32	25	17	200	14°			
08	NT-S32S-MWLN$^{R}_{L}$08	●	●	40	32	22	250	14°			
08	NT-S40T-MWLN$^{R}_{L}$08	●	●	50	40	27	300	12°			
08	NT-S50U-MWLN$^{R}_{L}$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$^{R}_{L}$06	-	NT-SP030	NT-WR020	NT-CS030	NT-SC030	NT-WR025
NT-S20R-MWLN$^{R}_{L}$08	-	NT-SP035	NT-WR025	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MWLN$^{R}_{L}$08				NT-CS010	NT-SC008	NT-WR030
NT-S32S-MWLN$^{R}_{L}$08	NT-SH010	NT-SP010	NT-WR030		NT-SC010	
NT-S40T-MWLN$^{R}_{L}$08						
NT-S50U-MWLN$^{R}_{L}$08						

Inserts

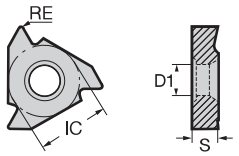
	CARBIDE	PCBN	CERAMIC	DIAMOND
WN□□0604	page 34	-	-	-
WN□□0804	page 34	page 53	page 68	page 83

THREADING

THREADING Carbide

TPM

CARBIDE
External threading



3 edges

Size	IC	S	D1
16	9.525	3.65	4.00

ISO513	HC-PVD JP5125
P	80 180
M	60 140
K	50 120
N	
S	20 40
H	

GRADE APPLICATION AREA	
main application	General machining, light interruption
applicable	Unstable machining, interrupted cut

Hardness + / − Toughness − / +

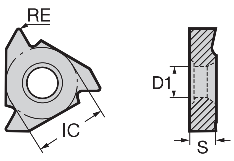
FULL PROFILE

M P M K S  METRIC 60°	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	●
UN P M K S  UNIFIED 60°	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	●
NPT P M K S  NATIONAL PIPE TAPERED 60°	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	●
W P M K S  WHITWORTH 55°	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	●
BSPT P M K S  BRITISH STANDARD PIPE TAPERED 55°	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

TPM	CARBIDE External threading	ISO513	HC-PVD JP5125
		P	80 180
		M	60 140
		K	50 120
		N	
		S	20 40
		H	



3 edges

Size	IC	S	D1
16	9.525	3.65	4.00

GRADE APPLICATION AREA		Hardness	Toughness	JP5125
GRADE APPLICATION AREA	Stable machining, continuous cut	+	–	applicable
main application	General machining, light interruption			main application
applicable	Unstable machining, interrupted cut	–	+	applicable

PARTIAL PROFILE

60° P M K S

METRIC AND UNIFIED THREADS

55° P M K S

WHITWORTH AND GAS THREADS

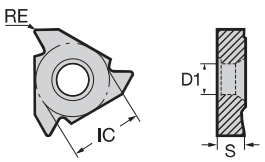
				JP5125
16ER	A60-TPM	RE 0.08	pitch: 0.50÷1.50 mm, 48÷16 TPI	●
	G60-TPM	RE 0.25	pitch: 1.75÷3.00 mm, 14÷8 TPI	●
	AG60-TPM	RE 0.08	pitch: 0.50÷3.00 mm, 48÷8 TPI	●
16ER	A55-TPM	RE 0.08	pitch: 48÷16 TPI	●
	G55-TPM	RE 0.21	pitch: 14÷8 TPI	●
	AG55-TPM	RE 0.08	pitch: 48÷8 TPI	●

● stock standard

TURNING
THREADING
GROOVING
MILLING
DRILLING
ACCESSORIES

TPM

CARBIDE
Internal threading



3 edges

Size	IC	S	D1
11	6.35	3.18	3.20
16	9.525	3.65	4.00

ISO513	HC-PVD JP5125
P	80 180
M	60 140
K	50 120
N	
S	20 40
H	

GRADE APPLICATION AREA	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / − Toughness − / +

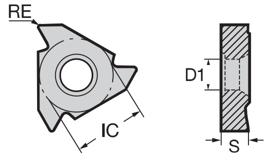
FULL PROFILE

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	●
NPT P M K S  NATIONAL PIPE TAPERED 60°	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



