



**nixko**TOOLS

**2022** CATALOGUE





Catalogue Preview - AMB 2022

CATALOGUE 2022



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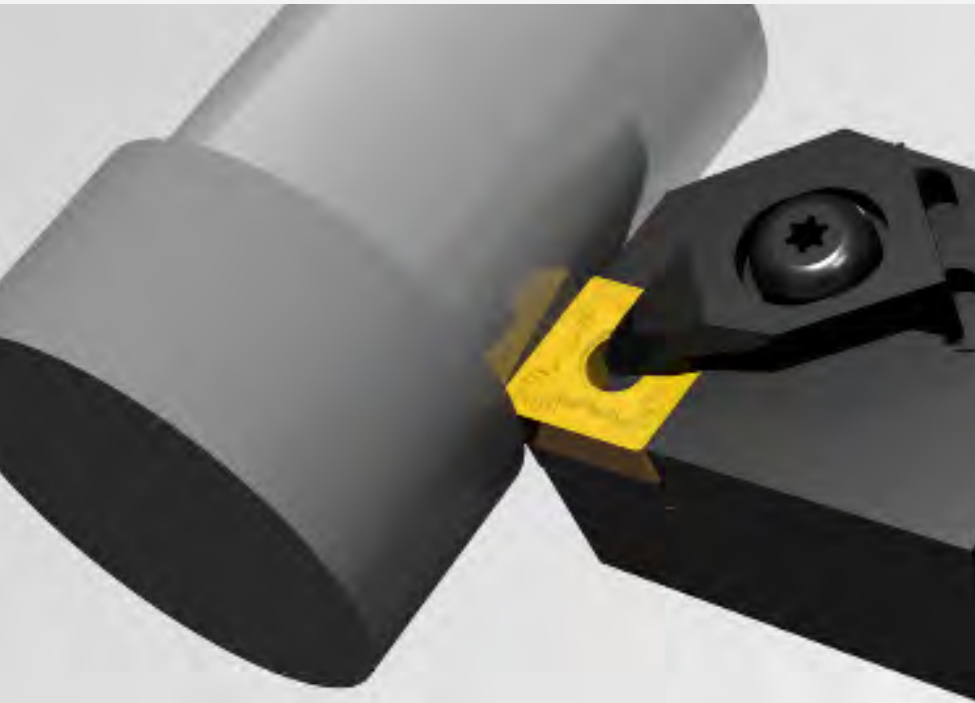
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AMB 2022

## TURNING

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## TURNING Carbide

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ISO 513	CARBIDE			CERMET	
	CVD COATED	PVD COATED	UNCOATED	PVD COATED	UNCOATED
P Steel	P01	JC8005			JU4015
	P10	JC8015	JP5120	JP4020	
	P20	JC8025	JP5125		
	P30	JC8035			
	P40				
M Stainless steel	M01		JP9015		
	M10	JC9010			JP4020
	M20	JC9025	JP9030	JP5120	
	M30			JP5125	
	M40				
K Cast iron	K01	JC7010	JP5120		JP4020
	K10	JC7115			
	K20	JC7020	JP5125		
	K30				
N Non ferrous materials	N01		JP6010	JU6015	
	N10				
	N20				
	N30				
S HRSA	S01		JP3015		
	S10		JP5120		
	S20		JP5125		
	S30				

HRSA: heat resistance super alloy



GRADE	SUBSTRATE	HARDNESS HV	COATING		APPLICATION	FEATURES
			TECHNOLOGY	COMPOSITION		
<b>JC7010</b>	carbide	1.830	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub>	<b>K</b> K05 K25	High wear resistance. First choice for grey cast iron general machining.
<b>JC7115</b>	carbide	1.830	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub>	<b>K</b> K10 K20	Well-balanced between wear and chipping resistance. First choice for nodular cast iron general machining.
<b>JC7020</b>	carbide	1.830	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub>	<b>K</b> K15 K30	High fracture resistance. Heavy interrupted cut on all kind of cast iron.
<b>JC8005</b>	carbide	1.740	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub>	<b>P</b> P01 P10	High wear resistance. Excellent performance in high-speed cutting machining.
<b>JC8015</b>	carbide	1.740	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub> +TiN	<b>P</b> P10 P20	Good balance between wear and chipping resistance. High wear resistance, from medium to high speed cutting.
<b>JC8025</b>	carbide	1.700	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub> +TiN	<b>P</b> P20 P30	All around grade suitable for a wide range of applications. Excellent reliability even on medium interruptions.
<b>JC8035</b>	carbide	1.620	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub> +TiN	<b>P</b> P30 P40	Tough substrate and high chipping resistance coating. First choice for heavy machining.
<b>JC9010</b>	carbide	1.710	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub> +TiN	<b>M</b> M05 M15	High performance thin Al <sub>2</sub> O <sub>3</sub> nano coating with superior adhesion, shows great wear resistance in high-speed continuous cutting.
<b>JC9025</b>	carbide	1.540	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub> +TiN	<b>M</b> M20 M30	Good balance between wear and chipping resistance. First choice for stainless steel machining.
<b>JP3015</b>	micrograin carbide	1.950	PVD	TiAlN	<b>S</b> S05 S25	Great stability at high temperature machining. Best choice for HRSA materials.
<b>JP4020</b>	cermet	1.680	PVD	TiAlN	<b>P</b> P10 P20	Universal grade for finishing on multiple materials under stable conditions and high cutting speed.
					<b>M</b> M10 M20	
					<b>K</b> K10 K20	
<b>JP5120</b>	micrograin carbide	1.830	PVD	TiAlN	<b>P</b> P10 P20	Special coating technology balances wear resistance and toughness. The post-coating surface treatment effectively inhibit built-up edge.
					<b>M</b> M10 M20	
					<b>K</b> K10 K20	
<b>JP5125</b>	micrograin carbide	1.830	PVD	TiAlN	<b>P</b> P20 P30	High Co micrograin carbide substrate with high toughness and latest coating technology. Universal use with great reliability and long tool life.
					<b>M</b> M20 M30	
					<b>K</b> K20 K30	
<b>JP6010</b>	micrograin carbide	2.020	PVD	TiBCN	<b>N</b> N05 N15	Special coating technology suitable for a wide range of applications in non ferrous materials. A smart alternative of PCD tools.
<b>JP9015</b>	micrograin carbide	2.020	PVD	TiAlN	<b>M</b> M10 M20	Micrograin carbide with high wear resistance. First choice for stainless steel finishing.
<b>JP9030</b>	micrograin carbide	1.830	PVD	TiAlN	<b>M</b> M25 M35	Micrograin carbide with superior oxidation resistance and high toughness. Great performance on interrupted cut machining of stainless steel.
<b>JU4015</b>	cermet	1.650	-	-	<b>P</b> P05 P15	High wear resistance in high-speed continuous cutting. First choice for finishing when high surface roughness is the main priority.
<b>JU6015</b>	micrograin carbide	1.950	-	-	<b>N</b> N10 N20	Uncoated carbide for univernal use, from finishing to roughing, on non ferrous materials.

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G - SPARE PARTS

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ISO 513	nixkoTOOLS		ISCAR		KENNAMETAL		KYOCERA		MITSUBISHI			
	carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet		
<b>P</b>	<b>P1 - P10</b>	JC8005 <u>JU4015</u>	IC8150	<u>IC20N</u> <u>IC520N</u>	KCP05B	<u>KT315</u> <u>KTP10</u>	CA510 PR1705	<u>TN610</u> <u>PV710</u>	MC6115 MS6015 UE6105			
	<b>P10 - P20</b>	JC8015 <u>JP5120</u> <u>JP5125</u>	<u>JP4020</u>	IC8150 IC8250 <u>IC807</u>	<u>IC30N</u> <u>IC530N</u>	KCP10B KCU10	CA025P CA515 PR1705	<u>TN620</u> <u>PV720</u> <u>CCX</u>	MC6115 MS6015 UE6110 VP15TF	<u>NX2525</u> <u>VP25N</u> <u>AP25N</u>		
	<b>P20 - P30</b>	JC8025 <u>JP5125</u>		IC8250 IC8350		KCP25B KCP30B <u>KCU25</u>	CA025P CA525 PR1725	<u>TN620</u> <u>PV720</u>	MC6125 MS7025 UE6120 VP15TF	<u>NX3035</u> <u>MP3025</u>		
	<b>P30 - P40</b>	JC8035		IC8350 <u>IC830</u>		KCP30B KCP40B	CA530 PR1535	<u>PV730</u>	MC6035 MS7025 UH6400			
<b>M</b>	<b>M1 - M10</b>	JC9010 <u>JP5120</u> JP9015	<u>JP4020</u>	IC6015 IC807	<u>IC20N</u> <u>IC520N</u>		<u>KT315</u> <u>KTP10</u>	CA6515	<u>TN610</u> <u>PV710</u>	MC7015		
	<b>M10 - M20</b>	JC9010 <u>JP9015</u> <u>JP5125</u>	<u>JP4020</u>	IC6015 IC807	<u>IC30N</u> <u>IC530N</u>	KCM15B KCU10	CA6515 PR1425 PR1725	<u>TN620</u> <u>PV720</u>	MC7015 US7020 VP15TF	<u>NX2525</u> <u>VP25N</u> <u>AP25N</u>		
	<b>M20 - M30</b>	JC9025 <u>JP5125</u>		IC6025 <u>IC830</u>		KCM25B KCU25	CA6525 PR1425 PR1725	<u>PV730</u>	MC7025 MS7025 <u>MS9025</u>			
	<b>M30 - M40</b>	<u>JP9030</u>		IC6025 <u>IC830</u>		KCM35B	<u>PR1535</u>		MP7035 US735			
<b>K</b>	<b>K01 - K10</b>	JC7010	<u>JP4020</u>	IC5005		KCK05B	<u>KT315</u> <u>KTP10</u>	CA310	MC5005 UC5105			
	<b>K10 - K20</b>	JC7010 JC7115	<u>JP4020</u>	IC5005 IC5010		KCK15B		CA315	<u>PV710</u> <u>CCX</u>	MC5015 UC5115	<u>NX2525</u> <u>VP25N</u> <u>AP25N</u>	
	<b>K20 - K30</b>	JC7020		IC5010 IC8150		KCK20B		CA320	MC5015 UC5115 VP15TF			
<b>N</b>	<b>N01 - N10</b>	<u>JP6010</u>	-		-	<u>KC5410</u>	-	<u>KW10</u> <u>PDL010</u>	-	<u>HTI10</u>	-	
	<b>N10 - N20</b>	<u>JP6010</u> <u>JU6015</u>	-	<u>IC520</u> <u>IC20</u>	-	<u>KC5410</u> K313	<u>KT325</u>	<u>KW10</u>	-	<u>HTI10</u>	-	
	<b>N20 - N30</b>	<u>JU6015</u>	-	<u>IC20</u>	-	<u>K313</u>	-	<u>PDL025</u>	-		-	
<b>S</b>	<b>HRSA</b>	<b>S01 - S10</b>	<u>JP3015</u>	-	<u>IC804</u>	-	<u>KCS10B</u>	-	<u>PR005S</u>	-	<u>MP9005</u>	-
		<b>S10 - S20</b>	<u>JP3015</u> <u>JP5125</u>	-	<u>IC804</u> <u>IC806</u>	-	<u>KCS10B</u>	-	<u>PR015S</u>	-	<u>MP9015</u>	-
		<b>S20 - S30</b>	<u>JP5125</u>	-	<u>IC806</u>	-		-	<u>PR1535</u>	-	<u>MP9025</u>	-
	<b>TITANIUM</b>	<b>S01 - S10</b>	<u>JP6010</u>	-	<u>IC804</u>	-	<u>KCS10B</u>	-	<u>SW05</u>	-	<u>MT9005</u>	-
		<b>S10 - S20</b>	<u>JU6015</u>	-	<u>IC804</u> <u>IC806</u> <u>IC20</u>	-	<u>K313</u>	-		-	<u>MT9015</u>	-
		<b>S20 - S30</b>		-	<u>IC806</u>	-		-		-		-

BLACK: CVD, UNDERLINED: PVD, RED: uncoated

SANDVIK		SECO		SUMITOMO		TAEGUTEC		TUNGALOY		WALTER	
carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet
GC4305	CT5015 GC1525	TP0501		AC810P AC8015P	T1000A	TT4410 TT8105B	CT3000 PV3010	T9105 T9205	NS520	WPP05S	WEP10C
GC1125 GC4315 GC4415	CT5015 GC1525	TP1501	TP1020 TP1030	AC530U AC1030U AC8015P AC8020P	T1500A T1500Z	TT4410 TT8115B TT9020	CT7000 PV3030	SH725 T9115 T9215	AT9530 GT9530 NS9530	WPP10G WPP10S	WEP10C
GC1125 GC4325 GC4425		TP2501 TP25		AC530U AC1030U AC8020P AC8025P	T2500A T2500Z T3000Z	TT4430 TT5100 TT8125B TT9020		AH725 T9125 T9225	AT9530 GT9530 NS9530	WPP20G WPP20S WMP20S	
GC4335		TP3501 TP40		AC830P AC8035P		TT8135B		T9135 T9235		WKP30S WPP30G WPP30S	
GC1115		TS2000			T1000A	TT5080	CT3000 PV3010	T6215		WSM01	
GC1115 GC2015 GC2220	GC1525 CT5015	TM1501 TS2500	TP1020 TP1030	AC610M AC6020M	T1500A	TT4410 TT5080 TT9215	CT7000 PV3030	SH725 T6215	GT9530 NS9530	WMP20S WSM10S	
GC1125 GC2025 GC2220		CP500 TM2501		AC630M AC6030M		TT4430 TT9080 TT9225		AH630 AH725 GH330 T6120	GT9530 NS9530	WMP20S WSM20S	
GC2035		TM3501 TP40		AC1030U AC530U AC6040M		TT8020 TT8080 TT9235		AH645 T6130		WSM30S	
GC3210		TK0501		AC405K AC4010K	T1000A	TT7005		T505 T5105		WKK10S	
GC3210 GC3225		TK1501		AC415K AC4015K		TT7015	CT3000 PV3010	T515 T5115	GT9530 NS9530	WKK20S	
GC3225		TK1501		AC420K		TT7025		T5125		WKP30S	
H10	-	-	-	-	-	K10	-	KS05F	-	WNN10	-
H10	-	KX	-	-	-	K10	-	TH10	-	WNN10 WK1	-
-	-	KX	-	H1	-	-	-	-	-	-	-
GC1105 S05F	-	TS2050	-	AC5005S AC510U	-	TT3005 TT5080	-	AH8005	-	WSM01 WSM10S	-
GC1105 S05F S205	-	TS2000	-	AC5015S AC520U	-	TT3010 TT9080	-	AH8015	-	WSM20S	-
GC1115 S205	-	TS2500	-	AC5025S	-	TT3020 TT9080	-	AH8015	-	WSM30S	-
-	-	883	-	EH510	-	K10 TT4410	-	TH10	-	WS10 WSM10S	-
H13A	-	883	-	EH520	-	K10	-	KS20	-	WS10 WSM20S	-
H13A	-	-	-	-	-	-	-	-	-	-	-

This table is our own estimation based on information available to the public and is not authorized by the company mentioned on it.

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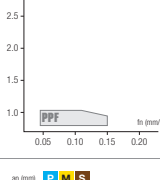





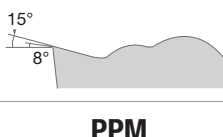
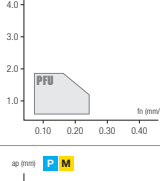




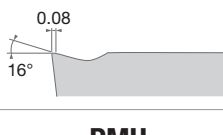
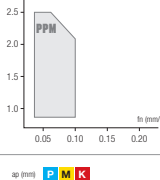



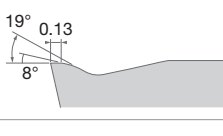






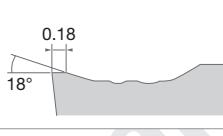





G - SPARE PARTS

			C	D	S	T	V	W
NEGATIVE type with hole								
			80°	55°	90°	60°	35°	80°
P	FINISHING	<b>NSP</b>	A44 SIZE 09 12	A51 SIZE 11 15	A60 SIZE 12	A66 SIZE 16	A73 SIZE 16	A77 SIZE 06 08
		<b>NUP</b>	A45 SIZE 09 12 16 19	A51 SIZE 11 15	000 SIZE 12	A66 SIZE 16 22	A73 SIZE 16	A77 SIZE 06 08
		<b>NMP</b>	A44 SIZE 12 16 19	A51 SIZE 11 15	A60 SIZE 12	A66 SIZE 16 22	A73 SIZE 16	A77 SIZE 06 08
	MEDIUM	<b>NRP</b>	A47 SIZE 12 16 19 25	A53 SIZE 15	A61 SIZE 12 19 25	A68 SIZE 16 22		A79 SIZE 08
		<b>MRP</b>	A48 SIZE 19 25		A62 SIZE 19 25			
		<b>NSM</b>	A44 SIZE 12	A51 SIZE 15		A66 SIZE 16	A73 SIZE 16	A77 SIZE 08
	ROUGHING	<b>NMM</b>	A45 SIZE 09 12 16 19	A52 SIZE 11 15	A60 SIZE 12 19	A67 SIZE 16 22	A73 SIZE 16	A77 SIZE 06 08
		<b>NRM</b>	A48 SIZE 12 16 19	A53 SIZE 15	A61 SIZE 12 19	A68 SIZE 16		A79 SIZE 08
		<b>NMS</b>	A46 SIZE 12	A52 SIZE 15				000 SIZE 08
	HEAVY ROUGHING							

			C	D	S	T	V	W	
NEGATIVE type with hole									
			80°	55°	90°	60°	35°	80°	
<b>K</b>	LIGHT TO MEDIUM MACHINING	ROUGHING	<b>NMK</b>						
<b>N</b>	UNIVERSAL		<b>NUK</b>						
<b>UNI</b>	MEDIUM		<b>NRK</b>						
<b>UNI</b>	WIPER		<b>Flat</b>						
<b>UNI</b>	MEDIUM		<b>NMN</b>						
<b>UNI</b>	MEDIUM		<b>NUX</b>						
<b>UNI</b>	WIPER		<b>NMU</b>						
<b>UNI</b>	WIPER		<b>NWU</b>						
<b>UNI</b>	WIPER		<b>NWX</b>						

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POSITIVE type with hole			C	D	S	T	V	W
			80°	55°	90°	60°	35°	80°
UNI	N UNIVERSAL	<b>PMN</b>  	 SIZE 06 09 12	 SIZE 07 11	 SIZE 09 12	 SIZE 09 11 16	 SIZE 11 16 22	
		<b>PPF</b> (ground chip breaker)  	 SIZE 06 09	 SIZE 07 11		 SIZE 06 09 11	 SIZE 11	 SIZE 06
	FINISHING	<b>PFU</b>  	 SIZE 06 09	 SIZE 07 11	 SIZE 09	 SIZE 11 16	 SIZE 11 16	
	FINISHING	<b>PPM</b> (ground chip breaker)  	 SIZE 09	 SIZE 07 11		 SIZE 11	 SIZE 11	
	MEDIUM	<b>PMU</b>  	 SIZE 06 09 12	 SIZE 07 11 15	 SIZE 09 12	 SIZE 09 11 16 22	 SIZE 11 16	 SIZE 12
	MEDIUM	<b>PRU</b>  	 SIZE 09 12	 SIZE 11	 SIZE 09 12	 SIZE 16	 SIZE 16	
ROUGHING								

Catalog

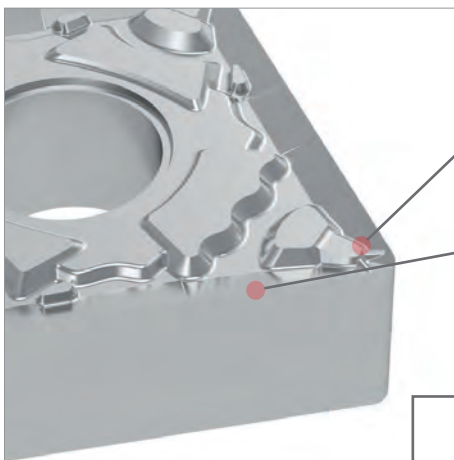


# NSP

Chip Breaker

- Chip breaker for steel finishing and light cutting
- Butterfly geometry directs chip flow
- Variable rake angle and curved edge line for excellent chip control at small depths of cut
- High quality surface finish

## • Features of NSP chip breaker

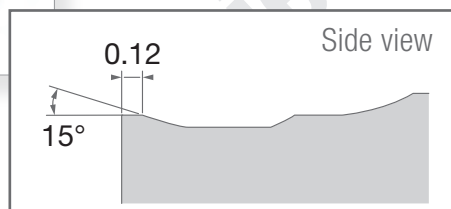


### BUTTERFLY DOT

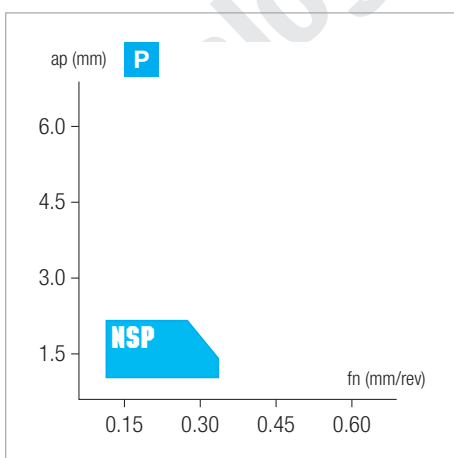
- High stability of chip flows at high feed
- Lower cutting force at low depth of cut and high feed

### VARIABLE RAKE ANGLE AND CURVED EDGE LINE

- Less crater wears
- Excellent chip control at small depths of cut



## • Application range



## • Performance evaluation

<b>Workpiece</b>	C45
<b>Cutting condition</b>	Vc 350 m/min, fn 0.20 mm/rev, ap 1.0 mm, emulsion
<b>Cutting Tool</b>	CNMG120408-NSP JC8005
<b>nixko</b> TOOLS	<b>200 PCS.</b>
Competitor A	180 PCS.
Competitor B	180 PCS.

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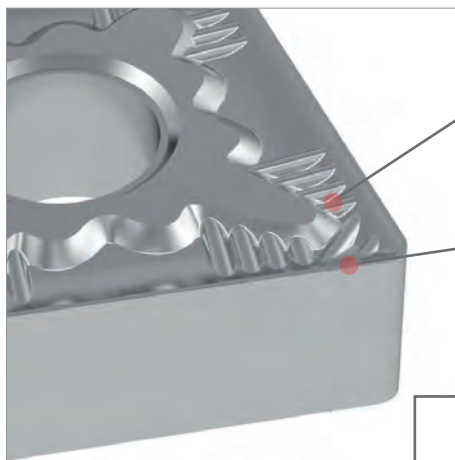
G - SPARE PARTS

# NUP

Chip Breaker

- Chip breaker for steel semi-finishing and medium cutting
- Variable rake angle and edge width for good balance of toughness and sharpness
- Special groove design improves robustness and chip flow
- Universal application

## • Features of NUP chip breaker

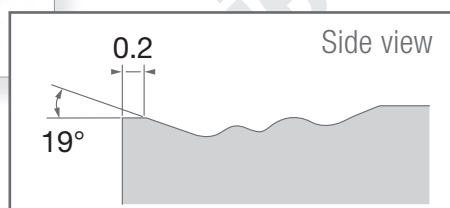


### SPECIAL GROOVES

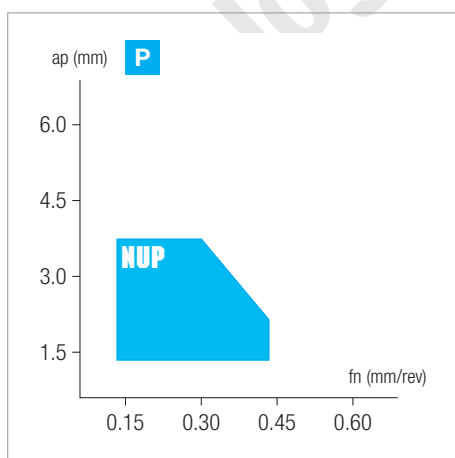
- Better robustness
- Improves chip forming and chip control

### VARIABLE RAKE ANGLE AND EDGE WIDTH

- Good balance of toughness and sharpness
- Reliable cutting process for universal application



## • Application range



## • Performance evaluation

<b>Workpiece</b>	41CrMoAl7
<b>Cutting condition</b>	Vc 156 m/min, fn 0.3 mm/min, ap 3.1 mm, emulsion
<b>Cutting Tool</b>	CNMG120412-NUP JC8025
<b>nixko</b> TOOLS	7 PCS.
Competitor A	5 PCS.
Competitor B	4 PCS.



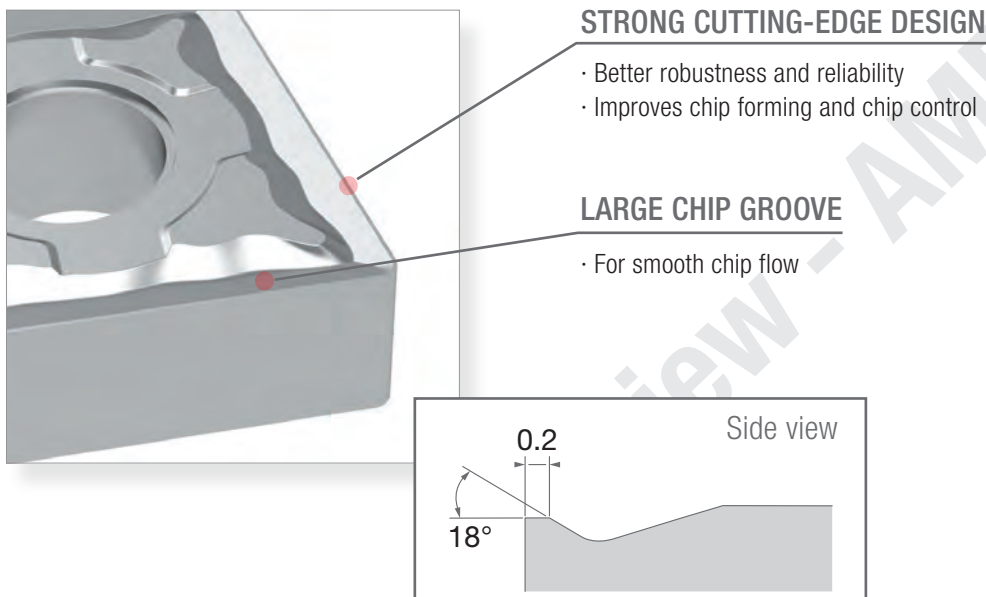


# NMP

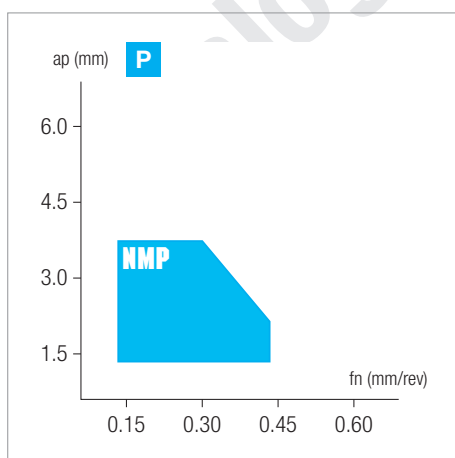
Chip Breaker

- Chip breaker for steel semi-finishing and medium cutting
- Strong cutting edge for reliable cutting process
- Large chip groove for smooth chip flow
- Excellent performance in carbon steel and alloy steel

## • Features of NMP chip breaker



## • Application range



## • Performance evaluation

<b>Workpiece</b>	31CrMoV9
<b>Cutting condition</b>	Vc 190 m/min, fn 0.3 mm/min, ap 3 mm, emulsion
<b>Cutting Tool</b>	CNMG160608-NMP JC8015
<b>nixko</b> TOOLS	<b>24 PCS.</b>
Competitor A	15 PCS.
Competitor B	14 PCS.