3 edges

Size	IC	S	D1
11	6.35	3.18	3.20
16	9.525	3.65	4.00

ISO513	HC-PVD JP5125
P	80 180
M	60 140
K	50 120
N	
S	20 40
H	

GRADE APPLICATION AREA	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / – ; Toughness – / +

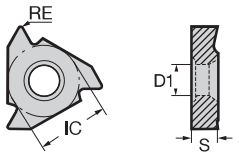
Profile	Thread type	Size	Designation	RE	Pitch	JP5125
FULL PROFILE	BSPT P M K S  BRITISH STANDARD PIPE TAPERED 55°	16IR	**28BSPT-TPM**	RE 0.11	pitch: 28 TPI no. of passes 5÷8	●
			19BSPT-TPM	RE 0.17	pitch: 19 TPI no. of passes 6÷9	●
			14BSPT-TPM	RE 0.24	pitch: 14 TPI no. of passes 9÷12	●
			11BSPT-TPM	RE 0.30	pitch: 11 TPI no. of passes 12÷15	●
PARTIAL PROFILE	60° P M K S  METRIC AND UNIFIED THREADS	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	●
	55° P M K S  WHITWORTH AND GAS THREADS	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

THREADING Advanced

16ER

DIAMOND-PCBN
External threading



1 edge

Size	IC	S	D1
16	9.525	3.65	4.00

ISO513	DP ND120	BH NBH450U
P		140 300
M		
K		400 1200
N	500 2000	
S		
H		60 160

◄ SINTERED POWDER METAL

GRADE APPLICATION AREA	Stable machining, continuous cut	Hardness + / −	Toughness − / +
■ main application	General machining, light interruption		
■ applicable	Unstable machining, interrupted cut		

FULL PROFILE

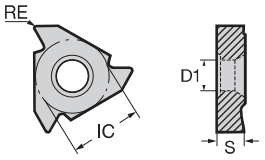
METRIC N H

				DP ND120	BH NBH450U
16ER	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

16IR

DIAMOND-PCBN
Internal threading



1 edge

Size	IC	S	D1
16	9.525	3.65	4.00

ISO513	DP ND120	BH NBH450U
P		140 300
M		
K		400 1200
N	500 2000	
S		
H		60 160

◄ SINTERED POWDER METAL

GRADE APPLICATION AREA	
■ main application	General machining, light interruption
■ applicable	Unstable machining, interrupted cut

Stable machining, continuous cut

Hardness + / −

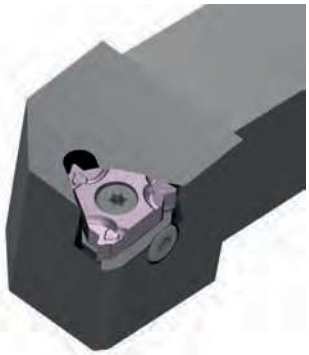
Toughness − / +

FULL PROFILE

METRIC N H

				DP ND120	BH NBH450U
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

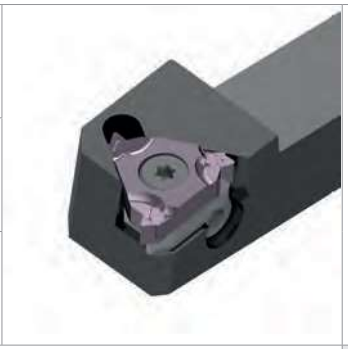


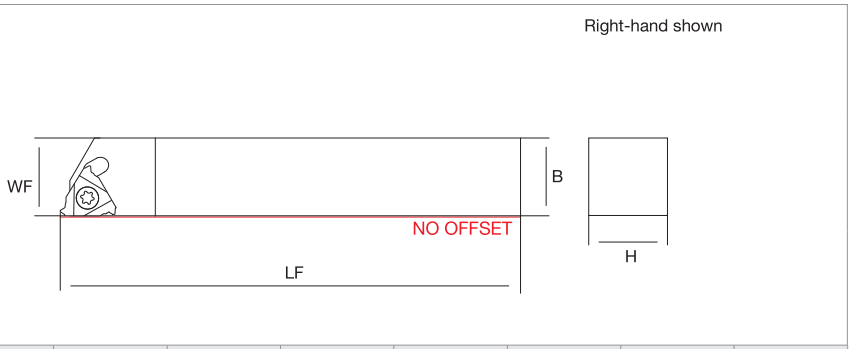
THREADING Holders

16E

EXTERNAL

S





SE N
External threading

		R	L	H	B	WF	LF	KG	MIID		
16	NT-SE$^{R}_{L}$1212H16N	●	○	12	12	12	100		16E$^{H}_{L}$□□□		
	NT-SE$^{R}_{L}$1616H16N	○	○	16	16	16	100				

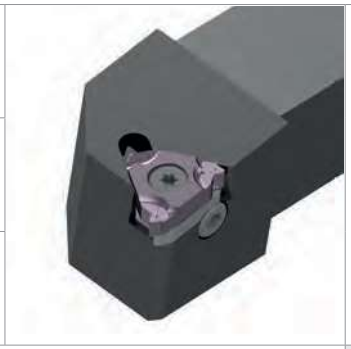
● stock standard, ○ non-standard stock

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					

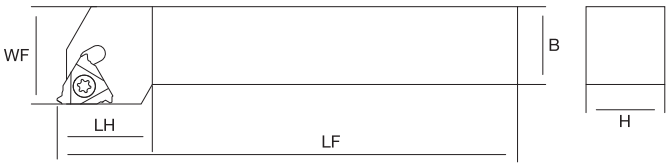
16E

EXTERNAL

S



Right-hand shown



SE
External threading

		R	L	H	B	WF	LF	LH	KG	MIID	
16	NT-SE$^{R}_{L}$1616H16	●	●	16	16	20	100	22		16E$^{R}_{L}$□□□	
	NT-SE$^{R}_{L}$2020K16	●	●	20	20	25	125	25			
	NT-SE$^{R}_{L}$2525M16	●	●	32	25	32	150	25			

● stock standard

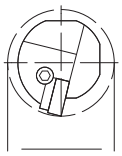
Spare Parts

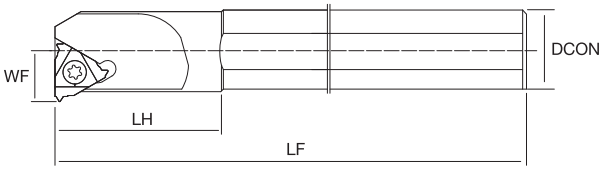
	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SER1616H16	NT-SH060	NT-ST080	NT-WR025	NT-ST040	NT-FT15
NT-SER2020K16					
NT-SER2525M16					
NT-SEL1616H16	NT-SH065	NT-ST080	NT-WR025	NT-ST040	NT-FT15
NT-SEL2020K16					
NT-SEL2525M16					

11I
16I

INTERNAL

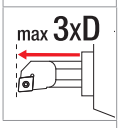
S





Right-hand shown

STEEL

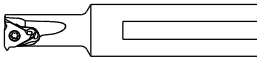


SI
Internal threading

		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-SI$^{R}_{L}$2016-16**	●	●	20	16	10	150	35		16I$^{R}_{L}$□□□	
	NT-SI$^{R}_{L}$2420S-16	●	●	24	20	12	180	35			
	NT-SI$^{R}_{L}$3025S-16	●	●	30	25	15	200	35			
	NT-SI$^{R}_{L}$3732S-16	●	●	37	32	18.5	250	35			

● stock standard

*Reduced neck



Spare Parts

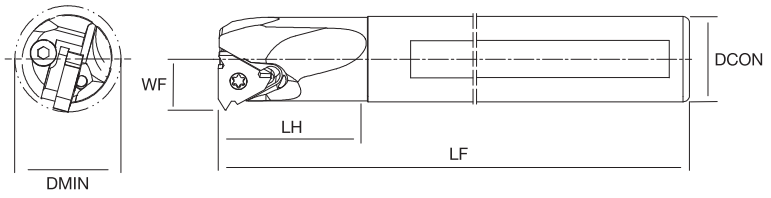
	SHIM	SHIM SCREW	SHIM WRENCH	INSERT SCREW	INSERT WRENCH
NT-SIR1012-11	-	-	-	NT-ST041	NT-FT08
NT-SIR1216-11					
NT-SIR1516-11					
NT-SIR2016-16	-	-	-	NT-ST030	NT-FT15
NT-SIR2420S-16	NT-SH065	NT-ST080	NT-WR025	NT-ST040	
NT-SIR3025S-16					
NT-SIR3732S-16					
NT-SIL2016-16	-	-	-	NT-ST030	NT-FT15
NT-SIL2420S-16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