# NRP

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

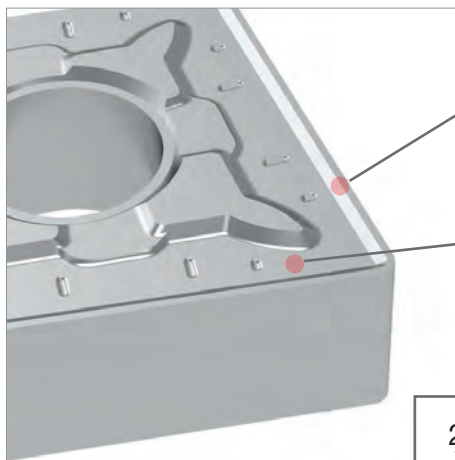
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Chip breaker for steel roughing
- Strong cutting edge with variable rake angle
- 1<sup>st</sup> choice for interrupted cutting
- Excellent chip control at big feedrate

## • Features of NRP chip breaker

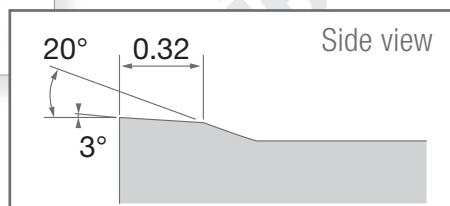


### VARIABLE RAKE ANGLE AND EDGE WIDTH

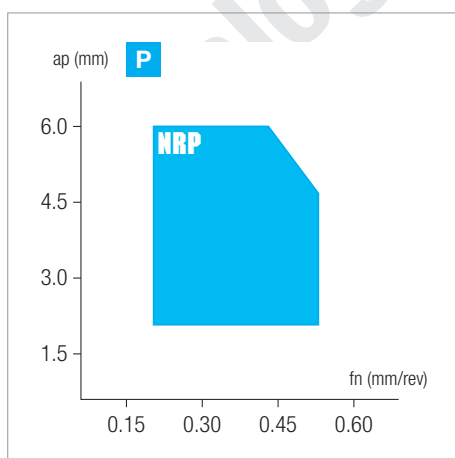
- Uniform chip control at different cutting depth
- Reduced cutting force with high toughness
- Adapted for interrupted cutting

### ABUNDANT CHIP GROOVE

- Excellent chip control at medium/high feedrate



## • Application range



## • Performance evaluation

**Workpiece** 100Cr6  
**Cutting condition** Vc 280 m/min, fn 0.35 mm/rev, ap 2.5 mm, emulsion, interrupted cut  
**Cutting Tool** WNMG080412-NRP JC8015

<b>nixko</b> TOOLS	45 PCS.
Competitor A	35 PCS.
Competitor B	20 PCS.

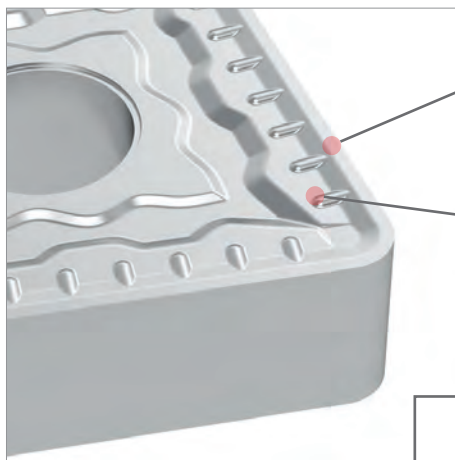


# MRP

Chip Breaker

- Single side chip breaker for steel heavy roughing
- Strong cutting edge with negative T land
- Reduced cutting force in heavy turning
- Suitable for high feedrate and high depth of cut operations

## • Features of MRP chip breaker

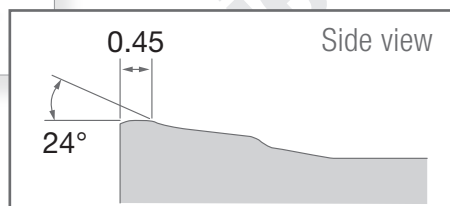


### STRAIGHT EDGE WITH NEGATIVE T LAND

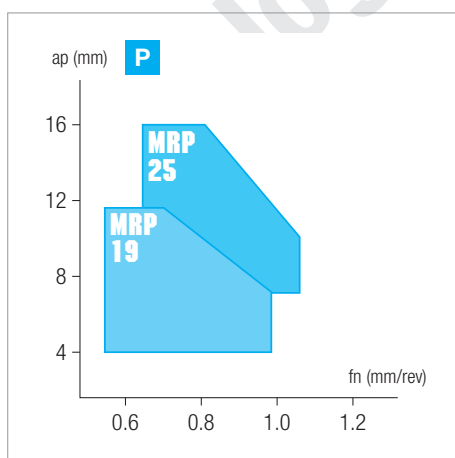
- Very tough cutting edge
- Reduced cutting force
- Suitable for high feedrate and high depth of cut

### BIG GUIDING DOTS DESIGN

- Guide the chip flow to the right direction



## • Application range



## • Performance evaluation

<b>Workpiece</b>	20 MnCr 5
<b>Cutting condition</b>	Vc 80 m/min, fn 0.80 mm/rev, ap 10.0 mm, emulsion
<b>Cutting Tool</b>	SNMM250924-MRP JC8035
<b>nixko</b> TOOLS	<b>10 PCS.</b>
Competitor A	<b>9 PCS.</b>
Competitor B	<b>7 PCS.</b>

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# NSM

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

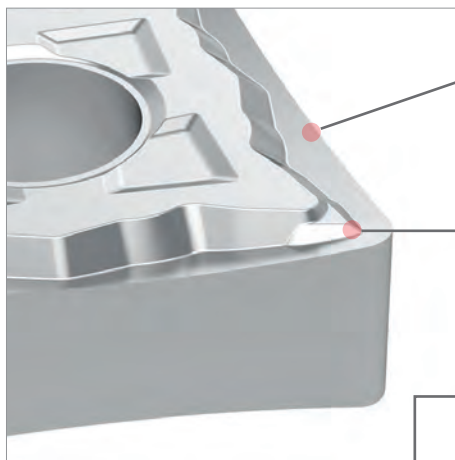
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Chip breaker for stainless steel finishing and light cutting
- Curved edge design
- Robust but also sharp edge
- High quality of surface finishing

## • Features of NSM chip breaker

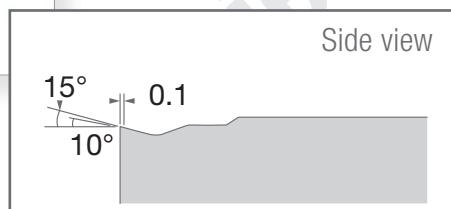


### CURVED CUTTING EDGE

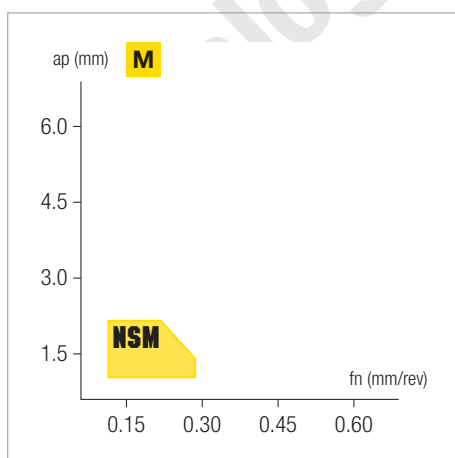
- Sharp cutting edge with high stability
- Spacious chip evacuation area

### SMALL NOSE DESIGN

- Excellent chip control at small depths of cut



## • Application range



## • Performance evaluation

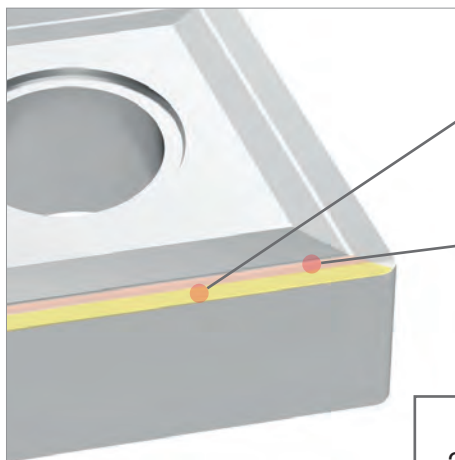
<b>Workpiece</b>	AISI304
<b>Cutting condition</b>	Vc 240 m/min, fn 0.13 mm/min, ap 0.6 mm, emulsion
<b>Cutting Tool</b>	TNMG160408-NSM JP9015
<b>nikko</b> TOOLS	<b>1200 PCS.</b>
Competitor A	<b>450 PCS.</b>
Competitor B	<b>420 PCS.</b>

# NMM

Chip Breaker

- Chip breaker for stainless steel medium cutting
- Double rake angle design for good balance of toughness and sharpness
- Specially for sticky material cutting
- Universal application for stainless

## • Features of NMM chip breaker

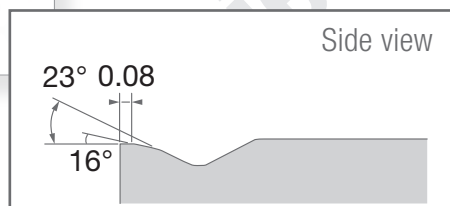


### DOUBLE RAKE ANGLE DESIGN

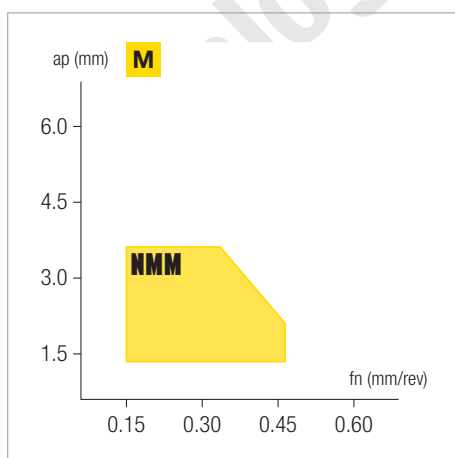
- Sharp but also tough edge
- Reliable cutting process for universal application
- Micro geometry adapted for sticky materials

### DEEP CHIP GROOVE DESIGN

- Spacious chip evacuation area at medium depth of cut



## • Application range



## • Performance evaluation

<b>Workpiece</b>	AISI304
<b>Cutting condition</b>	Vc 180 m/min, fn 0.27 mm/rev, ap 2.5 mm, emulsion
<b>Cutting Tool</b>	TNMG160408-NMM JC9025
<b>nixko</b> TOOLS	<b>330 PCS.</b>
Competitor A	<b>300 PCS.</b>
Competitor B	<b>280 PCS.</b>



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

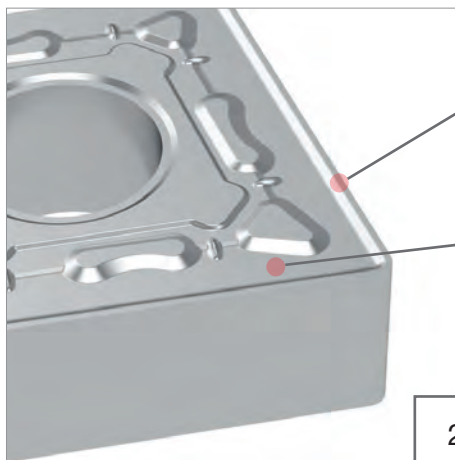
G - SPARE PARTS

## NRM

Chip Breaker

- Chip breaker for stainless steel roughing
- Strong cutting edge with double rake angle
- Excellent chip control at big feedrate
- Adapted for irregular and oxidized surfaces

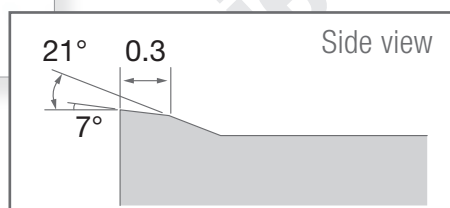
- Features of NRM chip breaker

**BIG BUT POSITIVE EDGE WIDTH DESIGN**

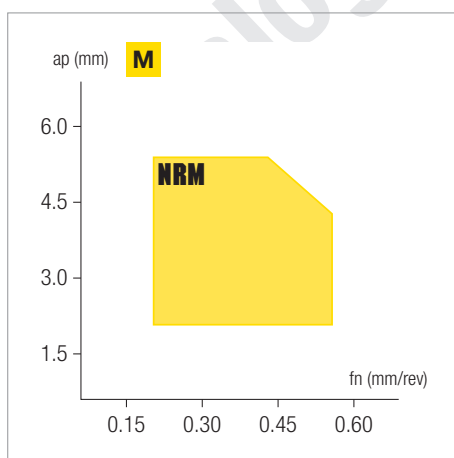
- Reduced cutting force with high toughness
- Suitable for removing irregular and oxidized surfaces

**BIG SHALLOW CHIP GROOVE**

- Efficiently guide and evacuate big volume of chips



- Application range



- Performance evaluation

<b>Workpiece</b>	AISI303
<b>Cutting condition</b>	Vc 120 m/min, fn 0.45 mm/rev, ap 4.0 mm, emulsion, light interrupted
<b>Cutting Tool</b>	CNMG160612-NRM JP9030
<b>nixkoTOOLS</b>	<b>80 PCS.</b>
Competitor A	<b>70 PCS.</b>
Competitor B	<b>70 PCS.</b>

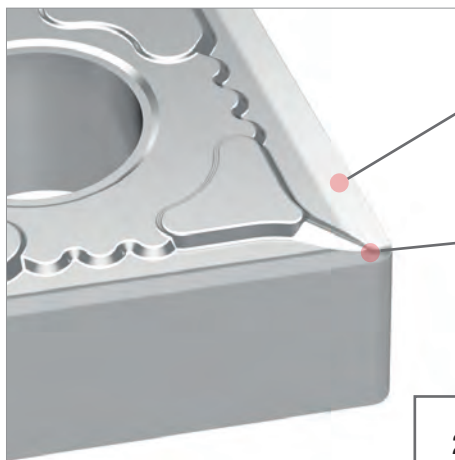


# NMS

Chip Breaker

- Strong edge with sharp rake for stainless and super alloy
- Variable edge and rake angle angle for semi-finishing or roughing
- High reliability and stability

## • Features of NMS chip breaker

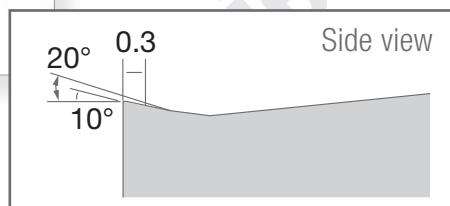


### STRONG EDGE WITH SHARP RAKE DESIGN

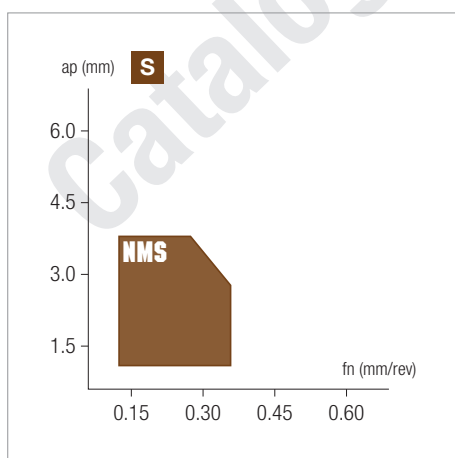
- Strengthened edge width provides good reliability
- Sharp rake reduces cutting resistance

### SHARP NOSE WITH OPEN CHIP GROOVE

- Guides chip flow and improves chip control
- Excellent chip control at smaller depths of cut



## • Application range



## • Performance evaluation

<b>Workpiece</b>	Inconel 718
<b>Cutting condition</b>	Vc 50 m/min, fn 0.20 mm/rev, ap 1.5 mm, emulsion
<b>Cutting Tool</b>	CNMG120408-NMS JP3015
<b>nixko</b> TOOLS	<b>3 PCS.</b>
Competitor A	<b>2 PCS.</b>
Competitor B	<b>1 PCS.</b>

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# NUK

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

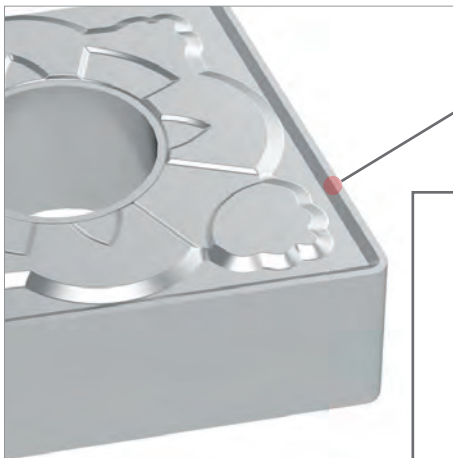
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

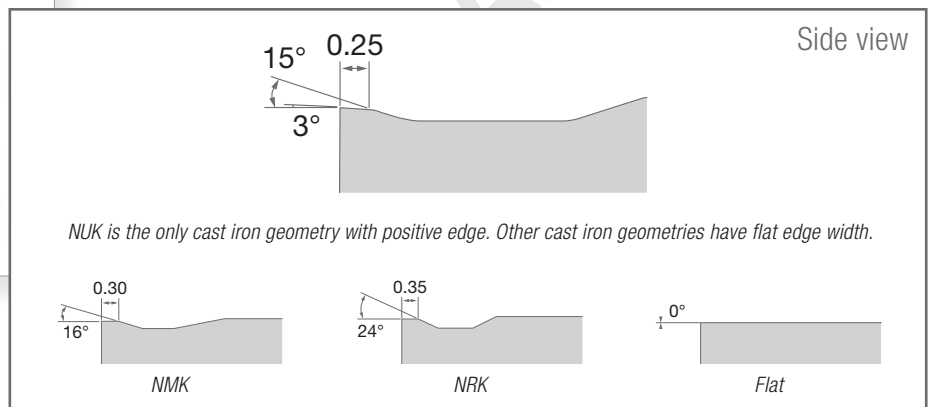
- Chip breaker for cast iron light to medium cutting
- Effectively avoid burrs
- Specialize in nodular cast iron

## • Features of NUK chip breaker

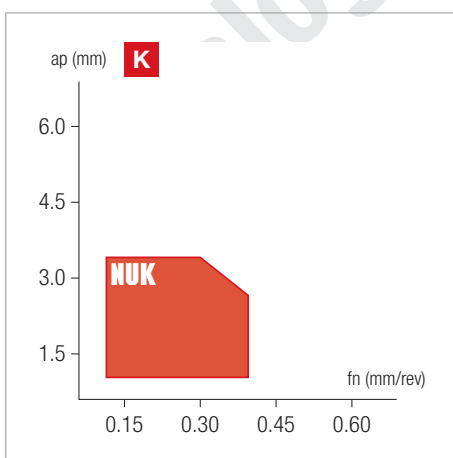


### POSITIVE EDGE WIDTH DESIGN

- Slightly sharper than conventional cast iron geometries
- Effectively reduce burrs
- Adapted for nodular cast iron



## • Application range



## • Performance evaluation

<b>Workpiece</b>	Gray cast iron GG25
<b>Cutting condition</b>	Vc 170 m/min, fn 0.20 mm/rev, ap 0.5mm emulsion
<b>Cutting Tool</b>	DNMG150608-NUK JC7115
<b>nixko</b> TOOLS	<b>880 PCS.</b>
Competitor A	400 PCS.
Competitor B	380 PCS.

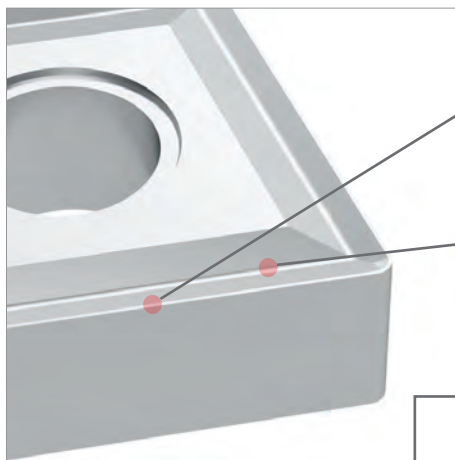


# NMK

## Chip Breaker

- Chip breaker for cast iron general cutting
- Enforced cutting edge
- Adapted for unstable operations
- Specialize in cast iron boring operation

### • Features of NMK chip breaker

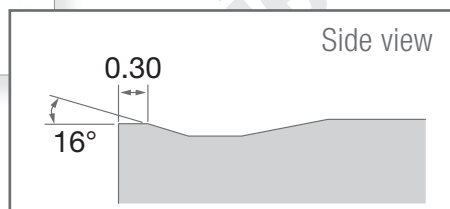


#### REINFORCED CUTTING EDGE

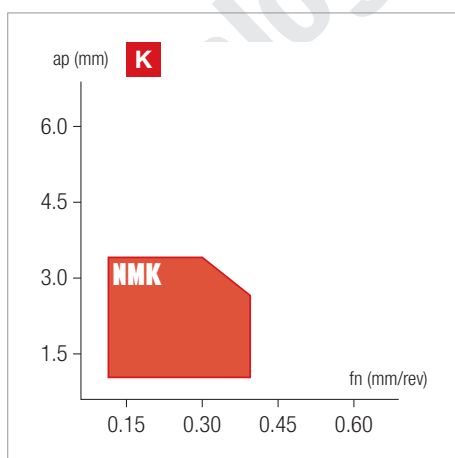
- Strong cutting edge but with reduced cutting force
- Adapted for unstable cutting conditions
- Problem solver for cast iron boring

#### OPEN CHIP GROOVE DESIGN

- Spacious chip evacuation area at medium depth of cut



### • Application range



### • Performance evaluation

**Workpiece** GS500  
**Cutting condition** · Vc 250 m/min, fn 0.35 mm/min, ap 3 mm, emulsion  
 · Vc 320 m/min, fn 0.50 mm/min, ap 0.7 mm, emulsion  
**Cutting Tool** CNMG120408-NMK

<b>nikko</b> TOOLS	<b>1200 PCS.</b>
Competitor A	450 PCS.
Competitor B	420 PCS.



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# NRK

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

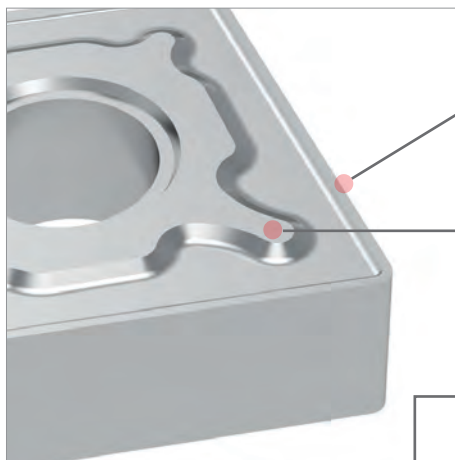
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Chip breaker for cast iron roughing
- Replace traditional flat top inserts
- Expert in removing black casted surface
- Extremely broad cutting range

## • Features of NRK chip breaker

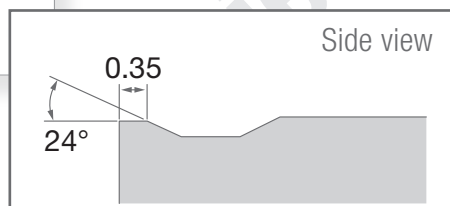


### STRONG CUTTING EDGE DESIGN

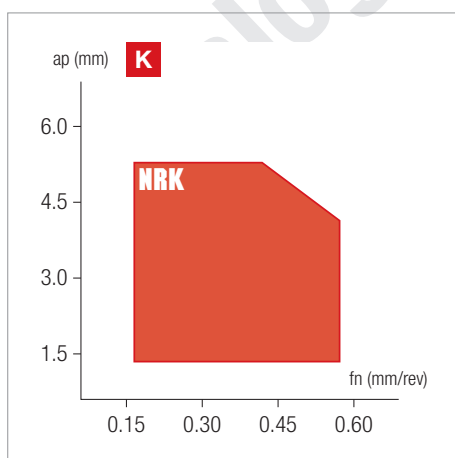
- Cutting edge robust and reliable
- Suitable for big cutting depth big feedrate operations
- Suitable for removing irregular and oxidized surfaces

### PRECISION LAPPED SUPPORT SURFACE

- Improves the stability and reliability in unstable conditions



## • Application range



## • Performance evaluation

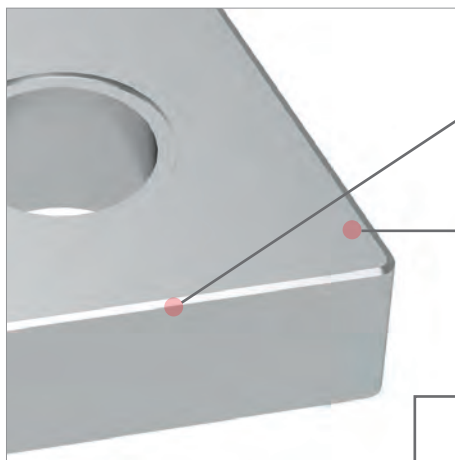
<b>Workpiece</b>	Nodular cast iron GS500
<b>Cutting condition</b>	Vc 180 m/min, fn 0.35 mm/min, ap 4 mm, emulsion
<b>Cutting Tool</b>	CNMG160616-NRK JC7115
<b>nixko</b> TOOLS	<b>70 PCS.</b>
Competitor A	30 PCS.
Competitor B	20 PCS.

# Flat

Chip Breaker

- Most classical solution for cast iron universal cutting
- Stable and reliable cutting process
- Mainly adopted for GG cat iron
- Extremely broad cutting range

## • Features of Flat chip breaker

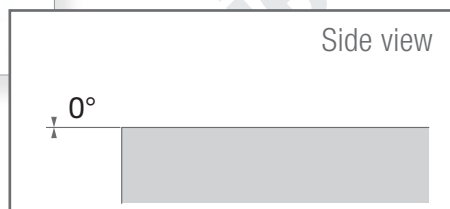


### SPECIAL MICRO GEOMETRY

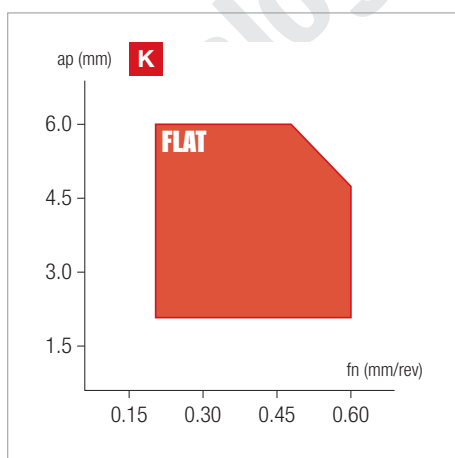
- Reduce cutting resistance
- Maintain stable and reliable cutting process

### CLASSICAL FLAT CHIP BREAKER

- Available for diverse cutting parameters



## • Application range



## • Performance evaluation

**Workpiece** GG25  
**Cutting condition** Vc 280 m/min, fn 0.40 mm/rev, ap 3.0 mm, emulsion, interrupted cut  
**Cutting Tool** CNMA120416 JC7010

<b>nixko</b> TOOLS	<b>175 PCS.</b>
Competitor A	150 PCS.
Competitor B	148 PCS.



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# NMN

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

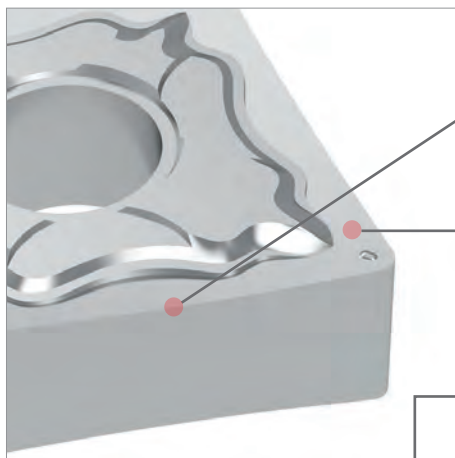
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Chipbreaker for non-ferrous materials
- High positive sharp geometry
- Ideal chip forming and guided chip evacuation
- Excellent surface finishing

## • Features of NMN chip breaker

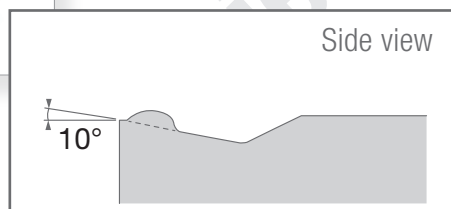


### CURVED EDGE WITH SPECIAL MICRO GEOMETRY

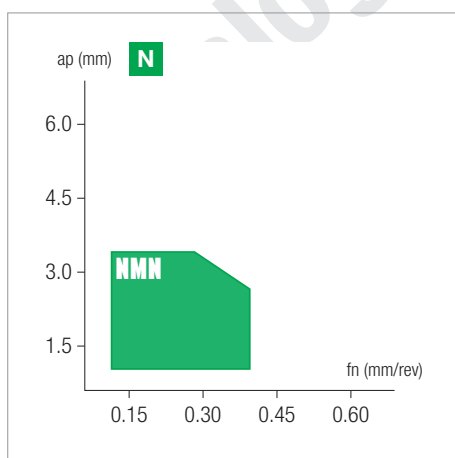
- Sharp but strong cutting edge
- Wide chip evacuation space
- Bends and guides the chips

### WIDE CHIP GROOVE AND LONG EDGE

- Effective in evacuating the chips
- Suitable for a wide range of cutting operations



## • Application range



## • Performance evaluation

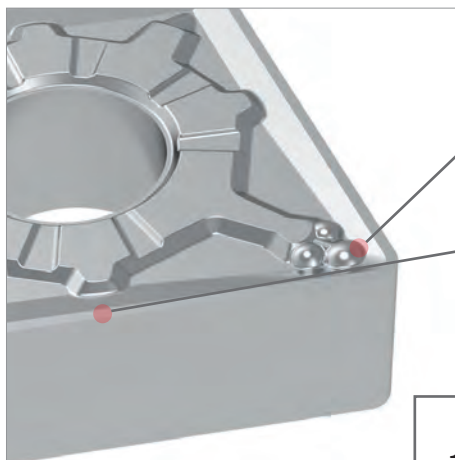
<b>Workpiece</b>	copper alloy
<b>Cutting condition</b>	Vc 250 m/min, fn 0.10 mm/min, ap 0.1 mm, emulsion
<b>Cutting Tool</b>	DNGG150604-NMN JU6015
<b>nixko</b> TOOLS	<b>70 PCS.</b>
Competitor A	30 PCS.
Competitor B	20 PCS.

# NUX

Chip Breaker

- Chip breaker for universal application
- Double and variable rake angle and edge width for toughness and sharpness
- Good chip formation also with reduced feedrate and cutting depth
- Universal application

## • Features of NUX chip breaker

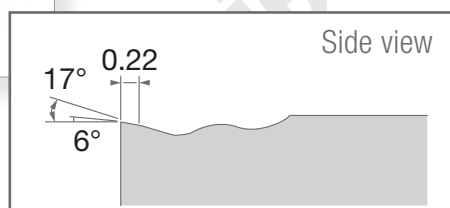


### SPECIAL GROOVES

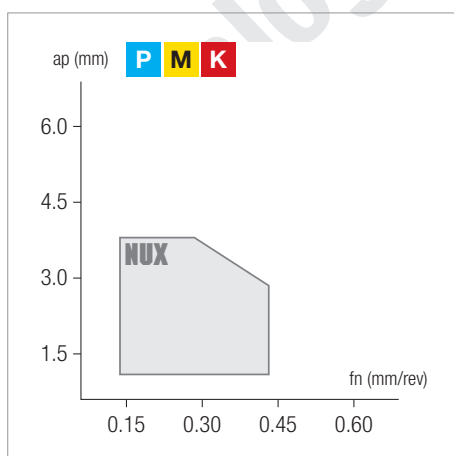
- Better robustness
- Improves chip forming and chip control

### VARIABLE RAKE ANGLE AND EDGE WIDTH

- Good balance of toughness and sharpness
- Reliable cutting process for universal application



## • Application range



## • Performance evaluation

<b>Workpiece</b>	Sintered steel
<b>Cutting condition</b>	Vc 300 m/min, fn 0.12 mm/rev, ap 1.7 mm, emulsion
<b>Cutting Tool</b>	CNMG120404-NUX JC8015
<b>nixkoTOOLS</b>	40 PCS.
Competitor A	38 PCS.
Competitor B	30 PCS.



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# NWU

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

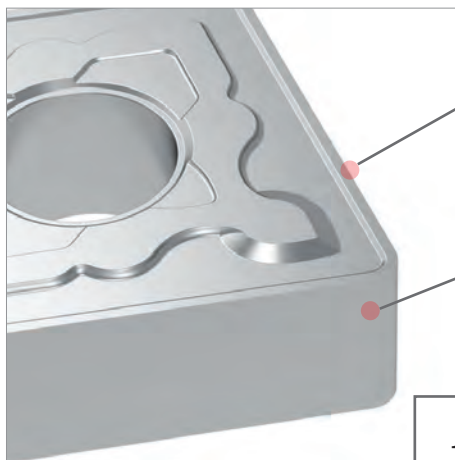
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Wiper chip breaker for steel and cast iron
- Anti-vibration and smooth cutting process
- Reliable cutting edge with reduced cutting force
- Universal application

## • Features of NWU chip breaker

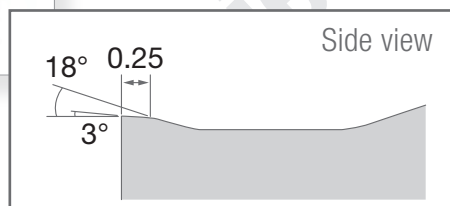


### DOUBLE RAKE ANGLE EDGE

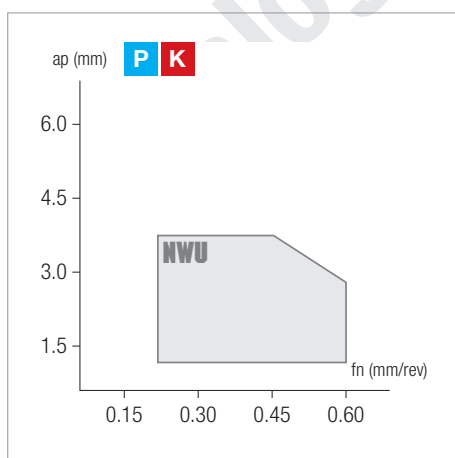
- Good balance of toughness and sharpness
- Improves chip forming and chip control
- Suitable for wider application range

### MULTIPLE-CURVE WIPER LAND

- Effectively reduce vibration
- Excellent surface quality



## • Application range



## • Performance evaluation

<b>Workpiece</b>	GG25
<b>Cutting condition</b>	Vc 350 m/min, fn 0.45 mm/rev, ap 1.0 mm, emulsion
<b>Cutting Tool</b>	DNMX150608-NWU JC7010
<b>nikko</b> TOOLS	150 PCS.
Competitor A	140 PCS.
Competitor B	140 PCS.

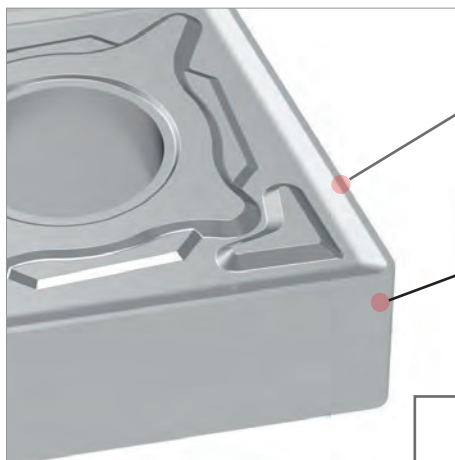


# NWX

Chip Breaker

- Wiper chip breaker for steel and cast iron
- Strong and reliable cutting edge
- Suitable for big feedrate and big depth of cut application
- Wide application range

## • Features of NWX chip breaker

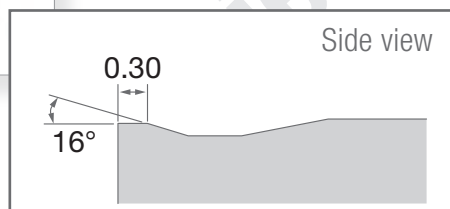


### STRONG CUTTING EDGE

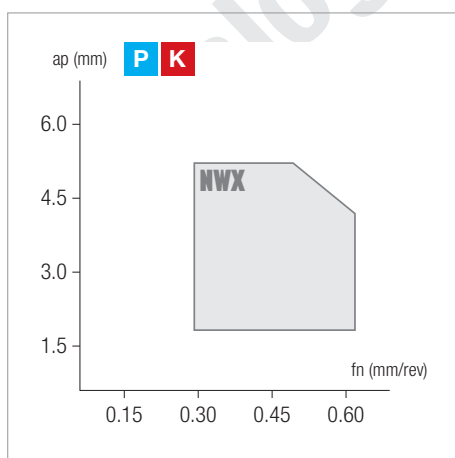
- Better robustness and reliability
- Adapted for big feedrate and big depth of cut application

### MULTIPLE-CURVE WIPER LAND

- Effectively reduce vibration
- Excellent surface quality



## • Application range



## • Performance evaluation

**Workpiece** GG25  
**Cutting condition** Vc 260 m/min, fn 0.40 mm/rev, ap 2.5 mm, emulsion, interrupted cut  
**Cutting Tool** CNMG120412-NWX JC7010

<b>nixko</b> TOOLS	70 PCS.
Competitor A	55 PCS.
Competitor B	50 PCS.



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# NMU<sup>L</sup>/R

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

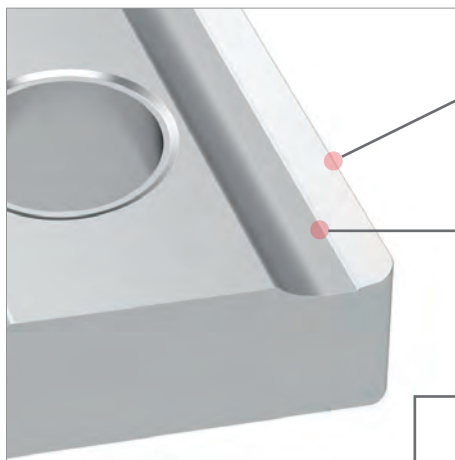
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Chipbreaker for universal use
- High positive geometry reduces workpiece deform
- Excellent chip forming and guided chip evacuation
- Adapted for unstable cutting conditions

## • Features of NMU<sup>L</sup>/R chip breaker



### SHARP EDGE WITH SPECIAL MICRO GEOMETRY

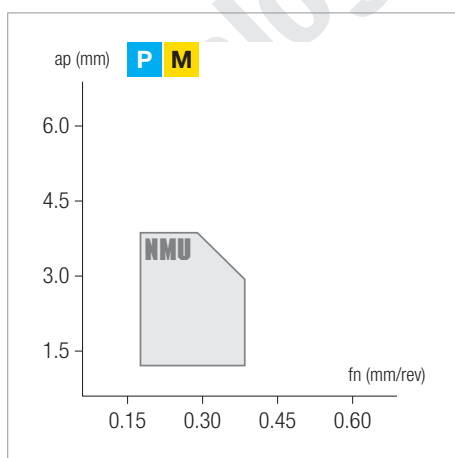
- Excellent chip forming and guided chip evacuation direction
- Minimum bending effect on the workpiece
- Suitable for unstable set-ups

### WIDE CHIP GROOVE AND LONG EDGE

- Effective in evacuating the chips
- Suitable for a wide range of cutting operations



## • Application range



## • Performance evaluation

<b>Workpiece</b>	C40
<b>Cutting condition</b>	Vc 200 m/min, fn 0.30 mm/rev, ap 2.0 mm, emulsion
<b>Cutting Tool</b>	DNMG150608R-NMU JC8025
<b>nixko</b> TOOLS	280 PCS.
Competitor A	250 PCS.
Competitor B	230 PCS.



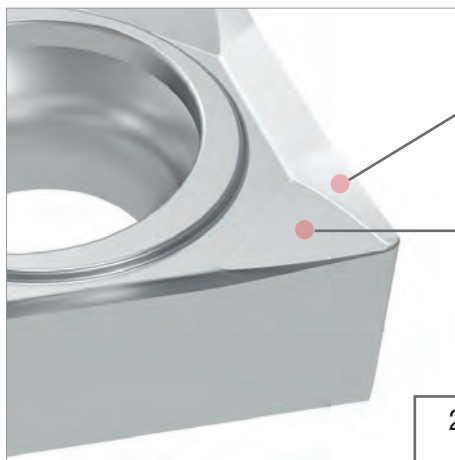


# PMN

Chip Breaker

- Chipbreaker for nonferrous materials
- High positive fine polished geometry
- Smooth chip flow in guided direction
- Reduced vibration at higher feedrate

## • Features of PMN chip breaker

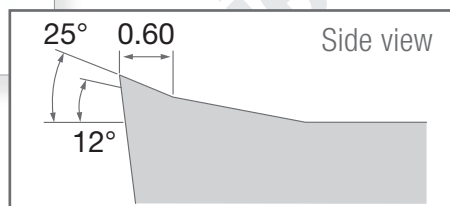


### HIGH POSITIVE NARROW EDGE

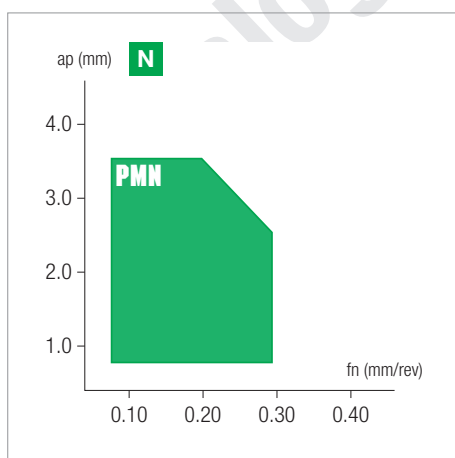
- Delightful smooth cutting process
- Improved reliability
- Fine surface finishing at higher feedrate

### SUPPORTING MIRROR POLISHED RAKE FACE

- Gives the sharp edge stronger support
- Guided smooth efficient chip flow



## • Application range



## • Performance evaluation

<b>Workpiece</b>	Aluminium alloy
<b>Cutting condition</b>	Vc 350 m/min, fn 0.18 mm/min, ap 0.2 mm emulsion
<b>Cutting Tool</b>	CCGX09T304-PMN JP6010
<b>nikko</b> TOOLS	<b>4000 PCS.</b>
Competitor A	1500 PCS.
Competitor B	1200 PCS.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# PPF

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

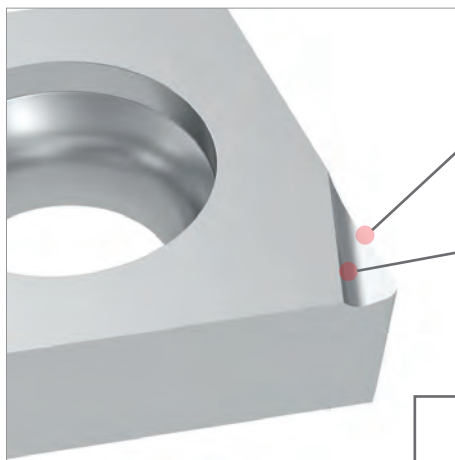
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Ground chipbreaker for small part finishing
- High precision and low cutting force
- Excellent chip forming and guided chip evacuation
- For steel and stainless-steel finishing

## • Features of PPF chip breaker

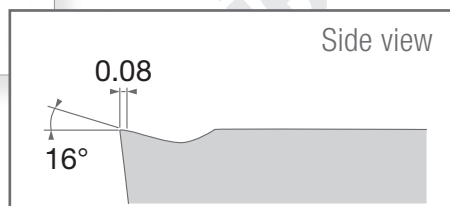


### VARIABLE AND SHARP EDGE

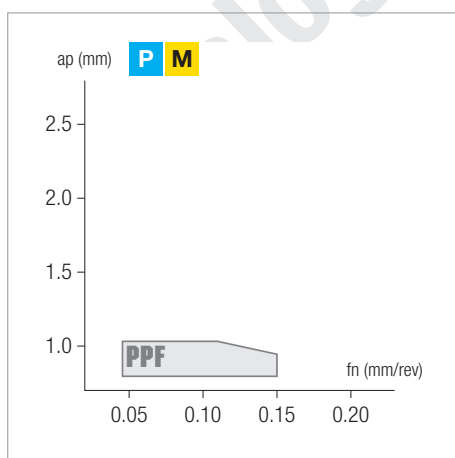
- Sharp but strong cutting edge
- Minimum bending effect on the workpiece
- Excellent surface finishing

### NARROW AND SHALLOW CHIP GROOVE

- Effectively breaks the chips
- Guide chip flow and reduce cutting resistance force



## • Application range



## • Performance evaluation

<b>Workpiece</b>	St 37-3
<b>Cutting condition</b>	Vc 200 m/min, fn 0.05 mm/rev, ap 0.5 mm, emulsion
<b>Cutting Tool</b>	TPEH110304L-PPF JU4015
<b>nixko</b> TOOLS	1200 PCS.
Competitor A	1150 PCS.
Competitor B	1000 PCS.

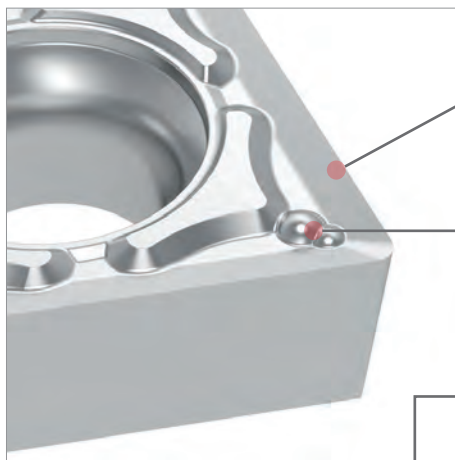


## PFU

## Chip Breaker

- Positive chip breaker for P, M, S materials light cutting
- Sharp edge for excellent surface quality
- Good chip formation also with reduced feedrate and cutting depth
- Specialize in cutting stainless steels and super alloys

- Features of PFU chip breaker

**SHARP CUTTING EDGE**

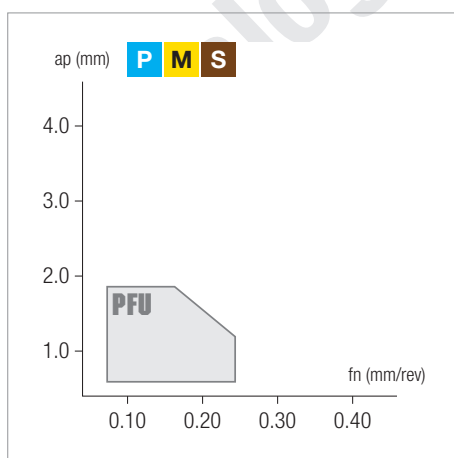
- Good surface finish
- Less vibration in boring process
- Specialize in cutting stainless and super alloys

**DOUBLE BALLS DESIGN**

- Breaks and guides the chip at reduced feedrate and depth of cut




- Application range



- Performance evaluation

<b>Workpiece</b>	AISI316
<b>Cutting condition</b>	Vc 80 m/min, fn 0.15 mm/rev, ap 1.0 mm, emulsion
<b>Cutting Tool</b>	DCMT11T304-PFU JP5120
<b>nixkoTOOLS</b>	600 PCS.
Competitor A	500 PCS.
Competitor B	500 PCS.



# PPM

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

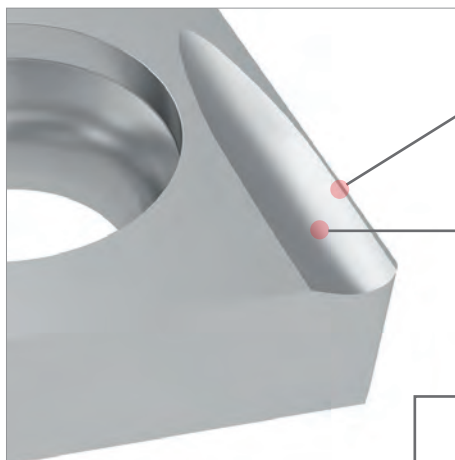
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Ground chipbreaker for small part universal machining
- Wide application range
- Reduced cutting force and stable reliable cutting
- For steel and stainless-steel general machining

## • Features of PPM chip breaker

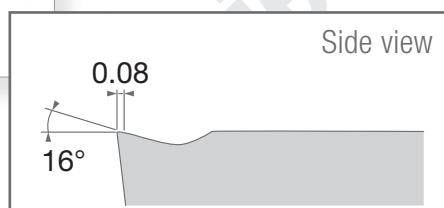


### RELIABLE AND LONGER EDGE

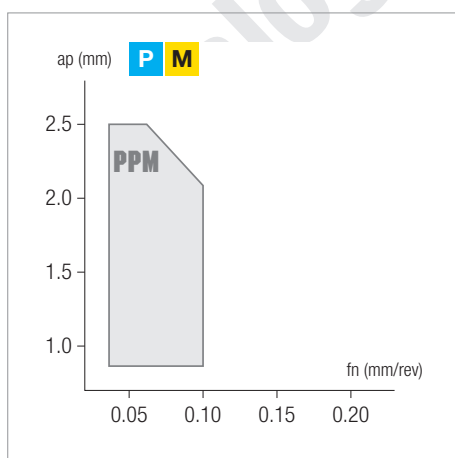
- For wider range of cutting conditions
- Minimum bending effect on the workpiece
- Reduced cutting force and stable reliable cutting

### LONG AND CURVED CHIP GROOVE

- Suitable for wider range of cutting conditions
- Effectively break and evacuate chips



## • Application range



## • Performance evaluation

<b>Workpiece</b>	AISI303
<b>Cutting condition</b>	Vc 100 m/min, fn 0.10 mm/rev, ap 1.5 mm, emulsion
<b>Cutting Tool</b>	DCET11T304R-PPM JP5125
<b>nixko</b> TOOLS	800 PCS.
Competitor A	750 PCS.
Competitor B	600 PCS.

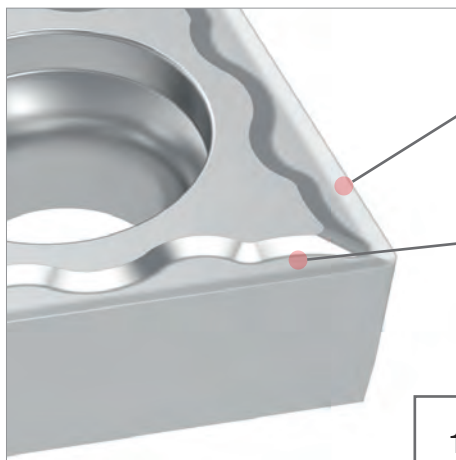


# PMU

Chip Breaker

- High versatility chip breaker for medium cutting
- Good balance on robustness and sharpness
- Works on steel, stainless steel and cast iron
- Universal application

## • Features of PMU chip breaker

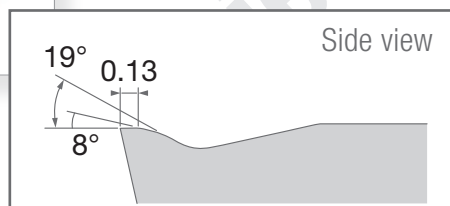


### MODERATE BUT CURVED POSITIVE EDGE

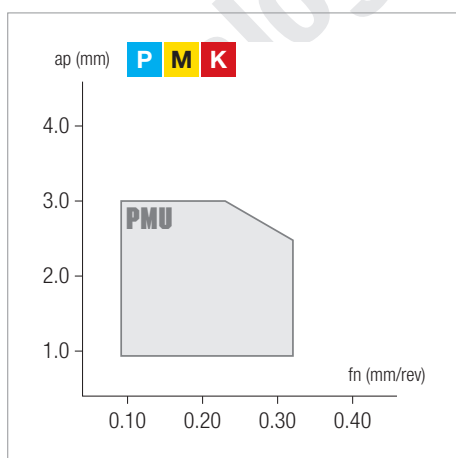
- Good balance of robustness and sharpness
- Reduced cutting force
- Improved chip forming and chip control

### WIDE CHIP GROOVE

- Effective chip evacuation
- Reliable cutting process for universal application



## • Application range



## • Performance evaluation

**Workpiece** 1.2008 K100  
**Cutting condition** Vc 80 m/min, fn 0.13 mm/rev, ap 4.0 mm, emulsion, heavy interrupted DCMT150408-PMU JP5125 (special)

**Cutting Tool**

**nixko**TOOLS **130 PCS.**

Competitor A **110 PCS.**

Competitor B **100 PCS.**



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# PRU

Chip Breaker

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

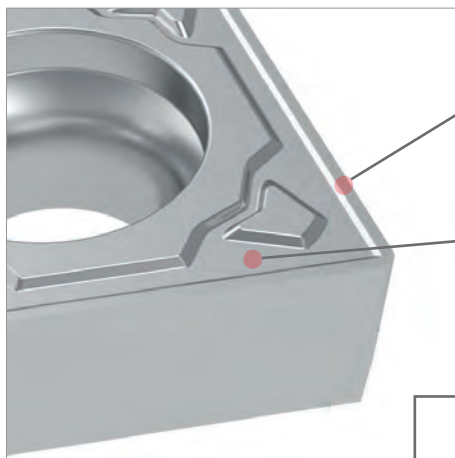
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- Chip breaker for roughing and interrupted cut
- Strong and reliable cutting edge
- Reduced cutting force and less vibration
- Adapted for higher feedrate

## • Features of PRU chip breaker

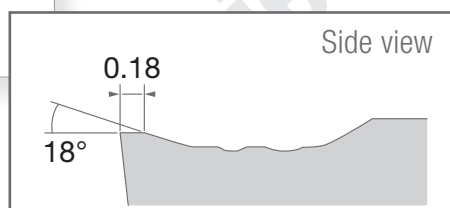


### STRONG AND VARIABLE EDGE

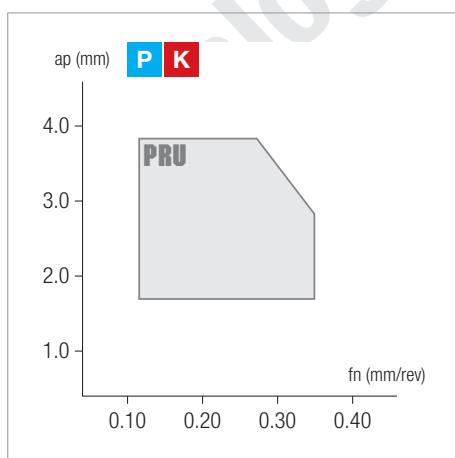
- Better robustness and reliability
- Adapted for higher feedrate
- Reduced cutting force and vibration

### SHALLOW CHIP GROOVE

- Effectively breaks and guides the chips



## • Application range



## • Performance evaluation

<b>Workpiece</b>	1.8509 41CrAlMo7
<b>Cutting condition</b>	Vc 180 m/min, fn 0.25 mm/rev, ap 1.5 mm, emulsion, light interrupted
<b>Cutting Tool</b>	TCMT16T308-PRU JC8025
<b>nixko</b> TOOLS	50 PCS.
Competitor A	48 PCS.
Competitor B	45 PCS.