11I
16I

INTERNAL

S

Right-hand shown



VORTEX

max 5xD

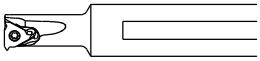
INTERNAL COOLANT

V SIR
Internal threading

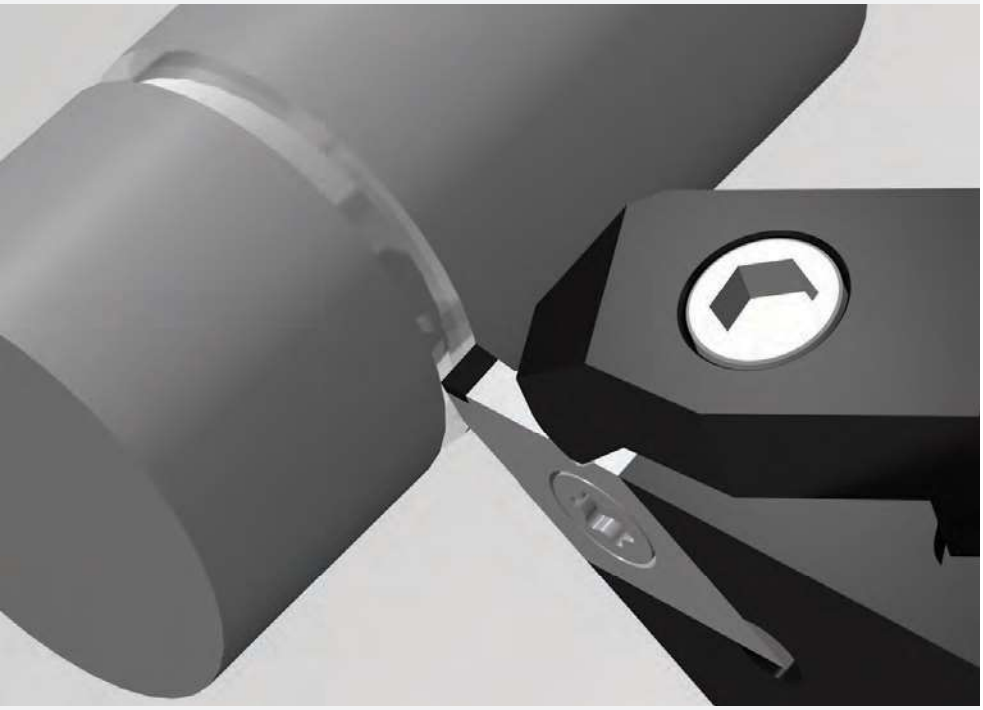
			DMIN	DCON	WF	LF	LH	KG	MIID	
11	NT-V10M-SIR11-10	●	10	10	5.2	150	25		11IR□□□	
	NT-V16M-SIR11-12*	●	12	16	6.3	150	25			
	NT-V16M-SIR11-15*	●	15	16	7.5	150	25			
16	NT-V16M-SIR16-20	●	20	16	10	150	35		16IR□□□	
	NT-V20Q-SIR16-24	●	24	20	12	180	35			
	NT-V25R-SIR16-30	●	30	25	15	200	35			
	NT-V32S-SIR16-37	●	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-ST030	NT-FT15
NT-V20Q-SIR16-24	NT-SH065	NT-ST080	NT-WR025	NT-ST040	
NT-V25R-SIR16-30					
NT-V32S-SIR16-37					