P		FINISHING		MEDIUM		ROUGHING	
		NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE
●	tool life	-	JP4020 / PFU	JC8005 / NUP	JC8005 / PMU	JC8005 / NRP	-
	1 <sup>st</sup> CHOICE	<b>JU4015 / NSP</b>	<b>JU4015 / PFU</b>	<b>JC8015 / NUP</b>	<b>JC8015 / PMU</b>	<b>JC8015 / NRP</b>	<b>JC8025 / PRU</b>
	toughness	JC8005 / NSP	JC8005 / PFU	JC8025 / NUP	JC8025 / PMU	JC8025 / NRP	-
●	tool life	JC8005 / NSP	JC8005 / PFU	JC8015 / NUP	JC8015 / PMU	JC8015 / NRP	-
	1 <sup>st</sup> CHOICE	<b>JC8015 / NSP</b>	<b>JC8015 / PFU</b>	<b>JC8025 / NUP</b>	<b>JC8025 / PMU</b>	<b>JC8025 / NRP</b>	<b>JC8025 / PRU</b>
	toughness	JC8025 / NSP	JC8025 / PFU	JC8035 / NUP	JP5125 / PMU	JC8035 / NRP	-
⊕	tool life	JC8015 / NSP	JC8015 / PFU	JC8025 / NUP	JC8025 / PMU	JC8025 / NRP	-
	1 <sup>st</sup> CHOICE	<b>JC8025 / NSP</b>	<b>JC8025 / PFU</b>	<b>JC8035 / NUP</b>	<b>JP5125 / PMU</b>	<b>JC8035 / NRP</b>	<b>JC8025 / PRU</b>
	toughness	-	-	-	-	-	-

M		FINISHING		MEDIUM		ROUGHING	
		NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE
●	tool life	-	JP4020 / PFU	-	-	-	-
	1 <sup>st</sup> CHOICE	<b>JP9015 / NSM</b>	<b>JP5120 / PFU</b>	<b>JC9010 / NMM</b>	<b>JC9010 / PMU</b>	<b>JC9010 / NRM</b>	-
	toughness	JP9030 / NSM	JP5125 / PFU	JC9025 / NMM	JP5120 / PMU	JC9025 / NRM	-
●	tool life	-	JP5120 / PFU	JC9010 / NMM	JC9010 / PMU	JC9010 / NRM	-
	1 <sup>st</sup> CHOICE	<b>JP9015 / NSM</b>	<b>JP5125 / PFU</b>	<b>JC9025 / NMM</b>	<b>JC9025 / PMU</b>	<b>JC9025 / NRM</b>	-
	toughness	JP9030 / NSM	-	JP9030 / NMM	JP5125 / PMU	JP9030 / NRM	-
⊕	tool life	JP9015 / NSM	JP5120 / PFU	JC9025 / NMM	JP5120 / PMU	JC9025 / NRM	-
	1 <sup>st</sup> CHOICE	<b>JP9030 / NSM</b>	<b>JP5125 / PFU</b>	<b>JP9030 / NMM</b>	<b>JP5125 / PMU</b>	<b>JP9030 / NRM</b>	-
	toughness	-	-	-	-	-	-

K		FINISHING		MEDIUM		ROUGHING	
		NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE
●	tool life	-	JP4020 / PMU	-	-	-	-
	1 <sup>st</sup> CHOICE	<b>JC7115 / NUK</b>	<b>JC7010 / PMU</b>	<b>JC7010 / NMK</b>	<b>JC7010 / PMU</b>	<b>JC7010 / NRK</b>	<b>JC7010 / PRU</b>
	toughness	-	JC7020 / PMU	JC7020 / NMK	JC7020 / PMU	JC7020 / NRK	JC7020 / PRU
●	tool life	-	-	-	-	-	-
	1 <sup>st</sup> CHOICE	<b>JC7115 / NUK</b>	<b>JC7010 / PMU</b>	<b>JC7010 / NMK</b>	<b>JC7010 / PMU</b>	<b>JC7010 / NRK</b>	<b>JC7010 / PRU</b>
	toughness	-	JC7020 / PMU	JC7020 / NMK	JC7020 / PMU	JC7020 / NRK	JC7020 / PRU
⊕	tool life	-	-	JC7010 / NMK	JC7010 / PMU	JC7010 / NRK	JC7010 / PRU
	1 <sup>st</sup> CHOICE	<b>JC7115 / NUK</b>	<b>JC7010 / PMU</b>	<b>JC7020 / NMK</b>	<b>JC7020 / PMU</b>	<b>JC7020 / NRK</b>	<b>JC7020 / PRU</b>
	toughness	-	JC7020 / PMU	-	-	-	-

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

N		FINISHING		MEDIUM		ROUGHING	
		NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE
●	tool life	-	-	-	-	-	-
	▲ 1 <sup>st</sup> CHOICE ▼	<b>JUG015 / NMN</b>	<b>JP6010 / PMN</b>	<b>JUG015 / NMN</b>	<b>JP6010 / PMN</b>	-	-
	toughness	-	JUG015 / PMN	-	JUG015 / PMN	-	-
●	tool life	-	JP6010 / PMN	-	JP6010 / PMN	-	-
	▲ 1 <sup>st</sup> CHOICE ▼	<b>JUG015 / NMN</b>	<b>JUG015 / PMN</b>	<b>JUG015 / NMN</b>	<b>JUG015 / PMN</b>	-	-
	toughness	-	-	-	-	-	-
⊕	tool life	-	-	-	-	-	-
	▲ 1 <sup>st</sup> CHOICE ▼	<b>JUG015 / NMN</b>	-	<b>JUG015 / NMN</b>	<b>JUG015 / PMM</b>	-	-
	toughness	-	-	-	-	-	-

B - THREADING

C - GROOVING

S		FINISHING		MEDIUM		ROUGHING	
		NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE
●	tool life	-	JP5015 / PFU	-	-	-	-
	▲ 1 <sup>st</sup> CHOICE ▼	-	<b>JP5120 / PFU</b>	<b>JP3015 / NMS</b>	<b>JP5120 / PMU</b>	-	-
	toughness	-	JP5125 / PFU	-	JP5125 / PMU	-	-
●	tool life	-	JP5120 / PFU	-	JP5120 / PMU	-	-
	▲ 1 <sup>st</sup> CHOICE ▼	-	<b>JP5125 / PFU</b>	<b>JP3015 / NMS</b>	<b>JP5125 / PMU</b>	-	-
	toughness	-	-	-	-	-	-
⊕	tool life	-	-	-	-	-	-
	▲ 1 <sup>st</sup> CHOICE ▼	-	-	-	-	-	-
	toughness	-	-	-	-	-	-

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalog



<b>C</b>	<b>N</b>	<b>M</b>	<b>G</b>	<b>12</b>	<b>04</b>	<b>08</b>	<b>R/L</b>	-	<b>N</b>	<b>U</b>	<b>M</b>	<b>JC</b>	<b>80</b>	<b>25</b>
1	2	3	4	5	6	7	8		9	10	11	12	13	14

1	SHAPE
C	80° rhombic
D	55° rhombic
K	55° parallelogram
S	90° square
T	60° triangular
V	35° rhombic
W	80° trigon

2	RELIEF ANGLE
B	5°
C	7°
D	15°
E	20°
N	0°
P	11°

3 TOLERANCES			
Symbol	I.C.	Thickness	Corner height
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
M	±0.05 ~ ±0.15	±0.13	±0.08 ~ ±0.18
U	±0.08 ~ ±0.25	±0.13	±0.13 ~ ±0.38

4 HOLE/CHIPBREAKER			
Symbol	Hole	Hole countersink	Chipbreaker
A		✓	✗
G		✓	✗
M		✓	✗
N		✗	✗
T		✓	40°÷60°
W		✓	40°÷60°
X	NIKKO norm		

5 EDGE LENGHT							
I.C. (mm)	C shape	D shape	R shape	S shape	T shape	V shape	W shape
3.97	03	04		03	06		
4.76	04	05		04	08	08	
5.00			05				
5.56	05	06		05	09		03
6.00			06				
6.35	06	07		06	11	11	04
7.94	08	09		07	13		05
8.00			08				
9.53	09	11	09	09	16	16	06
10.00		12	10				
12.00							
12.70	12	15	12	12	22	22	08
15.88	16	19	15	15	27	24	10
16.00			16				
19.05	19	23	19	19	33	33	13
20.00			20				
22.23	22	27		22	38		
25.00			25				
25.40	25	31	25	25	44	44	17
31.75	32	38	31	31	54	54	21
32.00			32				

6 THICKNESS	
Symbol	(mm)
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.53

7 RADIUS	
Symbol	(mm)
005	0.05
01	0.10
02	0.20
04	0.40
08	0.80
12	1.20
16	1.60
20	2.00
24	2.40

8 DIRECTION	
Symbol	Shape
L	
R	

9 CHIPBREAKER - design	
N	negative double side
M	negative single side
P	positive

10 CHIPBREAKER - application	
F or S	finishing
M or U	medium
R or T	roughing

11 CHIPBREAKER - material	
P, M, K, N, S, H	According to ISO 513
U	Universal

12 GRADE - coating	
JC	CVD coating
JP	PVD coating
JU	uncoated

13 GRADE - material/application	
10÷14	ISO H
20÷24	small parts
30÷34	ISO S
40÷44	CERMET
50÷54	UNIVERSAL
60÷64	ISO N
70÷74	ISO K
80÷84	ISO P
90÷94	ISO M

14 GRADE - features	
xx	Classification according to ISO 513

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

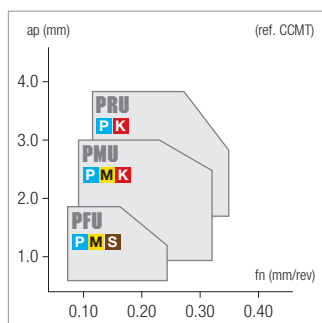
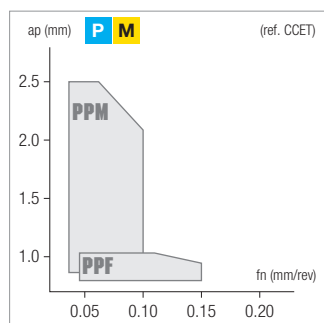
F - ACCESSORIES

G - SPARE PARTS

<h1>CC</h1>	HC: Coated carbide HT: Cermet HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition																														
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HT PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	HF	JG7010	JG7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP4020	JP5015	JP5120	JP5125	JP6010	JU4015	JU6015		
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>Clearance angle 7°, less likely to have chip jamming when boring</li> <li>80° corner can be used for both turning and facing operations</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable		
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable		
	Unstable machining, heavy cut	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable		
	Dimensions	ISO																													
		Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																													
P				200	180	140				200	80	60	60	200																	
M				380	360	300				400	220	200	180	380																	
K		180	150							200																					
N		380	300							400																					
S																															
H																															

	Designation	RE	IC	S	D1	LE	Stock																							
FINISHING PPF P M  ground chipbreaker right-hand shown	CCET060202-PPF	0.2	6.35	2.38	2.8	6.2																								
	CCET060204-PPF	0.4	6.35	2.38	2.8	6																								
	CCET09T302-PPF	0.2	9.525	3.97	4.4	9.5																								
	CCET09T304-PPF	0.4	9.525	3.97	4.4	9.3																								
FINISHING PFU P M S  sharp edge low cutting force	CCMT060202-PFU	0.2	6.35	2.38	2.8	6.2																								
	CCMT060204-PFU	0.4	6.35	2.38	2.8	6																								
	CCMT09T302-PFU	0.2	9.525	3.97	4.4	9.5																								
	CCMT09T304-PFU	0.4	9.525	3.97	4.4	9.3																								
MEDIUM PPM P M  ground chipbreaker right-hand shown	CCET09T304-PPM	0.4	9.525	3.97	4.4	9.3																								
	CCMT060202-PMU	0.2	6.35	2.38	2.8	6.2																								
MEDIUM PMU P M K  1st choice universal application	CCMT060204-PMU	0.4	6.35	2.38	2.8	6																								
	CCMT060208-PMU	0.8	6.35	2.38	2.8	5.6																								
	CCMT09T302-PMU	0.2	9.525	3.97	4.4	9.5																								
	CCMT09T304-PMU	0.4	9.525	3.97	4.4	9.3																								
	CCMT09T308-PMU	0.8	9.525	3.97	4.4	8.9																								
	CCMT120404-PMU	0.4	12.7	4.76	5.5	12.5																								
	CCMT120408-PMU	0.8	12.7	4.76	5.5	12.1																								
CCMT120412-PMU	1.2	12.7	4.76	5.5	11.7																									

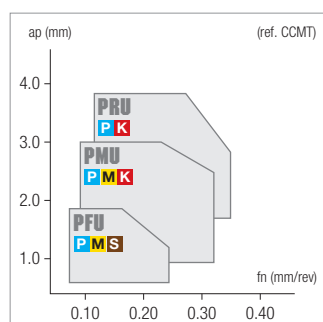
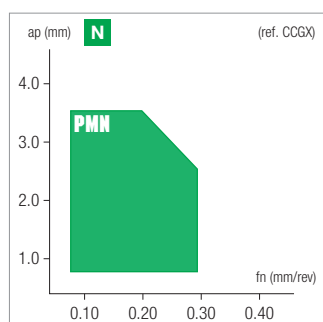
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>CC</h1>	HC: Coated carbide HT: Cermet HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition															
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HT PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	HF	
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>Clearance angle 7°, less likely to have chip jamming when boring</li> <li>80° corner can be used for both turning and facing operations</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	JG7010	JG7020	JC8005	JC8015	JC8025	JC9010	JC9025	JP4020	JP5015	JP5120	JP5125	JP6010	JU4015	JU6015	
	Dimensions ISO 	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)														
	P		200 380	180 360	140 300			200 400	80 220	60 200	60 180	200 380				
	M					150 280	120 240	160 300	80 160	60 140	60 120	160 280				
	K	180 380	150 300					200 400		80 170	80 150					
	N											600 2000	500 1500			
	S								30 90	30 70	30 60	50 100				
	H															

	Designation	RE	IC	S	D1	LE	Stock													
<b>MEDIUM</b>  polished surface periphery ground	CCGX060202-PMN	0.2	6.35	2.38	2.8	6.2														
	CCGX060204-PMN	0.4	6.35	2.38	2.8	6														
	CCGX060208-PMN	0.8	6.35	2.38	2.8	5.6														
	CCGX09T302-PMN	0.2	9.525	3.97	4.4	9.5														
	CCGX09T304-PMN	0.4	9.525	3.97	4.4	9.3														
	CCGX09T308-PMN	0.8	9.525	3.97	4.4	8.9														
	CCGX120402-PMN	0.2	12.7	4.76	5.5	12.7														
	CCGX120404-PMN	0.4	12.7	4.76	5.5	12.5														
CCGX120408-PMN	0.8	12.7	4.76	5.5	12.1															
<b>ROUGHING</b>  strong edge interrupted cut	CCMT09T304-PRU	0.4	9.525	3.97	4.4	9.3	●													
	CCMT09T308-PRU	0.8	9.525	3.97	4.4	8.9	●													
	CCMT120408-PRU	0.8	12.7	4.76	5.5	12.1	●													
	CCMT120412-PRU	1.2	12.7	4.76	5.5	11.7	●													

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







A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

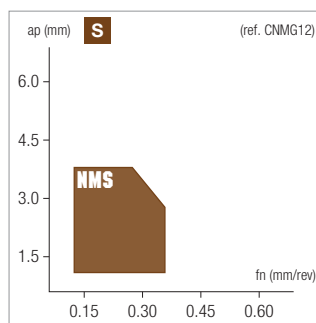
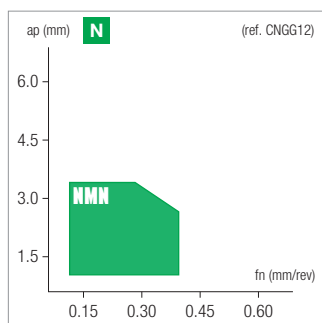
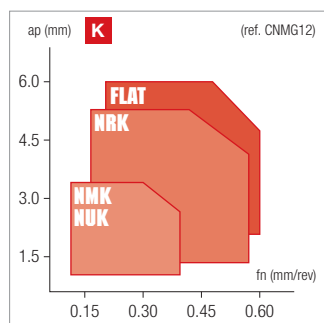
F - ACCESSORIES

G - SPARE PARTS

<h1>CN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																		
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HT	HF
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Opposite 100° corners can be used for general roughing applications (especially facing), providing maximum economy of 8 total cutting edges</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	●	●	○	●	○	●	○	●	○	●	●	○	●	○	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○
	Unstable machining, heavy cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○
	<b>Dimensions</b>	<b>ISO Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																	
		<b>P</b>				200 380	180 360	140 300	100 240	180 360	140 300							200 380	
	<b>M</b>												150 280	120 240		100 220	80 200	160 280	
	<b>K</b>	180 380	150 300	180 380															
	<b>N</b>																		500 1500
	<b>S</b>													30 90	30 90				
	<b>H</b>																		

MEDIUM	Designation	RE	IC	S	D1	LE	Stock												
							●	○	▲	▽	●	○	▲	▽	●	○	▲	▽	
	<b>NMK K</b> CNMG120404-NMK	0.4	12.7	4.76	5.16	12.5	●	○											
	CNMG120408-NMK	0.8	12.7	4.76	5.16	12.1	●	●											
	CNMG120412-NMK	1.2	12.7	4.76	5.16	11.7	●	○											
	CNMG120416-NMK	1.6	12.7	4.76	5.16	11.3	●	○											
	CNMG160608-NMK	0.8	15.87	6.35	6.35	15.3	●	○											
	CNMG160612-NMK	1.2	15.87	6.35	6.35	14.9	●	○											
	CNMG160616-NMK	1.6	15.87	6.35	6.35	14.5	○	○											
	CNMG190612-NMK	1.2	19.05	6.35	7.94	18.1	○	○											
	CNMG190616-NMK	1.6	19.05	6.35	7.94	17.7	○	○											
<p>sharp edge reduce burrs</p>	<b>NUK K</b> CNMG120404-NUK	0.4	12.7	4.76	5.16	12.5		●											
	CNMG120408-NUK	0.8	12.7	4.76	5.16	12.1		▽	●										
	CNMG120412-NUK	1.2	12.7	4.76	5.16	11.7		▽	●										
<p>polished surface periphery ground</p>	<b>NMN N</b> CNGG120404-NMN	0.4	12.7	4.76	5.16	12.5												●	
	CNGG120408-NMN	0.8	12.7	4.76	5.16	12.1													●
	<b>NMS S</b> CNMG120408-NMS	0.8	12.7	4.76	5.16	12.1									▲				
	CNMG120412-NMS	1.2	12.7	4.76	5.16	11.7									▲				

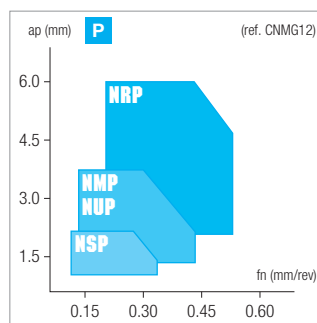
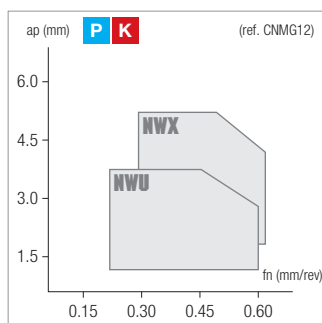
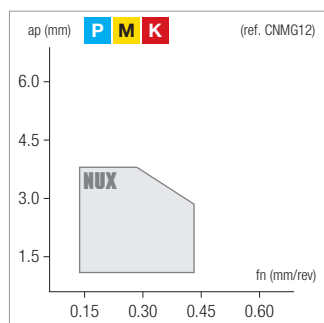
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>CN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																																																																																																																											
	<b>ISO - with hole</b>	<b>JG7010</b>	<b>JG7020</b>	<b>JG7115</b>	<b>JG8005</b>	<b>JG8015</b>	<b>JG8025</b>	<b>JG8035</b>	<b>JG8215</b>	<b>JG8225</b>	<b>JG9010</b>	<b>JG9025</b>	<b>JP3015</b>	<b>JP9015</b>	<b>JP9030</b>	<b>JU4015</b>	<b>JU6015</b>																																																																																																											
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Opposite 100° corners can be used for general roughing applications (especially facing), providing maximum economy of 8 total cutting edges</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable																																																																																																																											
	<b>Dimensions</b>																																																																																																																											
	<b>ISO</b>																																																																																																																											
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																																																																																																																											
<table border="1"> <tr> <td style="background-color: #e0f0ff;"><b>P</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="background-color: #fff0e0;"><b>M</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="background-color: #ffe0e0;"><b>K</b></td> <td>180 380</td> <td>150 300</td> <td>180 380</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="background-color: #e0ffe0;"><b>N</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="background-color: #e0e0e0;"><b>S</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="background-color: #e0e0e0;"><b>H</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																	<b>P</b>																		<b>M</b>																		<b>K</b>	180 380	150 300	180 380															<b>N</b>																		<b>S</b>																		<b>H</b>																	
<b>P</b>																																																																																																																												
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		Designation						Stock																	
		RE	IC	S	D1	LE																			
MEDIUM	<b>NUX P M K</b>  universal use broad grade range	CNMG120404-NUX	0.4	12.7	4.76	5.16	12.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		CNMG120408-NUX	0.8	12.7	4.76	5.16	12.1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG120412-NUX	1.2	12.7	4.76	5.16	11.7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MEDIUM	<b>NWU P K</b>  wiper universal type	CNMG120408-NWU	0.8	12.7	4.76	5.16	12.1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG120412-NWU	1.2	12.7	4.76	5.16	11.7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MEDIUM	<b>NWX P K</b>  wiper reinforced edge	CNMG120408-NWX	0.8	12.7	4.76	5.16	12.1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG120412-NWX	1.2	12.7	4.76	5.16	11.7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
ROUGHING	<b>NRP P</b> 	CNMG120408-NRP	0.8	12.7	4.76	5.16	12.1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG120412-NRP	1.2	12.7	4.76	5.16	11.7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG120416-NRP	1.6	12.7	4.76	5.16	11.3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CNMG160612-NRP	1.2	15.87	6.35	6.35	14.9	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CNMG160616-NRP	1.6	15.87	6.35	6.35	14.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CNMG190612-NRP	1.2	19.05	6.35	7.94	18.1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CNMG190616-NRP	1.6	19.05	6.35	7.94	17.7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CNMG190624-NRP	2.4	19.05	6.35	7.94	16.9	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
CNMG250924-NRP	2.4	25.4	9.52	9.12	23.4	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

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



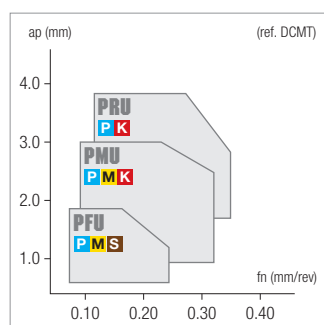
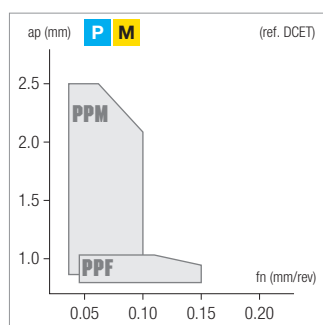




<h1>DC</h1>	HC: Coated carbide HT: Cermet HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition																								
	<b>ISO - with hole</b>	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HT PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	HF											
<ul style="list-style-type: none"> <li>• Generally the 1st choice for profile/copy turning applications</li> <li>• Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>• 7° clearance angle, less risk of chip jamming in boring</li> <li>• Somewhat weaker edge strength than a triangle insert</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable		General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable		Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable		<b>Dimensions</b>		<b>ISO</b>							<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>									
			<b>P</b>	200 380	180 360	140 300		200 400	80 220	60 200	60 180	200 380													
			<b>M</b>				150 280	120 240	160 300	80 160	60 140	60 120		160 280											
	<b>K</b>	180 380					200 400		80 170	60 150															
	<b>N</b>											600 2000									500 1500				
	<b>S</b>								30 90	30 70	30 60	50 100													
	<b>H</b>																								

		Designation						Stock																				
		RE	IC	S	D1	LE																						
FINISHING	<b>PPF P M</b>  ground chipbreaker right-hand shown	DCET070202/r-PPF	0.2	6.35	2.38	2.8	7.6																					
		DCET070204/r-PPF	0.4	6.35	2.38	2.8	7.4																					
		DCET11T302/r-PPF	0.2	9.525	3.97	4.4	11.4																					
		DCET11T304/r-PPF	0.4	9.525	3.97	4.4	11.2																					
FINISHING	<b>PFU P M S</b>  sharp edge low cutting force	DCMT070202-PFU	0.2	6.35	2.38	2.8	7.6																					
		DCMT070204-PFU	0.4	6.35	2.38	2.8	7.4																					
		DCMT11T302-PFU	0.2	9.525	3.97	4.4	11.4																					
		DCMT11T304-PFU	0.4	9.525	3.97	4.4	11.2																					
MEDIUM	<b>PPM P M</b>  ground chipbreaker right-hand shown	DCET070204/r-PPM	0.4	6.35	2.38	2.8	7.4																					
		DCET11T302/r-PPM	0.2	9.525	3.97	4.4	11.4																					
		DCET11T304/r-PPM	0.4	9.525	3.97	4.4	11.2																					
MEDIUM	<b>PMU P M K</b>  1st choice universal application	DCMT070202-PMU	0.2	6.35	2.38	2.8	7.6																					
		DCMT070204-PMU	0.4	6.35	2.38	2.8	7.4																					
		DCMT070208-PMU	0.8	6.35	2.38	2.8	7																					
		DCMT11T302-PMU	0.2	9.525	3.97	4.4	11.4																					
		DCMT11T304-PMU	0.4	9.525	3.97	4.4	11.2																					
		DCMT11T308-PMU	0.8	9.525	3.97	4.4	10.8																					
		DCMT11T312-PMU	1.2	9.525	3.97	4.4	10.4																					
		DCMT150404-PMU	0.4	12.7	4.76	5.5	15.1																					
DCMT150408-PMU	0.8	12.7	4.76	5.5	14.7																							
DCMT150412-PMU	1.2	12.7	4.76	5.5	14.3																							

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

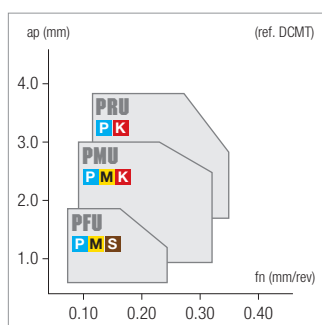
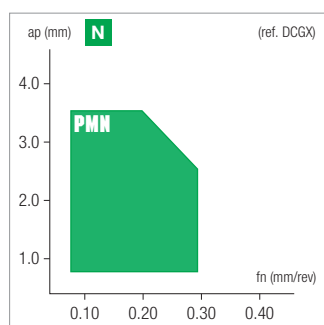
F - ACCESSORIES

G - SPARE PARTS

<h1>DC</h1>	HC: Coated carbide HT: Cermet HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition													
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HT PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	HF
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>7° clearance angle, less risk of chip jamming in boring</li> <li>Somewhat weaker edge strength than a triangle insert</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	○	●	○	●	●	○	●	●
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	○	●	○	●	●	○	●	●
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice	⚡ suitable	⚡								⚡		⚡
	<b>Dimensions</b>	<b>ISO</b>												
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>													
	<b>P</b>	200 380	180 360	140 300				200 400	80 220	60 200	60 180		200 380	
	<b>M</b>				150 280	120 240		160 300	80 160	60 140	60 120		160 280	
	<b>K</b>	180 380						200 400		80 170	80 150			
	<b>N</b>												600 2000	500 1500
	<b>S</b>									30 90	30 70	30 60	50 100	
<b>H</b>														

	Designation	RE	IC	S	D1	LE	Stock																			
<b>MEDIUM</b>  polished surface periphery ground	DCGX070202-PMN	0.2	6.35	2.38	2.8	7.6																				
	DCGX070204-PMN	0.4	6.35	2.38	2.8	7.4																				
	DCGX070208-PMN	0.8	6.35	2.38	2.8	7																				
	DCGX11T302-PMN	0.2	9.525	3.97	4.4	11.4																				
	DCGX11T304-PMN	0.4	9.525	3.97	4.4	11.2																				
	DCGX11T308-PMN	0.8	9.525	3.97	4.4	10.8																				
<b>ROUGHING</b>  strong edge interrupted cut	DCMT11T304-PRU	0.4	9.525	3.97	4.4	11.2	●																			
	DCMT11T308-PRU	0.8	9.525	3.97	4.4	10.8	●																			

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





A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

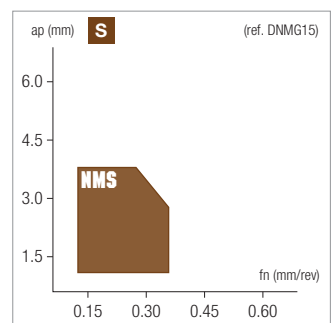
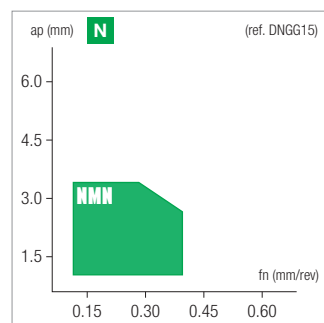
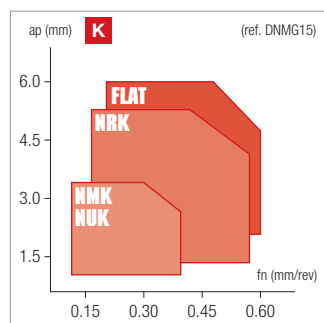
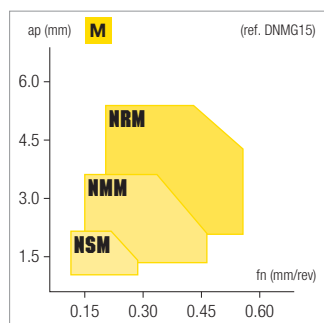
F - ACCESSORIES

G - SPARE PARTS

<h1>DN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																	
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HT
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>Commonly used when machining close to the tailstock</li> <li>Somewhat weaker edge strength than a triangle insert</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	●	●	○	●	○	●	○	●	○	●	○	●	○	●
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●
Unstable machining, heavy cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○
Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																
	P				200	180	140	100	180	140							200	
	M				380	360	300	240	360	300			150	120				380
K	180	150	180															
	380	300	380															
N																		
S														30	30			
														90	90			
H																		

Designation		RE	IC	S	D1	LE	Stock											
<b>M</b> 	DNMG110404-NMM	0.4	9.525	4.76	3.81	11.2	●											○
	DNMG110408-NMM	0.8	9.525	4.76	3.81	10.8	●											●
	DNMG150604-NMM	0.4	12.7	6.35	5.16	15.1	●											●
	DNMG150608-NMM	0.8	12.7	6.35	5.16	14.7	●											●
	DNMG150612-NMM	1.2	12.7	6.35	5.16	14.3	●											●
<b>K</b> 	DNMG150604-NMK	0.4	12.7	6.35	5.16	15.1	●	○										
	DNMG150608-NMK	0.8	12.7	6.35	5.16	14.7	●	○	○									
	DNMG150612-NMK	1.2	12.7	6.35	5.16	14.3	○	○	●									
	DNMG150616-NMK	1.6	12.7	6.35	5.16	13.9			○									
<b>K</b> 	DNMG150604-NUK	0.4	12.7	6.35	5.16	15.1	●											
	DNMG150608-NUK	0.8	12.7	6.35	5.16	14.7	●											
	DNMG150612-NUK	1.2	12.7	6.35	5.16	14.3	●											
<b>N</b> 	DNGG150604-NMN	0.4	12.7	6.35	5.16	15.1												●
	DNGG150608-NMN	0.8	12.7	6.35	5.16	14.7												●
<b>S</b> 	DNMG150608-NMS	0.8	12.7	6.35	5.16	14.7												▲
	DNMG150612-NMS	1.2	12.7	6.35	5.16	14.3												▲

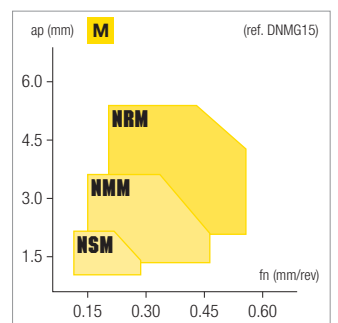
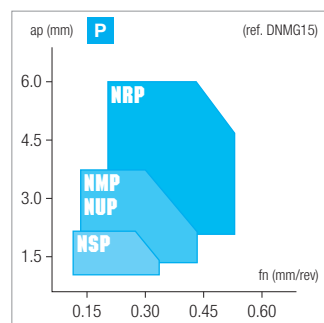
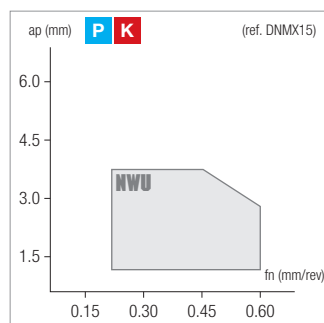
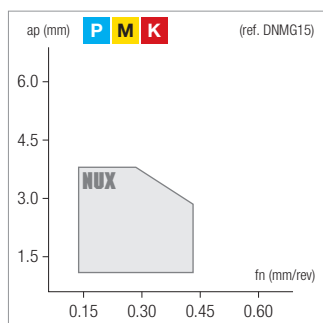
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>DN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																	
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HT
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>Commonly used when machining close to the tailstock</li> <li>Somewhat weaker edge strength than a triangle insert</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable																	
	Dimensions	ISO Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																
		P				200 380	180 360	140 300	100 240	180 360	140 300							200 380
	M													150 280	120 240	100 220	80 200	160 280
	K	180 380	150 300	180 380														
	N																	500 1500
	S													30 90	30 90			
	H																	

Designation		RE	IC	S	D1	LE	Stock																
MEDIUM	<b>NUX</b> P M K  universal use broad grade range	DNMG150604-NUX	0.4	12.7	6.35	5.16	15.1	●	●	●	●							●	●				
		DNMG150608-NUX	0.8	12.7	6.35	5.16	14.7	●	●	●	●	▲	▲	●	●								
		DNMG150612-NUX	1.2	12.7	6.35	5.16	14.3	●	●	●	●	▲	▲	●	●								
MEDIUM	<b>NMU</b> P M  right-hand shown	DNMG150604-1/4-NMU	0.4	12.7	6.35	5.16	15.1				●							●					
		DNMG150608-1/4-NMU	0.8	12.7	6.35	5.16	14.7				●								●				
MEDIUM	<b>NWX</b> P K  wiper universal type	DNMX150608-NWX	0.8	12.7	6.35	5.16	14.7	●				○											
		DNMX150612-NWX	1.2	12.7	6.35	5.16	14.3	●					○										
ROUGHING	<b>NRP</b> P 	DNMG150608-NRP	0.8	12.7	6.35	5.16	14.7		●	●	●	●											
		DNMG150612-NRP	1.2	12.7	6.35	5.16	14.3		●	●	●	●											
		DNMG150616-NRP	1.6	12.7	6.35	5.16	13.9			●	●	●											
ROUGHING	<b>NRM</b> M 	DNMG150608-NRM	0.8	12.7	6.35	5.16	14.7											●					
		DNMG150612-NRM	1.2	12.7	6.35	5.16	14.3												●				

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



A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

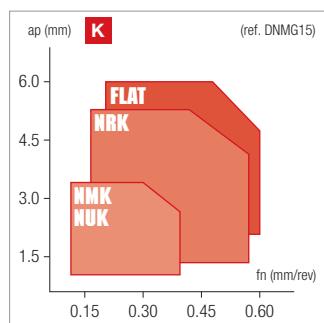
F - ACCESSORIES

G - SPARE PARTS

<h1>DN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																			
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HT	HF	
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>Commonly used when machining close to the tailstock</li> <li>Somewhat weaker edge strength than a triangle insert</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	
	Unstable machining, heavy cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	
	Dimensions	ISO																		
		Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																		
P					200 380	180 360	140 300	100 240	180 360	140 300								200 380		
M														150 280	120 240	100 220	80 200	160 280		
K		180 380	150 300	180 380																
N																			500 1500	
S															30 90	30 90				
H																				

	Designation	RE	IC	S	D1	LE	Stock													
ROUGHING <b>NRK K</b>	DNMG150608-NRK	0.8	12.7	6.35	5.16	14.7	●	○	●											
	DNMG150612-NRK	1.2	12.7	6.35	5.16	14.3	●	○	●											
ROUGHING <b>flat K</b>	DNMA150608	0.8	12.7	6.35	5.16	14.7	●	○	○											
	DNMA150612	1.2	12.7	6.35	5.16	14.3	●	○	●											

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

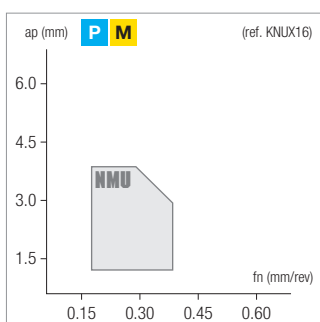


<h1>KN</h1>	HC: Coated carbide CVD: Chemical vapour deposition	HC CVD	
		<b>JC8025</b>	
ISO - without hole			
	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable ○		
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable ●		
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▲ suitable ▲		
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
		<b>P</b>	140 300
		<b>M</b>	
		<b>K</b>	
		<b>N</b>	
		<b>S</b>	
		<b>H</b>	

Designation		RE	IC	S	D1	LE	Stock
<b>MEDIUM</b>  right-hand shown	<b>NMU P</b> KNUX160405 <sup>1/2</sup> -NMU	0.5	9.525	4.76	-	16.1	●
	KNUX160410 <sup>1/2</sup> -NMU	1	9.525	4.76	-	15.2	●

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

Catalogue Preview - AMB



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

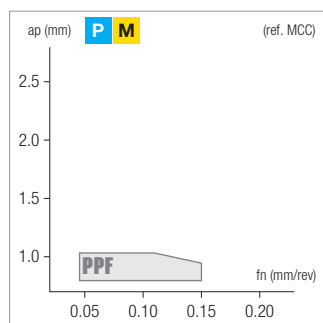
F - ACCESSORIES

G - SPARE PARTS

<h1>MCC</h1>	HF: Micrograin carbide HT: Cermet PVD: Physical vapour deposition	HF PVD	HT	
	ISO - with hole	<b>JP5125</b>	<b>JU4015</b>	
<ul style="list-style-type: none"> <li>1st solution for micro-boring</li> <li>Precision ground insert with sharp geometry, tailored for microboring operation</li> <li>Micro boring bar with coolant both in steel (with Vortex technology) and in carbide</li> <li>Practical fun kits available (2 bars + 10 pcs inserts)</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input type="radio"/> <input checked="" type="radio"/>	
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/> <input type="radio"/>	
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/> <input type="radio"/>	
<b>Dimensions</b>	<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
	<b>P</b>	60 180	200 380	
	<b>M</b>	60 120	160 280	
	<b>K</b>	80 150		
	<b>N</b>			
	<b>S</b>	30 60		
	<b>H</b>			

Designation		RE	IC	S	D1	LE	Stock	
<b>FINISHING</b>  ground chipbreaker left-hand shown	MCC.R02L-PPF	0.2	3.5	1.4	1.9	3.8	●	●
	MCC.R04L-PPF	0.4	3.5	1.4	1.9	3.8	●	●

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

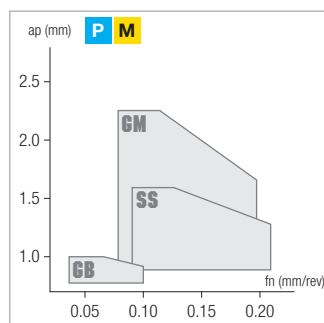




<h1>MCN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	
	<b>MicroNega - with hole</b>	<b>JC8015</b>	<b>JP5015</b>	<b>JP5025</b>	<b>JP5120</b>	<b>JP9030</b>	<b>JU4015</b>	
<ul style="list-style-type: none"> <li>• MicroNega system it serves as an alternative to positive conventional solutions</li> <li>• Excellent economy for external small part machining or small boring application</li> <li>• Pressed chip breaker optimizes chip control and emphasizes the economic advantage</li> <li>• Precision ground chip breaker with stable seating in the pocket enables better surface finishing</li> <li>• Special holders tailored with big clearance angle, adapt itself for boring application, effectively reduces the risk of chip-jamming</li> <li>• Practical fun kits available</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
	<b>Dimensions</b>	<b>ISO</b>						
<p>4 edges</p>	<b>P</b>	180 360	80 220	60 180	60 200	200 380		
	<b>M</b>		80 160	60 120	60 140	80 200	160 280	
	<b>K</b>				80 170			
	<b>N</b>							
	<b>S</b>		30 90	30 60	30 70			
	<b>H</b>							

Designation		RE	IC	S	D1	LE	Stock				
<b>FINISHING</b> <b>GB P M</b> <p>ground chipbreaker right-hand shown</p>	<b>MCN.R04G-GB<sup>1/8</sup></b>	0.4	7.5	3.18	3.6	7.2		▽			
<b>MEDIUM</b> <b>GM P M</b> <p>1st choice chip control oriented</p>	<b>MCN.R04M-GM</b>	0.4	7.5	3.18	3.6	7.2	▽		●	●	
	<b>MCN.R08M-GM</b>	0.8	7.5	3.18	3.6	6.8		▽			
<b>MEDIUM</b> <b>SS P M</b> <p>periphery ground polished surface</p>	<b>MCN.R02G-SS</b>	0.2	7.5	3.18	3.6	7.4				▽	
	<b>MCN.R04G-SS</b>	0.4	7.5	3.18	3.6	7.2			●	▽	●

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



# MDN

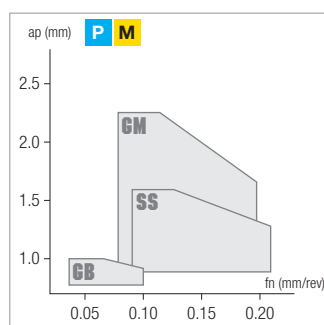
## MicroNega - with hole

- MicroNega system it serves as an alternative to positive conventional solutions
- Excellent economy for external small part machining or small boring application
- Pressed chip breaker optimizes chip control and emphasizes the economic advantage
- Precision ground chip breaker with stable seating in the pocket enables better surface finishing
- Special holders tailored with big clearance angle, adapt itself for boring application, effectively reduces the risk of chip-jamming
- Practical fun kits available

HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HT		
	<b>JC8015</b>	<b>JP5015</b>	<b>JP5025</b>	<b>JP5120</b>	<b>JP9030</b>	<b>JU4015</b>		
Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable		
General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable		
Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice	○ suitable	▲ 1 <sup>st</sup> choice	○ suitable	▲ 1 <sup>st</sup> choice	○ suitable		
<b>Dimensions</b>	<b>ISO</b>						<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
	<b>P</b>	180 360	80 220	60 180	60 200	200 380		
	<b>M</b>		80 160	60 120	60 140	80 200	160 280	
	<b>K</b>				80 170			
	<b>N</b>							
	<b>S</b>		30 90	30 60	30 70			
	<b>H</b>							

Designation		RE	IC	S	D1	LE	Stock					
FINISHING	 <b>GB P M</b> ground chipbreaker right-hand shown	MDN.R04G-GB <sup>1/8</sup>	0.4	7	3.18	3.6	8.1	▽				
MEDIUM	 <b>GM P M</b> 1 <sup>st</sup> choice chip control oriented	MDN.R04M-GM	0.4	7	3.18	3.6	8.1	▽	▽	●	●	
	MDN.R08M-GM	0.8	7	3.18	3.6	7.7		▽				
MEDIUM	 <b>SS P M</b> periphery ground polished surface	MDN.R02G-SS	0.2	7	3.18	3.6	8.3			▽		
	MDN.R04G-SS	0.4	7	3.18	3.6	8.1			●	▽	●	

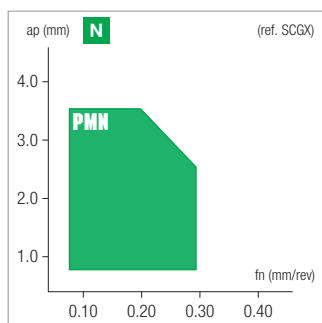
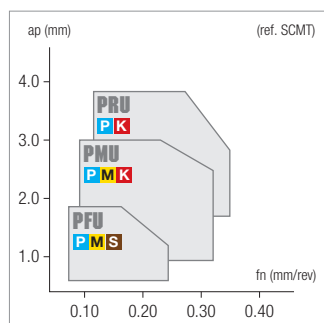
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>SC</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition											
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HT	HF	
<ul style="list-style-type: none"> <li>Very strong 90° corner with excellent economy (4 edges on positive inserts)</li> <li>Mostly used for rough facing operations, especially on castings, forgings and rough-sawed blanks</li> <li>Unable to turn or face up to a shoulder (must be used in a tool holder with min. 5° lead angle)</li> <li>High radial forces push against the workpiece when used for turning</li> <li>Should always be used in a stable set-up</li> </ul>	Stable machining, light cut	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	
	General machining, medium cut	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	
	Unstable machining, heavy cut	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	1 <sup>st</sup> choice	suitable	
	Dimensions	ISO Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)										
	<b>P</b>	180 360	140 300	60 200	60 180	200 380						
	<b>M</b>		150 280	120 240	60 140	60 120	160 280					
	<b>K</b>	180 380			80 170	80 150						
	<b>N</b>						600 2000	500 1500				
	<b>S</b>				30 70	30 60	50 100					
	<b>H</b>											

	Designation	RE	IC	S	D1	LE	Stock															
							P	M	K	N	S	H	HT	HF	HF	HF	HF					
FINISHING	<b>PFU P M S</b>  sharp edge low cutting force	SCMT09T304-PFU	0.4	9.525	3.97	4.4	9.1															
	SCMT09T308-PFU	0.8	9.525	3.97	4.4	8.7																
MEDIUM	<b>PMU P M K</b>  1st choice universal application	SCMT09T304-PMU	0.4	9.525	3.97	4.4	9.1	○	●	●	○	●									○	
	SCMT09T308-PMU	0.8	9.525	3.97	4.4	8.7	●	○	●	●											○	
	SCMT120404-PMU	0.4	12.7	4.76	5.5	12.3		○	●													
	SCMT120408-PMU	0.8	12.7	4.76	5.5	11.9	●	●	●	●												
MEDIUM	<b>PMN N</b>  polished surface periphery ground	SCGX09T304-PMN	0.4	9.525	3.97	4.4	9.1														○	●
	SCGX09T308-PMN	0.8	9.525	3.97	4.4	8.7															○	●
	SCGX120404-PMN	0.4	12.7	4.76	5.5	12.3															○	●
	SCGX120408-PMN	0.8	12.7	4.76	5.5	11.9															○	●
ROUGHING	<b>PRU P K</b>  strong edge interrupted cut	SCMT09T308-PRU	0.8	9.525	3.97	4.4	8.7	●		●												
	SCMT120408-PRU	0.8	12.7	4.76	5.5	11.9	●		●													

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





# SN

## ISO - with hole

- Very strong 90° corner with excellent economy (8 edges on double-sided inserts)
- Mostly used for rough facing operations, especially on castings, forgings and rough-sawed blanks
- Unable to turn or face up to a shoulder (must be used in a tool holder with min. 5° lead angle)
- High radial forces push against the workpiece when used for turning
- Should always be used in a stable set-up

HC: Coated carbide  
HF: Micrograin carbide  
CVD: Chemical vapour deposition  
PVD: Physical vapour deposition

HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF
<b>JG7010</b>	<b>JG7020</b>	<b>JG7115</b>	<b>JG8015</b>	<b>JG8025</b>	<b>JG8035</b>	<b>JG9010</b>	<b>JG9025</b>	<b>JP9030</b>	<b>JU6015</b>	

Stable machining, light cut ● 1<sup>st</sup> choice ○ suitable

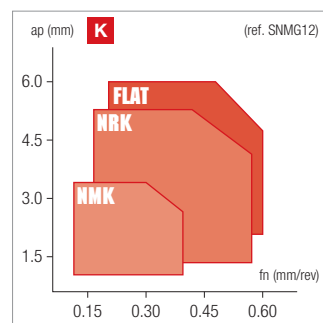
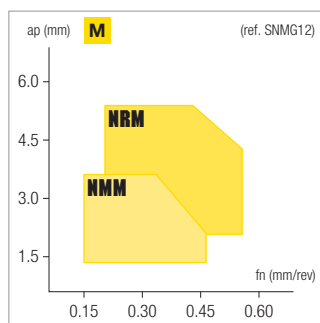
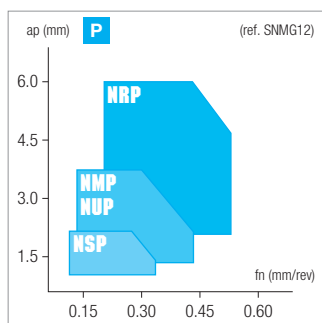
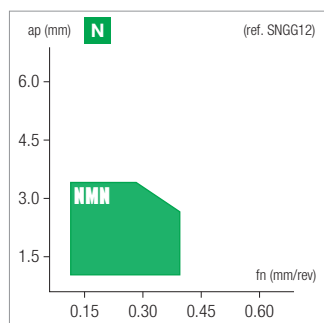
General machining, medium cut ● 1<sup>st</sup> choice ○ suitable

Unstable machining, heavy cut ▲ 1<sup>st</sup> choice ▲ suitable

Dimensions		ISO										Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)											
<p>8 edges</p>	<b>P</b>																						
	<b>M</b>																						
	<b>K</b>	180 380	150 300	180 380																			
	<b>N</b>																						
	<b>S</b>																						
<b>H</b>																							

Designation		RE	IC	S	D1	LE	Stock																
<b>MEDIUM</b>  polished surface periphery ground	<b>NMN N</b>																						
	SNMG120404-NMN	0.4	12.7	4.76	5.16	12.3																○	
	SNMG120408-NMN	0.8	12.7	4.76	5.16	11.9																	●
	SNMG120412-NMN	1.2	12.7	4.76	5.16	11.5																▽	
<b>ROUGHING</b> 	<b>NRP P</b>																						
	SNMG120408-NRP	0.8	12.7	4.76	5.16	11.9																● ○	
	SNMG120412-NRP	1.2	12.7	4.76	5.16	11.5																● ●	
	SNMG120416-NRP	1.6	12.7	4.76	5.16	11.1																	● ●
	SNMG190612-NRP	1.2	19.05	6.35	7.94	17.9																	○ ○
	SNMG190616-NRP	1.6	19.05	6.35	7.94	17.5																	○ ●
	SNMG190624-NRP	2.4	19.05	6.35	7.94	16.7																	● ●
SNMG250924-NRP	2.4	25.4	9.52	8.8	23																	○	
<b>ROUGHING</b> 	<b>NRM M</b>																						
	SNMG120408-NRM	0.8	12.7	4.76	5.16	11.9																○ ●	
	SNMG120412-NRM	1.2	12.7	4.76	5.16	11.5																○ ●	
	SNMG190612-NRM	1.2	19.05	6.35	7.94	17.9																	○ ●
SNMG190616-NRM	1.6	19.05	6.35	7.94	17.9																	○ ●	
<b>ROUGHING</b> 	<b>NRK K</b>																						
	SNMG120408-NRK	0.8	12.7	4.76	5.16	11.9	●	○	○														
	SNMG120412-NRK	1.2	12.7	4.76	5.16	11.5	○	○	○														
	SNMG120416-NRK	1.6	12.7	4.76	5.16	11.1	○	●															
	SNMG190612-NRK	1.2	19.05	6.35	7.94	17.9	○	○															
SNMG190616-NRK	1.6	19.05	6.35	7.94	17.5	○	○																

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

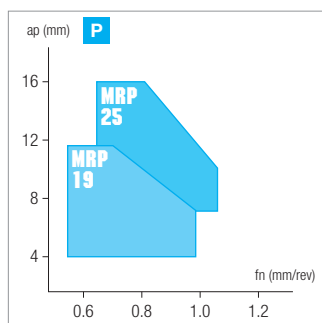
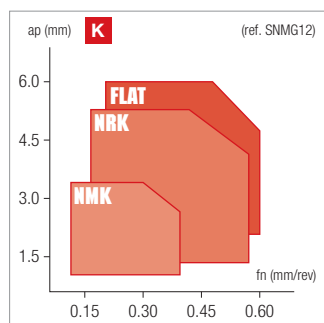
F - ACCESSORIES

G - SPARE PARTS

<h1>SN</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition											
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF	
<ul style="list-style-type: none"> <li>Very strong 90° corner with excellent economy (8 edges on double-sided inserts)</li> <li>Mostly used for rough facing operations, especially on castings, forgings and rough-sawed blanks</li> <li>Unable to turn or face up to a shoulder (must be used in a tool holder with min. 5° lead angle)</li> <li>High radial forces push against the workpiece when used for turning</li> <li>Should always be used in a stable set-up</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice	▽ suitable	▲	▽	▲	▽	▲	▽	▲	▽	
	<b>Dimensions</b>	<b>ISO</b>										
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>											
	<b>P</b>				180	140	100					
					360	300	240					
	<b>M</b>							150	120	80		
								280	240	200		
	<b>K</b>	180	150	180								
	380	300	380									
<b>N</b>										500		
										1500		
<b>S</b>												
<b>H</b>												