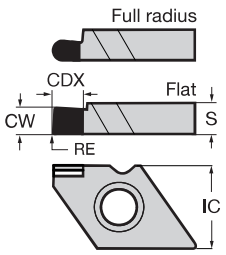


GROOVING

GROOVING Advanced

BGF

DIAMOND-PCBN
External grooving



Size	IC	S	CDX
100	12.70	4.76	1.8
150	12.70	4.76	2.6
200	12.70	4.76	3.0
250	12.70	4.76	3.5
300÷400	12.70	4.76	4.5

ISO513	DP ND120	BH NBH450U
P		140 300 ◄ SINTERED POWDER METAL
M		
K		400 1200
N	500 2000	
S		
H		60 160

GRADE APPLICATION AREA	
main application	Stable machining, continuous cut
applicable	General machining, light interruption
	Unstable machining, interrupted cut

Hardness + / − Toughness − / +

FLAT

BGF N H

picture: right-hand

BGF R/L			CW	RE	f_n ▸	○	○*
BGF R/L	100-010	N	1.00	0.10	0.04 **0.08** 0.12		○*
		H	1.00	0.10	0.04 **0.05** 0.06	○	
	150-010	N	1.50	0.10	0.04 **0.08** 0.12		○*
		H	1.50	0.10	0.04 **0.05** 0.06	○	
	200-020	N	2.00	0.20	0.06 **0.10** 0.14		○*
		H	2.00	0.20	0.04 **0.06** 0.08	○	
	250-020	N	2.50	0.20	0.06 **0.10** 0.14		○*
		H	2.50	0.20	0.04 **0.06** 0.08	○	
	300-020	N	3.00	0.20	0.06 **0.10** 0.14		○*
		H	3.00	0.20	0.04 **0.06** 0.08	○	
	350-020	N	3.50	0.20	0.08 **0.12** 0.16		○*
		H	3.50	0.20	0.06 **0.08** 0.10	○	
	400-020	N	4.00	0.20	0.08 **0.12** 0.16		○*
		H	4.00	0.20	0.06 **0.08** 0.10	○	

FULL RADIUS

BGF N H

picture: right-hand

BGF R/L			CW	RE	f_n ▸	○	○*
BGF R/L	100-050FR	N	1.00	0.50	0.04 **0.08** 0.12		○*
		H	1.00	0.50	0.04 **0.05** 0.06	○	
	150-075FR	N	1.50	0.75	0.04 **0.08** 0.12		○*
		H	1.50	0.75	0.04 **0.05** 0.06	○	
	200-100FR	N	2.00	1.00	0.06 **0.10** 0.14		○*
		H	2.00	1.00	0.04 **0.06** 0.08	○	
	250-125FR	N	2.50	1.25	0.06 **0.10** 0.14		○*
		H	2.50	1.25	0.04 **0.06** 0.08	○	
	300-150FR	N	3.00	1.50	0.06 **0.10** 0.14		○*
		H	3.00	1.50	0.04 **0.06** 0.08	○	
	350-175FR	N	3.50	1.75	0.08 **0.12** 0.16		○*
		H	3.50	1.75	0.06 **0.08** 0.10	○	
	400-200FR	N	4.00	2.00	0.08 **0.12** 0.16		○*
		H	4.00	2.00	0.06 **0.08** 0.10	○	

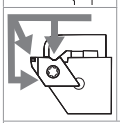
○ non-standard stock

*Only right-hand available

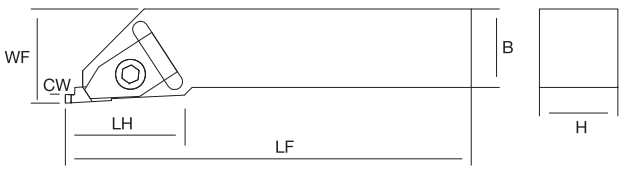
GROOVING Holders

BGF

EXTERNAL



Right-hand shown



BGF-HLD

External grooving

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

● stock standard, ▽ stock exhaustion

Spare Parts

	CLAMP	CLAMP SCREW	CLAMP WRENCH	INSERT SCREW	INSERT WRENCH
					
BGF-HLF 1616R/L	NT-CS300R/L	NT-SC300	NT-WR040	NT-ST300	NT-FT15
BGF-HLF 2020R/L					
BGF-HLF 2525R/L					