	Designation	RE	IC	S	D1	LE	Stock													
<b>ROUGHING</b> flat <b>K</b>	SNMA090308	0.8	9.525	3.18	3.81	8.7	○													
	SNMA120408	0.8	12.7	4.76	5.16	11.9	●	○	○											
	SNMA120412	1.2	12.7	4.76	5.16	11.5	●	○	○											
	SNMA120416	1.6	12.7	4.76	5.16	11.1	●	○												
<b>HEAVY ROUGHING</b> MRP <b>P</b>	SNMM190616-MRP	1.6	19.05	6.35	7.94	17.5					○	○								
	SNMM190624-MRP	2.4	19.05	6.35	7.94	16.7					●	●								
	SNMM250924-MRP	2.4	25.4	9.52	8.8	23					●	●								

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

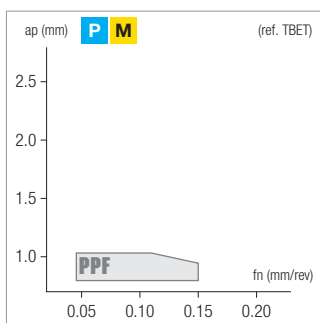


<h1>TB</h1>	HF: Micrograin carbide HT: Cermet PVD: Physical vapour deposition	HF PVD	HT	
		<b>JP5125</b>	<b>JU4015</b>	
ISO - with hole	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	○	●	
<ul style="list-style-type: none"> <li>Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling</li> <li>High surface quality due to very stable seating of the insert on the tool pocket</li> <li>Extra side clearance between the insert and the workpiece reduces risk of chip jamming</li> </ul>	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	▲	▼	
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
	<b>P</b>	60 180	200 380	
	<b>M</b>	60 120	160 280	
	<b>K</b>	80 150		
	<b>N</b>			
	<b>S</b>	30 60		
	<b>H</b>			

FINISHING	PPF P M	Designation	RE	IC	S	D1	LE	Stock	
								●	○
<p>ground chipbreaker right-hand shown</p>		TBET060102-PPF	0.2	3.97	1.59	2.3	6.7	●	●
		TBET060104-PPF	0.4	3.97	1.59	2.3	6.5	●	●

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

Catalogue Preview - AMB



- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# TC

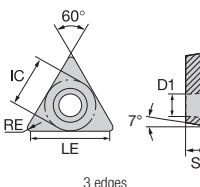
## ISO - with hole

- Very versatile insert shape
- Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket
- Extra clearance between the insert and the workpiece bore, greatly reduce the risk of chip jamming
- Boring bars made of steel (Vortex technology) and carbide are available
- Edge is measurably weaker than 80° diamond shape inserts

- Stable machining, light cut ● 1<sup>st</sup> choice ○ suitable
- General machining, medium cut ● 1<sup>st</sup> choice ○ suitable
- Unstable machining, heavy cut ⚡ 1<sup>st</sup> choice ⚡ suitable

**Dimensions** ISO **Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)**

	<b>P</b>		180 360	140 300		200 400	80 220	60 200	60 180	200 380	
	<b>M</b>				150 280	120 240	160 300	80 160	60 120		160 280
	<b>K</b>	180 380	150 300				200 400	80 170	80 150		
	<b>N</b>									600 2000	500 1500
	<b>S</b>							30 90	30 70	30 60	50 100
	<b>H</b>										



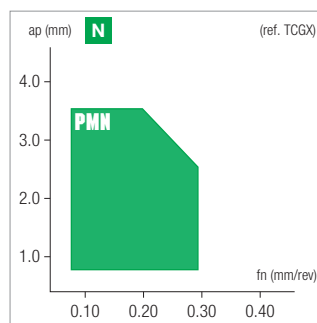
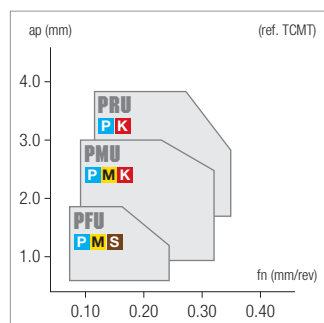
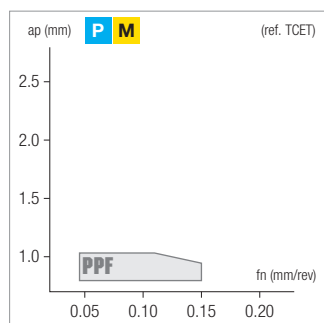
**Designation**

RE IC S D1 LE

**Stock**

FINISHING	PPF P M	TCET110202/-h-PPF	0.2	6.35	2.38	2.8	10.5												
		TCET110204/-h-PPF	0.4	6.35	2.38	2.8	10.3												
FINISHING	PFU P M S	TCMT110202-PFU	0.2	6.35	2.38	2.8	10.5	●	●	●	○	●	●	○	●				
		TCMT110204-PFU	0.4	6.35	2.38	2.8	10.3	●	●	●	●	●	●	●	●				
		TCMT110208-PFU	0.8	6.35	2.38	2.8	9.9					●							
		TCMT16T304-PFU	0.4	9.525	3.97	4.4	16.1					●	●						
		TCMT16T308-PFU	0.8	9.525	3.97	4.4	15.7					●	●						
MEDIUM	PMU P M K	TCMT090204-PMU	0.4	5.56	2.38	2.5	9	●	●	●					○				
		TCMT110202-PMU	0.2	6.35	2.38	2.8	10.5		○	●	●	○			●				
		TCMT110204-PMU	0.4	6.35	2.38	2.8	10.3	●	●	●	●	●	●	●	●				
		TCMT110208-PMU	0.8	6.35	2.38	2.8	9.9	●	●	●	●	●	●	●	●				
		TCMT16T304-PMU	0.4	9.525	3.97	4.4	16.1	●	●	●	●	●	●	●	●				
		TCMT16T308-PMU	0.8	9.525	3.97	4.4	15.7	●	○	●	●	●	●	●	●				
		TCMT16T312-PMU	1.2	9.525	3.97	4.4	15.3	●	●	○									
		TCMT220408-PMU	0.8	12.7	4.76	5.5	21.2	○		●									
MEDIUM	PMN N	TCGX090204-PMN	0.4	5.56	2.38	2.5	9							●	●				
		TCGX110202-PMN	0.2	6.35	2.38	2.8	10.5							○	○				
		TCGX110204-PMN	0.4	6.35	2.38	2.8	10.3							●	●				
		TCGX110208-PMN	0.8	6.35	2.38	2.8	9.9							○	○				
		TCGX16T302-PMN	0.2	9.525	3.97	4.4	16.3							○	○				
		TCGX16T304-PMN	0.4	9.525	3.97	4.4	16.1							●	●				
		TCGX16T308-PMN	0.8	9.525	3.97	4.4	15.7							●	●				

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

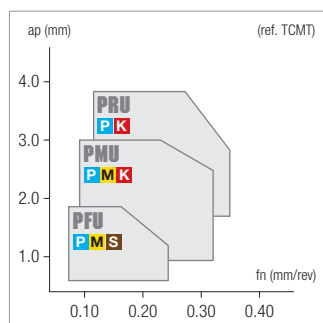




<h1>TC</h1>	HC: Coated carbide HT: Cermet HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition																				
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HT PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	HF							
<ul style="list-style-type: none"> <li>Very versatile insert shape</li> <li>Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>Extra clearance between the insert and the workpiece bore, greatly reduce the risk of chip jamming</li> <li>Boring bars made of steel (Vortex technology) and carbide are available</li> <li>Edge is measurably weaker than 80° diamond shape inserts</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▽ suitable																				
	Dimensions	ISO Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																			
		<b>P</b>			180 360	140 300			200 400	80 220	60 200	60 180	200 380								
		<b>M</b>					150 280	120 240	160 300	80 160	60 140	60 120		160 280							
		<b>K</b>	180 380	150 300					200 400		80 170	80 150									
<b>N</b>													600 2000	500 1500							
<b>S</b>										30 90	30 70	30 60	50 100								
<b>H</b>																					
<b>ROUGHING</b>	Designation  strong edge interrupted cut	RE	IC	S	D1	LE	Stock														
	TCMT16T304-PRU	0.4	9.525	3.97	4.4	16.1	○	●													
	TCMT16T308-PRU	0.8	9.525	3.97	4.4	15.7	●	●													

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

Catalogue Preview - AMB



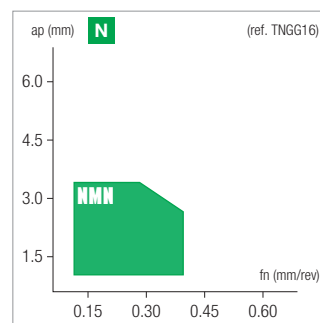
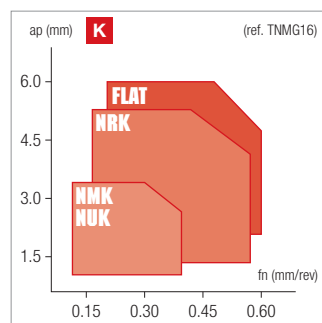
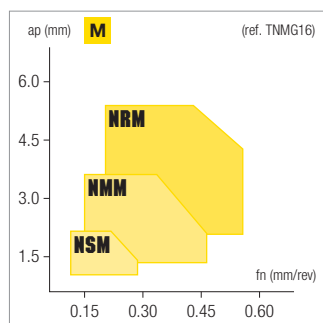
A - TURNING  
 B - THREADING  
 C - GROOVING  
 D - MILLING  
 E - DRILLING  
 F - ACCESSORIES  
 G - SPARE PARTS



<h1>TN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																	
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HT	HF
• Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling, sometimes even threading • Good economy with up to 6 cutting edges	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	○	●	○	●	○	●	○	●	○	●	○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊕ suitable	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	
<b>Dimensions</b>		<b>ISO Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																
		<b>P</b>				200 380	180 360	140 300	100 240	180 360	140 300						200 380	
		<b>M</b>											150 280	120 240	100 220	80 200	160 280	
		<b>K</b>	180 380	150 300	180 380													
		<b>N</b>																500 1500
		<b>S</b>														30 90		
		<b>H</b>																

Designation		RE	IC	S	D1	LE	Stock										
MEDIUM 	TNMG160404-NMM	0.4	9.525	4.76	3.81	16.1	●	●	●	●	●	●	●	●	●	●	▽
	TNMG160408-NMM	0.8	9.525	4.76	3.81	15.7	●	●	●	●	●	●	●	●	●	●	▽
	TNMG160412-NMM	1.2	9.525	4.76	3.81	15.3	●	●	●	●	●	●	●	●	●	●	○
	TNMG220408-NMM	0.8	12.7	4.76	5.16	21.2	○	○	○	○	○	○	○	○	○	○	○
	TNMG220412-NMM	1.2	12.7	4.76	5.16	20.8	○	○	○	○	○	○	○	○	○	○	○
	TNMG220416-NMM	1.6	12.7	4.76	5.16	20.4	○	○	○	○	○	○	○	○	○	○	○
MEDIUM 	TNMG160404-NMK	0.4	9.525	4.76	3.81	16.1	●	○									
	TNMG160408-NMK	0.8	9.525	4.76	3.81	15.7	●	○									
	TNMG160412-NMK	1.2	9.525	4.76	3.81	15.3	●	○									
	TNMG160416-NMK	1.6	9.525	4.76	3.81	14.9	○	○	○								
	TNMG220408-NMK	0.8	12.7	4.76	5.16	21.2	○	○									
	TNMG220412-NMK	1.2	12.7	4.76	5.16	20.8	●	○									
TNMG220416-NMK	1.6	12.7	4.76	5.16	20.4	●	○										
MEDIUM 	TNMG160404-NUK	0.4	9.525	4.76	3.81	16.1	●										
	TNMG160408-NUK	0.8	9.525	4.76	3.81	15.7	●										
	TNMG160412-NUK	1.2	9.525	4.76	3.81	15.3	●										
MEDIUM 	TNGG160404-NMN	0.4	9.525	4.76	3.81	16.1											●
	TNGG160408-NMN	0.8	9.525	4.76	3.81	15.7											●
	TNGG160412-NMN	1.2	9.525	4.76	3.81	15.3											▽

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

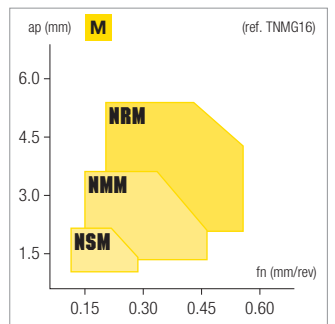
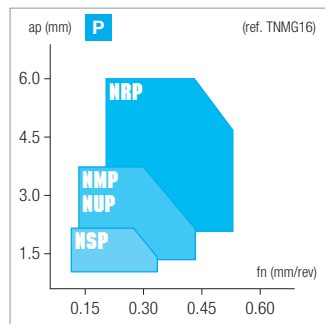
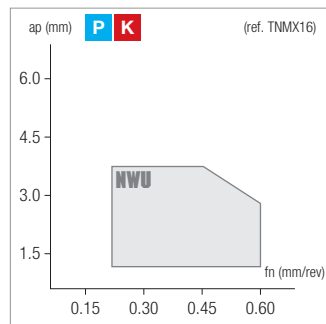
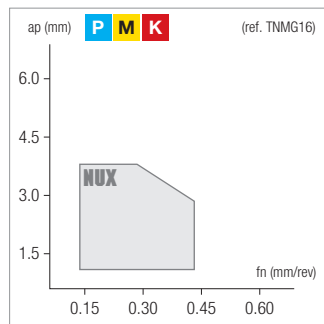
F - ACCESSORIES

G - SPARE PARTS

<h1>TN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																	
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HT	HF
• Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling, sometimes even threading • Good economy with up to 6 cutting edges	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	○	●	○	●	○	●	○	●	○	●	○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	
Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊖ suitable	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖		
Dimensions	ISO																	
	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																	
	P			200 380	180 360	140 300	100 240	180 360	140 300								200 380	
M												150 280	120 240	100 220	80 200	160 280		
K	180 380	150 300	180 380															
N																	500 1500	
S														30 90				
H																		

Designation		RE	IC	S	D1	LE	Stock											
<b>MEDIUM</b>  universal use broad grade range	TNMG160404-NUX	0.4	9.525	4.76	3.81	16.1	●	●	●	●	●	●	●	●	●	●	●	●
	TNMG160408-NUX	0.8	9.525	4.76	3.81	15.7	●	●	●	●	▲	▲	●	●	●	●	●	●
	TNMG160412-NUX	1.2	9.525	4.76	3.81	15.3	●	●	●	●	▲	▲	●	●	●	●	●	●
<b>MEDIUM</b>  right-hand shown	TNMG160404/-NNU	0.4	9.525	4.76	3.81	16.1					○	●				●		
	TNMG160408/-NNU	0.8	9.525	4.76	3.81	15.7					○	●				●		
<b>MEDIUM</b>  wiper universal type	TNMX160408-NWU	0.8	9.525	4.76	3.81	15.7	●				○							
	TNMX160412-NWU	1.2	9.525	4.76	3.81	15.3	●				○							
<b>ROUGHING</b> 	TNMG160408-NRP	0.8	9.525	4.76	3.81	15.7					●	○						
	TNMG160412-NRP	1.2	9.525	4.76	3.81	15.3					●	○						
	TNMG220412-NRP	1.2	12.7	4.76	5.16	20.8					○	○						
	TNMG220416-NRP	1.6	12.7	4.76	5.16	20.4					○	○						
<b>ROUGHING</b> 	TNMG160408-NRM	0.8	9.525	4.76	3.81	15.7								○		●		
	TNMG160412-NRM	1.2	9.525	4.76	3.81	15.3								○		●		

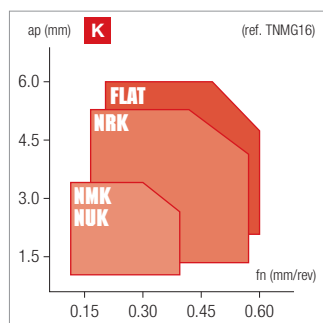
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>TN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HT	HF
<ul style="list-style-type: none"> <li>Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling, sometimes even threading</li> <li>Good economy with up to 6 cutting edges</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊖ suitable	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕	⊖
	<b>Dimensions</b>	<b>ISO Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>															
	<b>P</b>					200 380	180 360	140 300	100 240	180 360	140 300					200 380	
	<b>M</b>												150 280	120 240	100 220	80 200	160 280
	<b>K</b>	180 380	150 300	180 380													
	<b>N</b>															500 1500	
	<b>S</b>													30 90			
	<b>H</b>																

	Designation	RE	IC	S	D1	LE	Stock											
							●	○	▲	▽								
ROUGHING	<b>NRK K</b>																	
	TNMG160408-NRK	0.8	9.525	4.76	3.81	15.7	●	○	○									
	TNMG160412-NRK	1.2	9.525	4.76	3.81	15.3	●	○	○									
	TNMG220408-NRK	0.8	12.7	4.76	5.16	21.2	○	○										
	TNMG220412-NRK	1.2	12.7	4.76	5.16	20.8	○	○										
	TNMG220416-NRK	1.6	12.7	4.76	5.16	20.4	○	○										
ROUGHING	<b>flat K</b>																	
	TNMA160404	0.8	9.525	4.76	3.81	15.7	○	○										
	TNMA160408	0.8	9.525	4.76	3.81	15.7	●	●	○									
	TNMA160412	1.2	9.525	4.76	3.81	15.3	●	○	○									
	TNMA160416	1.6	9.525	4.76	3.81	14.9	●	○										
	TNMA220408	0.8	12.7	4.76	5.16	21.2	●	○										
	TNMA220412	1.2	12.7	4.76	5.16	20.8	●	○										
TNMA220416	1.6	12.7	4.76	5.16	20.4	○	○											

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

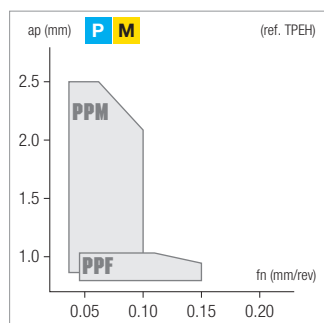
F - ACCESSORIES

G - SPARE PARTS

<h1>TP</h1>	HF: Micrograin carbide HT: Cermet PVD: Physical vapour deposition	HF PVD	HT
		<b>JP5125</b>	<b>JU4015</b>
ISO - with hole			
<ul style="list-style-type: none"> <li>Very versatile insert shape</li> <li>Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>Extra clearance between the insert and the workpiece bore, greatly reduce the risk of chip jamming</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	○	●
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	▲	▼
<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
	<b>P</b>	60 180	200 380
	<b>M</b>	60 120	160 280
	<b>K</b>	80 150	
	<b>N</b>		
	<b>S</b>	30 60	
	<b>H</b>		

Designation		RE	IC	S	D1	LE	Stock	
<b>FINISHING</b>  ground chipbreaker right-hand shown	TPEH090202/-r-PPF	0.2	5.56	2.38	3	9.7	●	●
	TPEH090204/-r-PPF	0.4	5.56	2.38	3	9.5	●	●
	TPEH110302/-r-PPF	0.2	6.35	3.18	3.3	10.8	●	●
	TPEH110304/-r-PPF	0.4	6.35	3.18	3.3	10.6	●	●
<b>MEDIUM</b>  ground chipbreaker right-hand shown	TPEH110304/-r-PPM	0.4	6.35	3.18	3.3	10.6	●	●

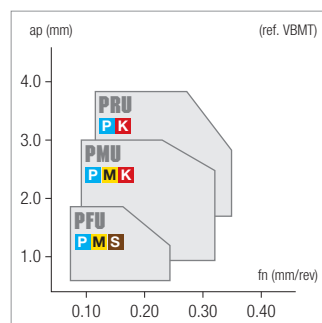
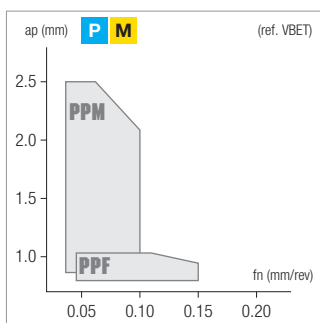
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▼ stock exhaustion



<h1>VB</h1>	HC: Coated carbide HT: Cermet HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition											
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HT PVD	HF PVD	HF PVD	HF PVD	HT	
<ul style="list-style-type: none"> <li>• 1st choice for intricate shape copy turning</li> <li>• Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>• Can work extremely close to the tailstock</li> <li>• Positive style can be used for external and internal applications, in many cases improved performance outweighs the increased cost per edge (2 edges vs. 4 edges of a double sided VNMG)</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	●	●	○	○	●	●	●	○	●	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	●	●	●	○	●	●	●	●		
	Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚠ suitable	⚠			⚠	⚠				⚠		
	<b>Dimensions</b>	<b>ISO</b>										
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>										
<b>P</b>		200 380	180 360	140 300	200 400	80 220	60 200	60 180	200 380			
<b>M</b>					120 240	160 300	80 160	60 140	60 120	160 280		
<b>K</b>		180 380				200 400			80 170	80 150		
<b>N</b>												
<b>S</b>							30 90	30 70	30 60			
<b>H</b>												

Designation		RE	IC	S	D1	LE	Stock															
FINISHING	PPF <b>P M</b>																					
	VBET110302/4-PPF	0.2	6.35	3.18	2.8	10.9															●	●
	VBET110304/4-PPF	0.4	6.35	3.18	2.8	10.7															●	●
FINISHING	PFU <b>P M S</b>																					
	VBMT110304-PFU	0.4	6.35	3.18	2.8	10.7							○	○	●	●	●					
	VBMT160402-PFU	0.2	9.525	4.76	4.4	16.4									●	●						
	VBMT160404-PFU	0.4	9.525	4.76	4.4	16.2	●	●	●	●	●	●	●	●	●	●	●	●				
	VBMT160408-PFU	0.8	9.525	4.76	4.4	15.8	●	●	●	●	○	●	●	●	●	●	●					
MEDIUM	PPM <b>P M</b>																					
	VBET110302/4-PPM	0.2	6.35	3.18	2.8	10.9															●	●
	VBET110304/4-PPM	0.4	6.35	3.18	2.8	10.7															●	●
MEDIUM	PMU <b>P M K</b>																					
	VBMT160404-PMU	0.4	9.525	4.76	4.4	16.2	●	●	●	●					●	●	●					
	VBMT160408-PMU	0.8	9.525	4.76	4.4	15.8	●	●	●	●					●	●	●					
ROUGHING	PRU <b>P K</b>																					
	VBMT160408-PRU	0.8	9.525	4.76	4.4	15.8	○		●													

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

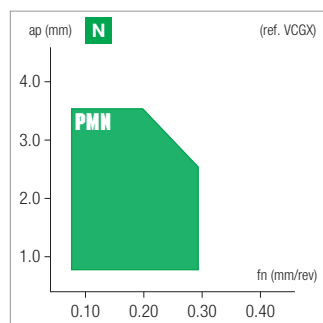
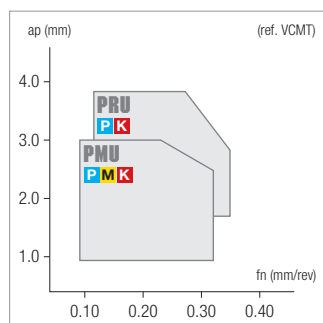
F - ACCESSORIES

G - SPARE PARTS

<h1>VC</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition									
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HT	HF	
<ul style="list-style-type: none"> <li>1st choice for intricate shape copy turning</li> <li>Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>Can work extremely close to the tailstock</li> <li>Positive style can be used for external and internal applications, in many cases improved performance outweighs the increased cost per edge (2 edges vs. 4 edges of a double sided VNMG)</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	○	○	○	●	●
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	●	○	○	●
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊖ suitable	⊕	⊕	⊕	⊕			⊕
	<b>Dimensions</b>									
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>									
	<b>P</b>	180 360	140 300	60 180	200 380					
	<b>M</b>			120 240	60 120	160 280				
	<b>K</b>	180 380			80 150					
	<b>N</b>				600 2000	500 1500				
	<b>S</b>				30 60	50 100				
	<b>H</b>									

Designation		RE	IC	S	D1	LE	Stock											
<b>MEDIUM</b>  1 <sup>st</sup> choice universal application	VCMT110304-PMU	0.4	6.35	3.18	2.8	10.7	●	●	●	●								
	VCMT110308-PMU	0.8	6.35	3.18	2.8	10.3				○								
	VCMT160404-PMU	0.4	9.525	4.76	4.4	16.2	●	●	●	●	●				○			
	VCMT160408-PMU	0.8	9.525	4.76	4.4	15.8	●	●	●	●	●				●			
<b>MEDIUM</b>  polished surface periphery ground	VCGX110302-PMN	0.2	6.35	3.18	2.8	10.9								○			●	
	VCGX110304-PMN	0.4	6.35	3.18	2.8	10.7									●		●	
	VCGX110308-PMN	0.8	6.35	3.18	2.8	10.3									○		●	
	VCGX160402-PMN	0.2	9.525	4.76	4.4	16.4									○		●	
	VCGX160404-PMN	0.4	9.525	4.76	4.4	16.2									●		●	
	VCGX160408-PMN	0.8	9.525	4.76	4.4	15.8									●		●	
	VCGX160412-PMN	1.2	9.525	4.76	4.4	15.4									○		○	
	VCGX220512-PMN	1.2	12.7	5.56	5.5	20.9									○		○	
VCGX220516-PMN	1.6	12.7	5.56	5.5	20.5									○		○		
VCGX220530-PMN	3	12.7	5.56	5.5	19.1									●		●		
<b>ROUGHING</b>  strong edge interrupted cut	VCMT160404-PRU	0.4	9.525	4.76	4.4	16.2	●		●									
	VCMT160408-PRU	0.8	9.525	4.76	4.4	15.8	●		●									

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







A - TURNING

B - THREADING

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D - MILLING

E - DRILLING

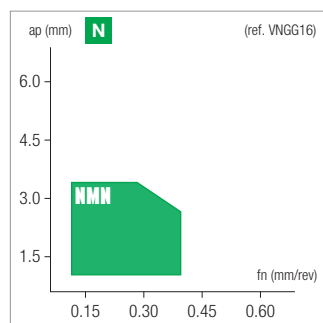
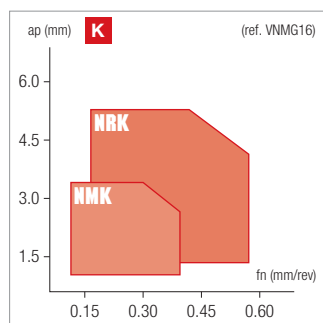
F - ACCESSORIES

G - SPARE PARTS

<h1>VN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition												
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HT	HF	
<ul style="list-style-type: none"> <li>1st choice for intricate shape copy turning</li> <li>Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>Can work extremely close to the tailstock</li> <li>The weakest turning insert shape among all, ap and fn should be lighter</li> <li>Double sided style should mainly be used for external applications</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable		
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable		
	Unstable machining, heavy cut	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable	● 1 <sup>st</sup> choice	○ suitable		
	Dimensions	ISO											
	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)												
	<b>P</b>				200	180	140				200		
	<b>M</b>				380	360	300			120	100	80	160
	<b>K</b>	180	150	180						240	220	200	280
	<b>N</b>	380	300	380									
	<b>S</b>												
<b>H</b>													

Designation		RE	IC	S	D1	LE	Stock														
<b>MEDIUM</b> 	<b>NMK K</b> VNMG160404-NMK	0.4	9.525	4.76	3.81	16.2	●	○													
	VNMG160408-NMK	0.8	9.525	4.76	3.81	15.8	●	○													
	VNMG160412-NMK	1.2	9.525	4.76	3.81	15.4	○	○													
<b>MEDIUM</b> <p>sharp edge reduce burrs</p>	<b>NUK K</b> VNMG160404-NUK	0.4	9.525	4.76	3.81	16.2			○												
	VNMG160408-NUK	0.8	9.525	4.76	3.81	15.8			○												
	VNMG160412-NUK	1.2	9.525	4.76	3.81	15.4			○												
<b>MEDIUM</b> <p>polished surface periphery ground</p>	<b>NMN N</b> VNGG160404-NMN	0.4	9.525	4.76	3.81	16.2													○		
	VNGG160408-NMN	0.8	9.525	4.76	3.81	15.8														○	
<b>ROUGHING</b> 	<b>NRK K</b> VNMG160408-NRK	0.8	9.525	4.76	3.81	15.8	○	○													
	VNMG160412-NRK	1.2	9.525	4.76	3.81	15.4	○	○													

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

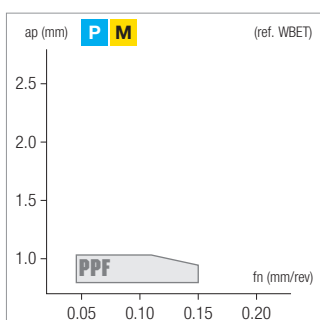


<h1>WB</h1>	HF: Micrograin carbide HT: Cermet PVD: Physical vapour deposition	HF PVD	HT	
		<b>JP5125</b>	<b>JU4015</b>	
ISO - with hole	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	○	●	
<ul style="list-style-type: none"> <li>• 3-corner 80° diamond shape that can increase economy compared to C-shape inserts</li> <li>• Generally used on more moderate depths of cut and feedrates than C-shape inserts</li> <li>• Seating of insert in pocket is less stable as C-shape inserts</li> <li>• Cannot take as deep a depth of cut as similar sized C-shape insert</li> </ul>	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	▲	▼	
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
	<b>P</b>	60 180	200 380	
	<b>M</b>	60 120	160 280	
	<b>K</b>	80 150		
	<b>N</b>			
	<b>S</b>	30 60		
	<b>H</b>			

FINISHING	Designation	RE	IC	S	D1	LE	Stock	
							●	○
<p>ground chipbreaker left-hand shown</p>	WBET060102 <sup>1</sup> / <sub>4</sub> -PPF	0.2	3.97	1.59	2.3	2.3	●	○
	WBET060104 <sup>1</sup> / <sub>4</sub> -PPF	0.4	3.97	1.59	2.3	2.1	●	○

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

Catalogue Preview - AMB



- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

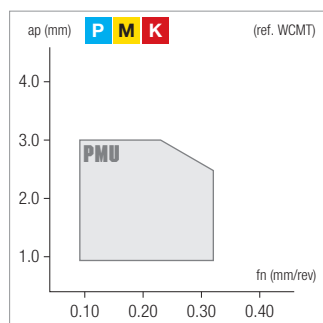
F - ACCESSORIES

G - SPARE PARTS

<h1>WC</h1>	HC: Coated carbide HT: Cermet CVD: Chemical vapour deposition						HC	HC	HC	HC	HT								
	CVD CVD CVD CVD CVD						JC7010	JC8015	JC8025	JC9025	JU4015								
ISO - with hole	● 1 <sup>st</sup> choice ○ suitable ● 1 <sup>st</sup> choice ○ suitable ⚠ 1 <sup>st</sup> choice ⚠ suitable																		
<ul style="list-style-type: none"> <li>3-corner 80° diamond shape that can increase economy compared to C-shape inserts</li> <li>Generally used on more moderate depths of cut and feedrates than C-shape inserts</li> <li>Seating of insert in pocket is less stable as C-shape inserts</li> <li>Cannot take as deep a depth of cut as similar sized C-shape insert</li> </ul>	<b>Dimensions</b>			<b>ISO</b>								<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
				<b>P</b>		180		140		200									
				<b>M</b>		360		300		380									
				<b>K</b>		180				120									
						380				240									
<b>N</b>								160											
<b>S</b>						280													
<b>H</b>																			

Designation		RE	IC	S	D1	LE	Stock				
MEDIUM  1 <sup>st</sup> choice universal application	WCMT12T304-PMU	0.4	9.525	3.97	4.4	6.1	●	●	●	●	●
	WCMT12T308-PMU	0.8	9.525	3.97	4.4	5.7	●	●	●	●	●

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





A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

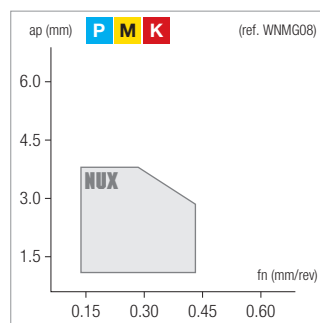
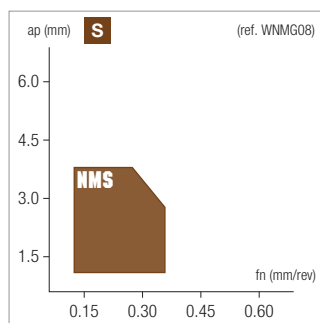
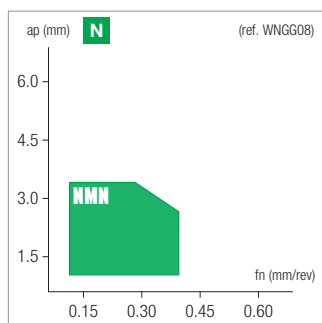
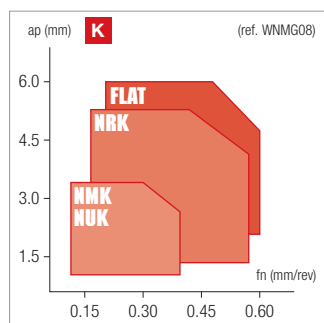
F - ACCESSORIES

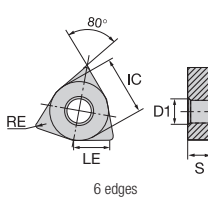
G - SPARE PARTS






<h1>WN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																		
	ISO - with hole	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HT	HF
<ul style="list-style-type: none"> <li>6-corner 80° diamond shape that can increase economy compared to CNMG-style inserts</li> <li>Generally used on more moderate depths of cut and feedrates than CNMG-style inserts</li> <li>Seating of insert in pocket is less stable as CNMG-style inserts</li> <li>Cannot take as deep a depth of cut as similar sized CNMG-style insert</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	●	●	○	●	○	●	○	●	○	●	●	○	●	○	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○
	Unstable machining, heavy cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○	●	○
Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																	
	<b>P</b>				200 380	180 360	140 300	100 240	180 360	140 300							200 380		
	<b>M</b>											150 280	120 240	100 220	80 200	160 280			
	<b>K</b>	180 380	150 300	180 380															
	<b>N</b>																	500 1500	
	<b>S</b>														30 90	30 90			
	<b>H</b>																		

Designation		RE	IC	S	D1	LE	Stock													
<b>MEDIUM</b> 	<b>NMK K</b>																			
	WNMG080404-NMK	0.4	12.7	4.76	5.16	8.3	●	○												
	WNMG080408-NMK	0.8	12.7	4.76	5.16	7.9	●	○												
<b>MEDIUM</b> 	WNMG080412-NMK	1.2	12.7	4.76	5.16	7.5	●	○												
	<b>MEDIUM</b> 	<b>NUK K</b>																		
		WNMG080404-NUK	0.4	12.7	4.76	5.16	8.3	●												
WNMG080408-NUK		0.8	12.7	4.76	5.16	7.9	●													
<b>MEDIUM</b> 	WNMG080412-NUK	1.2	12.7	4.76	5.16	7.5	●													
	<b>MEDIUM</b> 	<b>NMN N</b>																		
		WNGG060404-NMN	0.4	9.525	4.76	3.81	6.1												●	
WNGG060408-NMN		0.8	9.525	4.76	3.81	5.7													○	
<b>MEDIUM</b> 	WNGG080404-NMN	0.4	12.7	4.76	5.16	8.3													●	
	WNGG080408-NMN	0.8	12.7	4.76	5.16	7.9													●	
	<b>MEDIUM</b> 	<b>NMS S</b>																		
WNMG080408-NMS		0.8	12.7	4.76	5.16	7.9													▲	
WNMG080412-NMS		1.2	12.7	4.76	5.16	7.5													▲	
<b>MEDIUM</b> 	<b>NUX P M K</b>																			
	WNMG080404-NUX	0.4	12.7	4.76	5.16	8.3	●		●	●	●			●	●					
	WNMG080408-NUX	0.8	12.7	4.76	5.16	7.9	●		●	●	●		▲	▲	●	●				
WNMG080412-NUX	1.2	12.7	4.76	5.16	7.5	●		●	●	●		▲	▲	●	●					

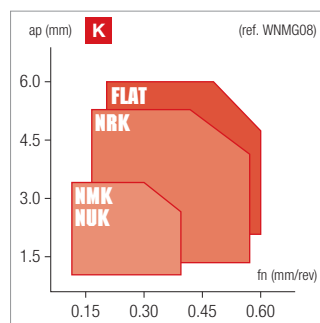
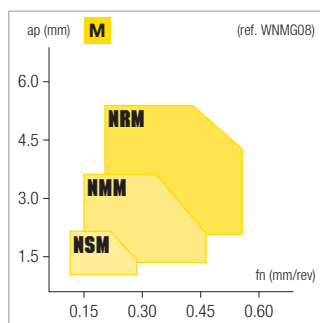
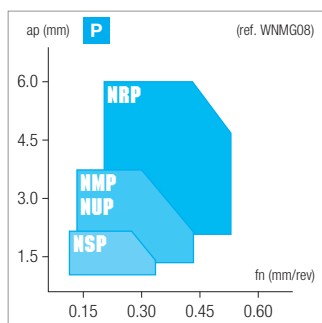
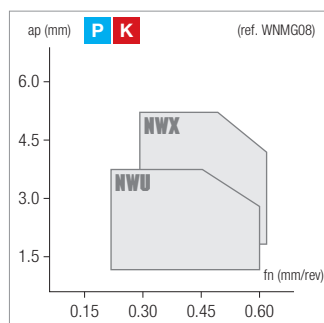
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1 style="margin: 0;">WN</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition																	
	<h2 style="margin: 0;">ISO - with hole</h2>	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HT	HF
<ul style="list-style-type: none"> <li>• 6-corner 80° diamond shape that can increase economy compared to CNMG-style inserts</li> <li>• Generally used on more moderate depths of cut and feedrates than CNMG-style inserts</li> <li>• Seating of insert in pocket is less stable as CNMG-style inserts</li> <li>• Cannot take as deep a depth of cut as similar sized CNMG-style insert</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	●	●	○	●	○	●	○	●	●	●	●	●	●	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	●	●	○	●	○	●	○	●	●	●	●	●	●	●
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡
	Dimensions 	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)															
	P				200 380	180 360	140 300	100 240	180 360	140 300						200 380		
	M												150 280	120 240	100 220	80 200	160 280	
	K	180 380	150 300	180 380														
	N																500 1500	
	S												30 90	30 90				
	H																	

Designation		RE	IC	S	D1	LE	Stock																
MEDIUM	 NWU <b>P K</b> wiper universal type	WNMG080408-NWU	0.8	12.7	4.76	5.16	7.9	●															
		WNMG080412-NWU	1.2	12.7	4.76	5.16	7.5	●															
MEDIUM	 NWX <b>P K</b> wiper reinforced edge	WNMG080408-NWX	0.8	12.7	4.76	5.16	7.9	○													●		
		WNMG080412-NWX	1.2	12.7	4.76	5.16	7.5	○														●	
ROUGHING	 NRP <b>P</b>	WNMG080408-NRP	0.8	12.7	4.76	5.16	7.9			●	●	●	●										
		WNMG080412-NRP	1.2	12.7	4.76	5.16	7.5			●	●	●	●										
		WNMG080416-NRP	1.6	12.7	4.76	5.16	7.1			○	○	●											
ROUGHING	 NRM <b>M</b>	WNMG080408-NRM	0.8	12.7	4.76	5.16	7.9									●	●				●		
		WNMG080412-NRM	1.2	12.7	4.76	5.16	7.5									●	●				●		
ROUGHING	 NRK <b>K</b>	WNMG060408-NRK	0.8	9.525	4.76	3.81	5.7	●	●														
		WNMG080408-NRK	0.8	12.7	4.76	5.16	7.9	●	●	●													
		WNMG080412-NRK	1.2	12.7	4.76	5.16	7.5	●	●	●													

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

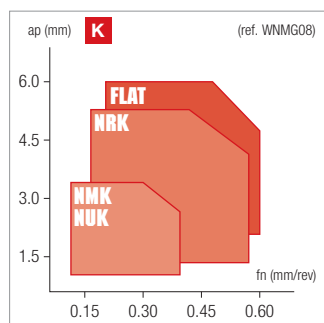
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>WN</h1> <p>ISO - with hole</p> <ul style="list-style-type: none"> <li>6-corner 80° diamond shape that can increase economy compared to CNMG-style inserts</li> <li>Generally used on more moderate depths of cut and feedrates than CNMG-style inserts</li> <li>Seating of insert in pocket is less stable as CNMG-style inserts</li> <li>Cannot take as deep a depth of cut as similar sized CNMG-style insert</li> </ul>		HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition		HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC	HF	HF	HF	HT	HF	
		CVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	PVD	PVD	PVD			
		JG7010	JG7020	JG7115	JG8005	JG8015	JG8025	JG8035	JG8215	JG8225	JG9010	JG9025	JP3015	JP9015	JP9030	JU4015	JU6015			
Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable		●	○	●	●	●	○		●		●	○	●	●		●	●			
Dimensions ISO		Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																		
		<b>P</b>			200 380	180 360	140 300	100 240	180 360	140 300							200 380			
		<b>M</b>											150 280	120 240		100 220	80 200	160 280		
		<b>K</b>	180 380	150 300	180 380															
		<b>N</b>																	500 1500	
		<b>S</b>														30 90	30 90			
		<b>H</b>																		
Designation		RE	IC	S	D1	LE	Stock													
ROUGHING flat <b>K</b>	WNMA080408	0.8	12.7	4.76	5.16	7.9	●	○	○											
	WNMA080412	1.2	12.7	4.76	5.16	7.5	●	○	○											
	WNMA080416	1.6	12.7	4.76	5.16	7.1	○	○												

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





Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# TURNING Parameters - cutting speed · CARBIDE

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

ISO 513	MATERIAL	HARDNESS HB	JC8005			JC8015			JC8025					
			min	start	max	min	start	max	min	start	max			
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	●	200	290	380	●	180	270	360	○	170	250	330
			●				●	170	245	320	●	160	225	290
			⊕								⊕	145	195	250
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	●	180	260	340	●	160	240	320	○	150	220	290
			●				●	150	225	300	●	140	205	270
			⊕								⊕	130	190	250
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	●	160	240	320	●	140	220	300	○	140	200	270
			●				●	130	205	280	●	130	185	250
			⊕								⊕	120	170	230
ISO 513	MATERIAL	HARDNESS HB	JC9010			JC9025			JP4020					
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	●	150	190	280	○	120	180	240	●	65	110	155
			○	135	180	250	●	110	165	215	○	60	100	140
			⊕				⊕	105	155	200				
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	●	100	130	160	○	60	105	150	●	35	65	90
			○	90	115	145	●	55	105	140	○	30	55	75
			⊕				⊕	50	90	130				
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	●	120	155	190	○	90	160	230	●	55	95	135
			○	105	135	165	●	80	145	210	○	50	85	120
			⊕				⊕	75	135	195				
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		●	120	155	190	○	70	125	185	●	40	75	100
			○	110	145	175	●	65	115	170	○	35	60	85
			⊕				⊕	60	110	160				
ISO 513	MATERIAL	HARDNESS HB	JC7010			JC7115			JC7020					
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	●	180	280	380	●	180	280	380	○	150	225	300
			●	150	275	300	●	150	275	300	○	120	170	220
			⊕	130	195	260	⊕	130	195	260	⊕	110	155	200
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	●	150	200	250	●	150	200	250	○	135	180	220
			●	130	165	215	●	130	165	215	○	120	160	200
			⊕	120	160	200	⊕	120	160	200	⊕	105	145	180
K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	●	140	190	240	●	140	190	240	○	120	165	210
			●	120	165	210	●	120	165	210	○	110	145	180
			⊕	110	155	200	⊕	110	155	200	⊕	100	125	150
ISO 513	MATERIAL	HARDNESS HB	JP6010			JU6015								
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		●	600	1200	1800	●	500	1000	1500				
			○	400	650	900	●	300	550	800				
			⊕				⊕	200	350	500				
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		●	120	250	380	●	100	225	350				
			○	100	175	250	●	80	150	220				
			⊕				⊕	60	80	100				
ISO 513	MATERIAL	HARDNESS HB	JP3015			JP5015								
S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		●	25	60	95	●	25	60	95				
			●	20	40	60	●	20	40	60				
S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		●	40	60	80	●	40	60	80				
			●	35	50	65	●	35	50	65				

<b>JC8035</b>			<b>JP4020</b>			<b>JP5015</b>			<b>JP5120</b>			<b>JP5125</b>			<b>JU4015</b>		
min	start	max	min	start	max	min	start	max	min	start	max	min	start	max	min	start	max
● 120	160	200	● 210	305	400	● 120	170	220	● 110	155	200	○ 100	140	180	● 200	290	380
☺ 105	125	160	☺ 200	280	360	● 100	145	190	● 90	130	170	● 80	115	150			
												⚙ 60	90	120			
● 100	140	180	● 190	275	360	● 100	140	180	● 90	110	170	○ 80	120	160	● 180	260	340
☺ 90	125	160	☺ 180	260	340	● 90	125	160	● 80	110	140	● 70	95	120			
												⚙ 60	80	100			
● 90	120	160				● 90	120	160	● 80	110	150	○ 70	100	140			
⚙ 80	105	140				● 80	105	140	● 70	95	130	● 65	85	120			
												⚙ 60	70	100			
<b>JP5015</b>			<b>JP5120</b>			<b>JP5125</b>			<b>JP9015</b>			<b>JC9030</b>					
min	start	max	min	start	max	min	start	max	min	start	max	min	start	max			
● 100	130	160	● 90	115	140	○ 80	100	120	● 140	180	220						
● 90	110	130	● 80	95	110	● 70	80	90	● 125	155	190	● 90	130	170			
						⚙ 60	70	80				⚙ 80	110	140			
● 55	70	85	● 50	65	80	○ 50	60	70	● 55	80	105						
● 40	60	70	● 40	55	60	● 40	55	60	● 40	60	75	● 50	70	95			
						⚙ 40	50	55				⚙ 45	65	90			
● 70	110	150	● 65	100	130	○ 60	85	110	● 80	110	140						
● 60	90	120	● 60	80	100	● 55	70	80	● 65	85	110	● 75	95	120			
						⚙ 50	60	70				⚙ 70	90	115			
● 60	75	90	● 55	70	85	○ 50	65	80	● 60	85	110						
● 55	65	70	● 50	60	70	● 45	60	70	● 45	65	80	● 60	75	95			
						⚙ 40	50	60				⚙ 55	70	95			
<b>JP4020</b>			<b>JP5120</b>			<b>JP5125</b>											
min	start	max	min	start	max	min	start	max									
● 180	250	320	● 110	150	190	○ 100	140	180									
☺ 150	215	280	● 90	135	160	● 80	115	150									
						⚙ 60	90	120									
● 160	210	260	● 90	130	170	○ 80	120	160									
☺ 145	180	215	● 80	105	130	● 70	95	120									
						⚙ 60	80	100									
● 145	185	225	● 80	115	150	○ 70	105	140									
☺ 130	165	200	● 70	100	130	● 60	90	120									
						⚙ 50	75	100									

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# TURNING Parameters - depth of cut and feed rate · CARBIDE

	DESIGNATION	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
A - TURNING	CCET060202 <sup>1</sup> / <sub>4</sub> -PPF	0.10	<b>0.40</b>	0.70	0.04	<b>0.07</b>	0.10
	CCET060204 <sup>1</sup> / <sub>4</sub> -PPF	0.10	<b>0.40</b>	0.70	0.04	<b>0.08</b>	0.12
	CCET09T302 <sup>1</sup> / <sub>4</sub> -PPF	0.10	<b>0.50</b>	0.90	0.04	<b>0.08</b>	0.12
	CCET09T304 <sup>1</sup> / <sub>4</sub> -PPF	0.10	<b>0.50</b>	0.90	0.04	<b>0.90</b>	0.14
	CCET09T304 <sup>1</sup> / <sub>4</sub> -PPM	0.50	<b>1.50</b>	2.50	0.04	<b>0.07</b>	0.10
B - THREADING	CCGX060202-PMN	0.30	<b>1.50</b>	2.70	0.05	<b>0.10</b>	0.15
	CCGX060204-PMN	0.30	<b>1.50</b>	2.70	0.06	<b>0.13</b>	0.20
	CCGX060208-PMN	0.30	<b>1.50</b>	2.70	0.08	<b>0.16</b>	0.24
	CCGX09T302-PMN	0.50	<b>2.00</b>	3.50	0.06	<b>0.11</b>	0.16
	CCGX09T304-PMN	0.50	<b>2.00</b>	3.50	0.08	<b>0.16</b>	0.24
	CCGX09T308-PMN	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
	CCGX120402-PMN	0.50	<b>3.00</b>	5.50	0.08	<b>0.14</b>	0.20
	CCGX120404-PMN	0.50	<b>3.00</b>	5.50	0.10	<b>0.20</b>	0.30
	CCGX120408-PMN	0.50	<b>3.00</b>	5.50	0.15	<b>0.25</b>	0.35
	CCMT060202-PFU	0.20	<b>0.80</b>	1.40	0.04	<b>0.08</b>	0.12
C - GROOVING	CCMT060202-PMU	0.50	<b>1.50</b>	2.50	0.05	<b>0.10</b>	0.15
	CCMT060204-PFU	0.20	<b>0.80</b>	1.40	0.05	<b>0.11</b>	0.17
	CCMT060204-PMU	0.50	<b>1.50</b>	2.50	0.06	<b>0.13</b>	0.20
	CCMT060208-PMU	0.50	<b>1.50</b>	2.50	0.08	<b>0.16</b>	0.24
	CCMT09T302-PFU	0.30	<b>1.00</b>	1.70	0.05	<b>0.10</b>	0.15
	CCMT09T302-PMU	0.60	<b>1.80</b>	3.00	0.06	<b>0.13</b>	0.20
	CCMT09T304-PFU	0.30	<b>1.00</b>	1.70	0.06	<b>0.14</b>	0.22
	CCMT09T304-PMU	0.60	<b>1.80</b>	3.00	0.07	<b>0.16</b>	0.25
	CCMT09T304-PRU	1.50	<b>2.50</b>	3.50	0.10	<b>0.19</b>	0.28
	CCMT09T308-PFU	0.30	<b>1.00</b>	1.70	0.08	<b>0.16</b>	0.24
D - MILLING	CCMT09T308-PMU	0.60	<b>1.80</b>	3.00	0.08	<b>0.19</b>	0.30
	CCMT09T308-PRU	1.50	<b>2.50</b>	3.50	0.12	<b>0.22</b>	0.32
	CCMT120404-PMU	0.80	<b>2.20</b>	3.60	0.08	<b>0.17</b>	0.26
	CCMT120408-PMU	0.80	<b>2.20</b>	3.60	0.10	<b>0.22</b>	0.32
	CCMT120408-PRU	1.50	<b>3.00</b>	4.50	0.14	<b>0.26</b>	0.38
	CCMT120412-PMU	0.80	<b>2.20</b>	3.60	0.12	<b>0.24</b>	0.36
	CCMT120412-PRU	1.50	<b>3.00</b>	4.50	0.16	<b>0.28</b>	0.40
	CNGG120404-NMN	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
	CNGG120408-NMN	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35
	CNMA120404	2.00	<b>4.00</b>	6.00	0.15	<b>0.25</b>	0.35
E - DRILLING	CNMA120408	2.00	<b>4.00</b>	6.00	0.25	<b>0.35</b>	0.45
	CNMA120412	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55
	CNMA120416	2.00	<b>4.00</b>	6.00	0.45	<b>0.55</b>	0.65
	CNMA160612	4.00	<b>7.00</b>	10.00	0.45	<b>0.60</b>	0.75
	CNMA160616	4.00	<b>7.00</b>	10.00	0.50	<b>0.65</b>	0.80
	CNMA190612	6.00	<b>9.00</b>	12.00	0.50	<b>0.65</b>	0.80
	CNMA190616	6.00	<b>9.00</b>	12.00	0.55	<b>0.70</b>	0.85
	CNMG090304-NMM	0.70	<b>1.50</b>	2.30	0.13	<b>0.20</b>	0.27
	CNMG090304-NSP	0.30	<b>0.70</b>	1.10	0.06	<b>0.12</b>	0.18
	CNMG090304-NUP	0.70	<b>1.50</b>	2.30	0.08	<b>0.15</b>	0.22
F - ACCESSORIES	CNMG090308-NMM	0.70	<b>1.50</b>	2.30	0.18	<b>0.25</b>	0.32
	CNMG090308-NSP	0.30	<b>0.70</b>	1.10	0.08	<b>0.16</b>	0.24
	CNMG090308-NUP	0.70	<b>1.50</b>	2.30	0.12	<b>0.20</b>	0.28
	CNMG120404-NMK	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
	CNMG120404-NMM	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
	CNMG120404-NMP	1.50	<b>2.50</b>	3.50	0.12	<b>0.20</b>	0.28
	CNMG120404-NSM	0.40	<b>1.20</b>	2.00	0.08	<b>0.14</b>	0.20
	CNMG120404-NSP	0.40	<b>1.20</b>	2.00	0.08	<b>0.15</b>	0.22
	CNMG120404-NUK	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
	CNMG120404-NUP	1.00	<b>2.50</b>	4.00	0.10	<b>0.20</b>	0.30
G - SPARE PARTS	CNMG120404-NUX	1.00	<b>2.50</b>	4.00	0.10	<b>0.20</b>	0.30
	CNMG120408-NMK	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35
	CNMG120408-NMM	1.00	<b>2.50</b>	4.00	0.20	<b>0.30</b>	0.40
	CNMG120408-NMP	1.50	<b>2.50</b>	3.50	0.16	<b>0.25</b>	0.34
	CNMG120408-NRK	1.50	<b>4.00</b>	6.50	0.20	<b>0.30</b>	0.40
	CNMG120408-NRM	2.00	<b>3.50</b>	5.00	0.20	<b>0.35</b>	0.50
	CNMG120408-NRP	2.00	<b>4.00</b>	6.00	0.25	<b>0.35</b>	0.45
	CNMG120408-NSM	0.40	<b>1.20</b>	2.00	0.10	<b>0.18</b>	0.26
	CNMG120408-NSP	0.40	<b>1.20</b>	2.00	0.10	<b>0.22</b>	0.34
	CNMG120408-NUK	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35
	CNMG120408-NUP	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
	CNMG120408-NUX	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
	CNMG120408-NWU	0.50	<b>1.50</b>	2.50	0.20	<b>0.40</b>	0.60
	CNMG120408-NWX	1.00	<b>2.50</b>	4.00	0.20	<b>0.40</b>	0.60
	CNMG120412-NMK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40
	CNMG120412-NMM	1.00	<b>2.50</b>	4.00	0.25	<b>0.35</b>	0.45
	CNMG120412-NMP	1.50	<b>2.50</b>	3.50	0.20	<b>0.30</b>	0.40
	CNMG120412-NRK	1.50	<b>4.00</b>	6.50	0.25	<b>0.35</b>	0.45
	CNMG120412-NRM	2.00	<b>3.50</b>	5.00	0.25	<b>0.40</b>	0.55
	CNMG120412-NRP	2.00	<b>4.00</b>	6.00	0.30	<b>0.40</b>	0.50
	CNMG120412-NUK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40
	CNMG120412-NUP	1.00	<b>2.50</b>	4.00	0.18	<b>0.30</b>	0.42
	CNMG120412-NUX	1.00	<b>2.50</b>	4.00	0.18	<b>0.30</b>	0.42
	CNMG120412-NWU	0.50	<b>1.50</b>	2.50	0.25	<b>0.45</b>	0.65
	CNMG120412-NWX	1.00	<b>2.50</b>	4.00	0.25	<b>0.45</b>	0.65
	CNMG120416-NMK	0.50	<b>2.00</b>	3.50	0.25	<b>0.35</b>	0.45
	CNMG120416-NMM	1.00	<b>2.50</b>	4.00	0.30	<b>0.40</b>	0.50
	CNMG120416-NMP	1.50	<b>2.50</b>	3.50	0.25	<b>0.35</b>	0.45
	CNMG120416-NRK	1.50	<b>4.00</b>	6.50	0.30	<b>0.40</b>	0.50
	CNMG120416-NRP	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55
	CNMG120416-NUP	1.00	<b>2.50</b>	4.00	0.20	<b>0.35</b>	0.50
	CNMG160608-NMK	2.00	<b>4.00</b>	6.00	0.25	<b>0.35</b>	0.45
	CNMG160608-NMM	2.00	<b>4.50</b>	7.00	0.25	<b>0.35</b>	0.45
	CNMG160608-NMP	3.00	<b>4.50</b>	6.00	0.20	<b>0.30</b>	0.40
	CNMG160608-NRM	3.00	<b>5.50</b>	8.00	0.25	<b>0.40</b>	0.55
	CNMG160608-NUP	2.00	<b>4.50</b>	7.00	0.18	<b>0.30</b>	0.42
	CNMG160612-NMK	2.00	<b>4.00</b>	6.00	0.30	<b>0.40</b>	0.50
	CNMG160612-NMM	2.00	<b>4.50</b>	7.00	0.30	<b>0.40</b>	0.50
	CNMG160612-NMP	3.00	<b>4.50</b>	6.00	0.25	<b>0.35</b>	0.45
	CNMG160612-NRK	3.00	<b>6.00</b>	9.00	0.40	<b>0.55</b>	0.70
	CNMG160612-NRM	3.00	<b>5.50</b>	8.00	0.30	<b>0.45</b>	0.60
	CNMG160612-NRP	4.00	<b>6.00</b>	8.00	0.35	<b>0.50</b>	0.65
	CNMG160612-NUP	2.00	<b>4.50</b>	7.00	0.22	<b>0.35</b>	0.48
	CNMG160616-NMK	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55
	CNMG160616-NMM	2.00	<b>4.50</b>	7.00	0.35	<b>0.45</b>	0.55
	CNMG160616-NMP	3.00	<b>4.50</b>	6.00	0.30	<b>0.40</b>	0.50
	CNMG160616-NRK	3.00	<b>6.00</b>	9.00	0.45	<b>0.60</b>	0.75
	CNMG160616-NRP	4.00	<b>6.00</b>	8.00	0.40	<b>0.55</b>	0.70
	CNMG190608-NUP	3.00	<b>6.00</b>	9.00	0.22	<b>0.35</b>	0.48
	CNMG190612-NMK	3.00	<b>5.00</b>	7.00	0.35	<b>0.45</b>	0.55
	CNMG190612-NMM	3.00	<b>6.00</b>	9.00	0.35	<b>0.45</b>	0.55
	CNMG190612-NMP	4.00	<b>6.00</b>	8.00	0.30	<b>0.40</b>	0.50
	CNMG190612-NRK	5.00	<b>8.00</b>	11.00	0.45	<b>0.60</b>	0.75
	CNMG190612-NRM	5.00	<b>7.50</b>	10.00	0.40	<b>0.55</b>	0.70
	CNMG190612-NRP	6.00	<b>8.00</b>	10.00	0.40	<b>0.55</b>	0.70
	CNMG190612-NUP	3.00	<b>6.00</b>	9.00	0.25	<b>0.40</b>	0.55
	CNMG190616-NMK	3.00	<b>5.00</b>	7.00	0.40	<b>0.50</b>	0.60

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
CNMG190616-NMM	3.00	<b>6.00</b>	9.00	0.40	<b>0.50</b>	0.60
CNMG190616-NMP	4.00	<b>6.00</b>	8.00	0.32	<b>0.45</b>	0.58
CNMG190616-NRK	5.00	<b>8.00</b>	11.00	0.50	<b>0.65</b>	0.80
CNMG190616-NRM	5.00	<b>7.50</b>	10.00	0.45	<b>0.60</b>	0.75
CNMG190616-NRP	6.00	<b>8.00</b>	10.00	0.45	<b>0.60</b>	0.75
CNMG190616-NUP	3.00	<b>6.00</b>	9.00	0.30	<b>0.45</b>	0.60
CNMG190624-NRP	6.00	<b>8.00</b>	10.00	0.50	<b>0.65</b>	0.80
CNMG250924-NRP	6.00	<b>10.00</b>	14.00	0.50	<b>0.70</b>	0.90
CNMM190616-MRP	6.00	<b>9.00</b>	12.00	0.60	<b>0.75</b>	0.90
CNMM190624-MRP	6.00	<b>9.00</b>	12.00	0.65	<b>0.80</b>	0.95
CNMM250924-MRP	8.00	<b>12.00</b>	16.00	0.70	<b>0.90</b>	1.10
DCET070202-PPF	0.10	<b>0.40</b>	0.70	0.04	<b>0.07</b>	0.10
DCET070204-PPF	0.10	<b>0.40</b>	0.70	0.04	<b>0.08</b>	0.12
DCET070204-PPM	0.40	<b>1.00</b>	1.60	0.03	<b>0.06</b>	0.09
DCET11T302-PPF	0.10	<b>0.50</b>	0.90	0.04	<b>0.08</b>	0.12
DCET11T302-PPM	0.50	<b>1.50</b>	2.50	0.04	<b>0.06</b>	0.08
DCET11T304-M-PPF	0.10	<b>0.50</b>	0.90	0.04	<b>0.90</b>	0.14
DCET11T304-M-PPM	0.50	<b>1.50</b>	2.50	0.04	<b>0.07</b>	0.10
DCGX070202-PMN	0.30	<b>1.50</b>	2.70	0.05	<b>0.10</b>	0.15
DCGX070204-PMN	0.30	<b>1.50</b>	2.70	0.06	<b>0.13</b>	0.20
DCGX070208-PMN	0.30	<b>1.50</b>	2.70	0.08	<b>0.16</b>	0.24
DCGX11T302-PMN	0.50	<b>2.00</b>	3.50	0.06	<b>0.11</b>	0.16
DCGX11T304-PMN	0.50	<b>2.00</b>	3.50	0.08	<b>0.16</b>	0.24
DCGX11T308-PMN	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
DCMT070202-PFU	0.20	<b>0.80</b>	1.40	0.04	<b>0.08</b>	0.12
DCMT070202-PMU	0.50	<b>1.50</b>	2.50	0.05	<b>0.10</b>	0.15
DCMT070204-PFU	0.20	<b>0.80</b>	1.40	0.05	<b>0.11</b>	0.17
DCMT070204-PMU	0.50	<b>1.50</b>	2.50	0.06	<b>0.13</b>	0.20
DCMT070208-PMU	0.50	<b>1.50</b>	2.50	0.08	<b>0.16</b>	0.24
DCMT11T302-PFU	0.30	<b>1.00</b>	1.70	0.05	<b>0.10</b>	0.15
DCMT11T302-PMU	0.60	<b>1.80</b>	3.00	0.06	<b>0.13</b>	0.20
DCMT11T304-PFU	0.30	<b>1.00</b>	1.70	0.06	<b>0.14</b>	0.22
DCMT11T304-PMU	0.60	<b>1.80</b>	3.00	0.07	<b>0.16</b>	0.25
DCMT11T304-PRU	1.50	<b>2.50</b>	3.50	0.10	<b>0.19</b>	0.28
DCMT11T308-PFU	0.30	<b>1.00</b>	1.70	0.08	<b>0.16</b>	0.24
DCMT11T308-PMU	0.60	<b>1.80</b>	3.00	0.08	<b>0.19</b>	0.30
DCMT11T308-PRU	1.50	<b>2.50</b>	3.50	0.12	<b>0.22</b>	0.32
DCMT11T312-PMU	0.60	<b>1.80</b>	3.00	0.10	<b>0.22</b>	0.34
DCMT150404-PMU	0.80	<b>2.20</b>	3.60	0.08	<b>0.17</b>	0.26
DCMT150408-PMU	0.80	<b>2.20</b>	3.60	0.10	<b>0.22</b>	0.32
DCMT150412-PMU	0.80	<b>2.20</b>	3.60	0.12	<b>0.24</b>	0.36
DNGG150604-NMN	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
DNGG150608-NMN	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35
DNMA150608	2.00	<b>4.00</b>	6.00	0.15	<b>0.25</b>	0.35
DNMA150612	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55
DNMG110404-NMM	0.70	<b>1.50</b>	2.30	0.13	<b>0.20</b>	0.27
DNMG110404-NMP	1.00	<b>1.50</b>	2.00	0.10	<b>0.15</b>	0.20
DNMG110404-NSP	0.30	<b>0.70</b>	1.10	0.06	<b>0.12</b>	0.18
DNMG110404-NUP	0.70	<b>1.50</b>	2.30	0.08	<b>0.15</b>	0.22
DNMG110408-NMM	0.70	<b>1.50</b>	2.30	0.18	<b>0.25</b>	0.32
DNMG110408-NMP	1.00	<b>1.50</b>	2.00	0.15	<b>0.20</b>	0.25
DNMG110408-NSP	0.30	<b>0.70</b>	1.10	0.08	<b>0.16</b>	0.24
DNMG110408-NUP	0.70	<b>1.50</b>	2.30	0.12	<b>0.20</b>	0.28
DNMG110412-NUP	0.70	<b>1.50</b>	2.30	0.15	<b>0.25</b>	0.35
DNMG150604-1/2-NMU	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
DNMG150604-NMK	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
DNMG150604-NMM	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
DNMG150604-NMP	1.50	<b>2.50</b>	3.50	0.12	<b>0.20</b>	0.28
DNMG150604-NSM	0.40	<b>1.20</b>	2.00	0.08	<b>0.14</b>	0.20
DNMG150604-NSP	0.40	<b>1.20</b>	2.00	0.08	<b>0.15</b>	0.22
DNMG150604-NUK	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
DNMG150604-NUP	1.00	<b>2.50</b>	4.00	0.10	<b>0.20</b>	0.30
DNMG150604-NUX	1.00	<b>2.50</b>	4.00	0.10	<b>0.20</b>	0.30
DNMG150608-1/2-NMU	1.00	<b>2.50</b>	4.00	0.20	<b>0.30</b>	0.40
DNMG150608-NMK	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35
DNMG150608-NMM	1.00	<b>2.50</b>	4.00	0.20	<b>0.30</b>	0.40
DNMG150608-NMP	1.50	<b>2.50</b>	3.50	0.16	<b>0.25</b>	0.34
DNMG150608-NRK	1.50	<b>4.00</b>	6.50	0.20	<b>0.30</b>	0.40
DNMG150608-NRM	2.00	<b>3.50</b>	5.00	0.20	<b>0.35</b>	0.50
DNMG150608-NRP	2.00	<b>4.00</b>	6.00	0.25	<b>0.35</b>	0.45
DNMG150608-NSM	0.40	<b>1.20</b>	2.00	0.10	<b>0.18</b>	0.26
DNMG150608-NSP	0.40	<b>1.20</b>	2.00	0.10	<b>0.22</b>	0.34
DNMG150608-NUK	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35
DNMG150608-NUP	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
DNMG150608-NUX	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
DNMG150612-NMK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40
DNMG150612-NMM	1.00	<b>2.50</b>	4.00	0.25	<b>0.35</b>	0.45
DNMG150612-NMP	1.50	<b>2.50</b>	3.50	0.20	<b>0.30</b>	0.40
DNMG150612-NRK	1.50	<b>4.00</b>	6.50	0.25	<b>0.35</b>	0.45
DNMG150612-NRM	2.00	<b>3.50</b>	5.00	0.25	<b>0.40</b>	0.55
DNMG150612-NRP	2.00	<b>4.00</b>	6.00	0.30	<b>0.40</b>	0.50
DNMG150612-NUK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40
DNMG150612-NUP	1.00	<b>2.50</b>	4.00	0.18	<b>0.30</b>	0.42
DNMG150612-NUX	1.00	<b>2.50</b>	4.00	0.18	<b>0.30</b>	0.42
DNMG150616-NMK	0.50	<b>2.00</b>	3.50	0.25	<b>0.35</b>	0.45
DNMG150616-NMP	1.50	<b>2.50</b>	3.50	0.25	<b>0.35</b>	0.45
DNMG150616-NRP	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55
DNMX150608-NWU	0.50	<b>1.50</b>	2.50	0.20	<b>0.40</b>	0.60
DNMX150612-NWU	0.50	<b>1.50</b>	2.50	0.25	<b>0.45</b>	0.65
KNUX160405-1/2-NMU	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
KNUX160410-1/2-NMU	1.00	<b>2.50</b>	4.00	0.20	<b>0.30</b>	0.40
MCC.R02L-PPF	0.05	<b>0.20</b>	0.35	0.03	<b>0.05</b>	0.07
MCC.R04L-PPF	0.05	<b>0.20</b>	0.35	0.04	<b>0.06</b>	0.08
MCN.R02G-SS	0.60	<b>1.20</b>	1.80	0.08	<b>0.14</b>	0.20
MCN.R04-GB-1/2	0.20	<b>0.50</b>	0.80	0.05	<b>0.10</b>	0.15
MCN.R04G-SS	0.60	<b>1.20</b>	1.80	0.10	<b>0.17</b>	0.24
MCN.R04M-GM	0.80	<b>1.50</b>	2.20	0.08	<b>0.15</b>	0.22
MCN.R08M-GM	0.80	<b>1.50</b>	2.20	0.10	<b>0.17</b>	0.24
MDN.R02G-SS	0.60	<b>1.20</b>	1.80	0.08	<b>0.14</b>	0.20
MDN.R04-GB-1/2	0.20	<b>0.50</b>	0.80	0.05	<b>0.10</b>	0.15
MDN.R04G-SS	0.60	<b>1.20</b>	1.80	0.10	<b>0.17</b>	0.24
MDN.R04M-GM	0.80	<b>1.50</b>	2.20	0.08	<b>0.15</b>	0.22
MDN.R08M-GM	0.80	<b>1.50</b>	2.20	0.10	<b>0.17</b>	0.24
SCGX09T304-PMN	0.50	<b>2.00</b>	3.50	0.08	<b>0.16</b>	0.24
SCGX09T308-PMN	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
SCGX120404-PMN	0.50	<b>3.00</b>	5.50	0.10	<b>0.20</b>	0.30
SCGX120408-PMN	0.50	<b>3.00</b>	5.50	0.15	<b>0.25</b>	0.35
SCMT09T304-PFU	0.30	<b>1.00</b>	1.70	0.06	<b>0.14</b>	0.22
SCMT09T304-PMU	0.60	<b>1.80</b>	3.00	0.07	<b>0.16</b>	0.25
SCMT09T308-PFU	0.30	<b>1.00</b>	1.70	0.08	<b>0.16</b>	0.24
SCMT09T308-PMU	0.60	<b>1.80</b>	3.00	0.08	<b>0.19</b>	0.30
SCMT09T308-PRU	1.50	<b>2.50</b>	3.50	0.12	<b>0.22</b>	0.32

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# TURNING Parameters - depth of cut and feed rate · CARBIDE

	DESIGNATION	DEPTH OF CUT			FEED RATE			
		ap (mm)			fn (mm/rev)			
		min	start	max	min	start	max	
A - TURNING	SCMT120404-PMU	0.80	<b>2.20</b>	3.60	0.08	<b>0.17</b>	0.26	
	SCMT120408-PMU	0.80	<b>2.20</b>	3.60	0.10	<b>0.22</b>	0.32	
	SCMT120408-PRU	1.50	<b>3.00</b>	4.50	0.14	<b>0.26</b>	0.38	
	SNGG120404-NMN	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30	
	SNGG120408-NMN	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35	
	SNGG120412-NMN	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40	
	SNMA090308	1.00	<b>2.00</b>	3.00	0.22	<b>0.30</b>	0.38	
	SNMA120408	2.00	<b>4.00</b>	6.00	0.25	<b>0.35</b>	0.45	
	SNMA120412	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55	
	SNMA120416	2.00	<b>4.00</b>	6.00	0.45	<b>0.55</b>	0.65	
B - THREADING	SNMG120404-NMM	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35	
	SNMG120404-NMP	1.50	<b>2.50</b>	3.50	0.12	<b>0.20</b>	0.28	
	SNMG120404-NSP	0.40	<b>1.20</b>	2.00	0.08	<b>0.15</b>	0.22	
	SNMG120404-NUP	1.00	<b>2.50</b>	4.00	0.10	<b>0.20</b>	0.30	
	SNMG120408-NMK	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35	
	SNMG120408-NMM	1.00	<b>2.50</b>	4.00	0.20	<b>0.30</b>	0.40	
	SNMG120408-NMP	1.50	<b>2.50</b>	3.50	0.16	<b>0.25</b>	0.34	
	SNMG120408-NRK	1.50	<b>4.00</b>	6.50	0.20	<b>0.30</b>	0.40	
	SNMG120408-NRM	2.00	<b>3.50</b>	5.00	0.20	<b>0.35</b>	0.50	
	SNMG120408-NRP	2.00	<b>4.00</b>	6.00	0.25	<b>0.35</b>	0.45	
C - GROOVING	SNMG120408-NSP	0.40	<b>1.20</b>	2.00	0.10	<b>0.22</b>	0.34	
	SNMG120408-NUP	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35	
	SNMG120412-NMK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40	
	SNMG120412-NMM	1.00	<b>2.50</b>	4.00	0.25	<b>0.35</b>	0.45	
	SNMG120412-NMP	1.50	<b>2.50</b>	3.50	0.20	<b>0.30</b>	0.40	
	SNMG120412-NRK	1.50	<b>4.00</b>	6.50	0.25	<b>0.35</b>	0.45	
	SNMG120412-NRM	2.00	<b>3.50</b>	5.00	0.25	<b>0.40</b>	0.55	
	SNMG120412-NRP	2.00	<b>4.00</b>	6.00	0.30	<b>0.40</b>	0.50	
	SNMG120412-NUP	1.00	<b>2.50</b>	4.00	0.18	<b>0.30</b>	0.42	
	SNMG120416-NMM	1.00	<b>2.50</b>	4.00	0.30	<b>0.40</b>	0.50	
D - MILLING	SNMG120416-NMP	1.50	<b>2.50</b>	3.50	0.25	<b>0.35</b>	0.45	
	SNMG120416-NRK	1.50	<b>4.00</b>	6.50	0.30	<b>0.40</b>	0.50	
	SNMG120416-NRP	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55	
	SNMG120416-NUP	1.00	<b>2.50</b>	4.00	0.20	<b>0.35</b>	0.50	
	SNMG190612-NMM	3.00	<b>6.00</b>	9.00	0.35	<b>0.45</b>	0.55	
	SNMG190612-NRK	5.00	<b>8.00</b>	11.00	0.45	<b>0.60</b>	0.75	
	SNMG190612-NRM	5.00	<b>7.50</b>	10.00	0.40	<b>0.55</b>	0.70	
	SNMG190612-NRP	6.00	<b>8.00</b>	10.00	0.40	<b>0.55</b>	0.70	
	SNMG190616-NMM	3.00	<b>6.00</b>	9.00	0.40	<b>0.50</b>	0.60	
	SNMG190616-NRK	5.00	<b>8.00</b>	11.00	0.50	<b>0.65</b>	0.80	
E - DRILLING	SNMG190616-NRM	5.00	<b>7.50</b>	10.00	0.45	<b>0.60</b>	0.75	
	SNMG190616-NRP	6.00	<b>8.00</b>	10.00	0.45	<b>0.60</b>	0.75	
	SNMG190624-NRP	6.00	<b>8.00</b>	10.00	0.50	<b>0.65</b>	0.80	
	SNMG250924-NRP	6.00	<b>10.00</b>	14.00	0.50	<b>0.70</b>	0.90	
	SNMM190616-MRP	6.00	<b>9.00</b>	12.00	0.60	<b>0.75</b>	0.90	
	SNMM190624-MRP	6.00	<b>9.00</b>	12.00	0.65	<b>0.80</b>	0.95	
	SNMM250924-MRP	8.00	<b>12.00</b>	16.00	0.70	<b>0.90</b>	1.10	
	TBET060102 <sup>1</sup> / <sub>8</sub> -PPF	0.10	<b>0.30</b>	0.50	0.03	<b>0.06</b>	0.09	
	TBET060104 <sup>1</sup> / <sub>8</sub> -PPF	0.10	<b>0.30</b>	0.50	0.04	<b>0.07</b>	0.10	
	TCET110202 <sup>1</sup> / <sub>8</sub> -PPF	0.10	<b>0.40</b>	0.70	0.04	<b>0.07</b>	0.10	
F - ACCESSORIES	TCET110204 <sup>1</sup> / <sub>8</sub> -PPF	0.10	<b>0.40</b>	0.70	0.04	<b>0.08</b>	0.12	
	TCGX090204-PMN	0.30	<b>1.00</b>	1.70	0.05	<b>0.11</b>	0.17	
	TCGX110202-PMN	0.30	<b>1.50</b>	2.70	0.05	<b>0.10</b>	0.15	
	TCGX110204-PMN	0.30	<b>1.50</b>	2.70	0.06	<b>0.13</b>	0.20	
	TCGX110208-PMN	0.30	<b>1.50</b>	2.70	0.08	<b>0.16</b>	0.24	
	TCGX16T302-PMN	0.50	<b>2.00</b>	3.50	0.06	<b>0.11</b>	0.16	
	G - SPARE PARTS	TCGX16T304-PMN	0.50	<b>2.00</b>	3.50	0.08	<b>0.16</b>	0.24
		TCGX16T308-PMN	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30
		TCMT090204-PMU	0.50	<b>1.00</b>	1.50	0.05	<b>0.09</b>	0.13
		TCMT110202-PFU	0.20	<b>0.80</b>	1.40	0.04	<b>0.08</b>	0.12
TCMT110202-PMU		0.50	<b>1.50</b>	2.50	0.05	<b>0.10</b>	0.15	
TCMT110204-PFU		0.20	<b>0.80</b>	1.40	0.05	<b>0.11</b>	0.17	
TCMT110204-PMU		0.50	<b>1.50</b>	2.50	0.06	<b>0.13</b>	0.20	
TCMT110208-PFU		0.20	<b>0.80</b>	1.40	0.06	<b>0.13</b>	0.20	
TCMT110208-PMU		0.50	<b>1.50</b>	2.50	0.08	<b>0.16</b>	0.24	
TCMT16T304-PFU		0.30	<b>1.00</b>	1.70	0.06	<b>0.14</b>	0.22	
A86	TCMT16T304-PMU	0.60	<b>1.80</b>	3.00	0.07	<b>0.16</b>	0.25	
	TCMT16T304-PRU	1.50	<b>2.50</b>	3.50	0.10	<b>0.19</b>	0.28	
	TCMT16T308-PFU	0.30	<b>1.00</b>	1.70	0.08	<b>0.16</b>	0.24	
	TCMT16T308-PMU	0.60	<b>1.80</b>	3.00	0.08	<b>0.19</b>	0.30	
	TCMT16T308-PRU	1.50	<b>2.50</b>	3.50	0.12	<b>0.22</b>	0.32	
	TCMT16T312-PMU	0.60	<b>1.80</b>	3.00	0.10	<b>0.22</b>	0.34	
	TCMT220408-PMU	0.80	<b>2.20</b>	3.60	0.10	<b>0.22</b>	0.32	
	TNGG160404-NMN	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30	
	TNGG160408-NMN	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35	
	TNGG160412-NMN	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40	
TNMA160404	2.00	<b>4.00</b>	6.00	0.15	<b>0.25</b>	0.35		
TNMA160408	2.00	<b>4.00</b>	6.00	0.25	<b>0.35</b>	0.45		
TNMA160412	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55		
TNMA160416	2.00	<b>4.00</b>	6.00	0.45	<b>0.55</b>	0.65		
TNMA220408	4.00	<b>7.00</b>	10.00	0.35	<b>0.50</b>	0.65		
TNMA220412	4.00	<b>7.00</b>	10.00	0.45	<b>0.60</b>	0.75		
TNMA220416	4.00	<b>7.00</b>	10.00	0.50	<b>0.65</b>	0.80		
TNMG160404 <sup>1</sup> / <sub>8</sub> -NMU	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35		
TNMG160404-NMK	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30		
TNMG160404-NMM	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35		
TNMG160404-NMP	1.50	<b>2.50</b>	3.50	0.12	<b>0.20</b>	0.28		
TNMG160404-NSM	0.40	<b>1.20</b>	2.00	0.08	<b>0.14</b>	0.20		
TNMG160404-NSP	0.40	<b>1.20</b>	2.00	0.08	<b>0.15</b>	0.22		
TNMG160404-NUK	0.50	<b>2.00</b>	3.50	0.10	<b>0.20</b>	0.30		
TNMG160404-NUP	1.00	<b>2.50</b>	4.00	0.10	<b>0.20</b>	0.30		
TNMG160404-NUX	1.00	<b>2.50</b>	4.00	0.10	<b>0.20</b>	0.30		
TNMG160408 <sup>1</sup> / <sub>8</sub> -NMU	1.00	<b>2.50</b>	4.00	0.20	<b>0.30</b>	0.40		
TNMG160408-NMK	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35		
TNMG160408-NMM	1.00	<b>2.50</b>	4.00	0.20	<b>0.30</b>	0.40		
TNMG160408-NMP	1.50	<b>2.50</b>	3.50	0.16	<b>0.25</b>	0.34		
TNMG160408-NRK	1.50	<b>4.00</b>	6.50	0.20	<b>0.30</b>	0.40		
TNMG160408-NRM	2.00	<b>3.50</b>	5.00	0.20	<b>0.35</b>	0.50		
TNMG160408-NRP	2.00	<b>4.00</b>	6.00	0.25	<b>0.35</b>	0.45		
TNMG160408-NSM	0.40	<b>1.20</b>	2.00	0.10	<b>0.18</b>	0.26		
TNMG160408-NSP	0.40	<b>1.20</b>	2.00	0.10	<b>0.22</b>	0.34		
TNMG160408-NUK	0.50	<b>2.00</b>	3.50	0.15	<b>0.25</b>	0.35		
TNMG160408-NUP	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35		
TNMG160408-NUX	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35		
TNMG160412-NMK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40		
TNMG160412-NMM	1.00	<b>2.50</b>	4.00	0.25	<b>0.35</b>	0.45		
TNMG160412-NMP	1.50	<b>2.50</b>	3.50	0.20	<b>0.30</b>	0.40		
TNMG160412-NRK	1.50	<b>4.00</b>	6.50	0.25	<b>0.35</b>	0.45		
TNMG160412-NRM	2.00	<b>3.50</b>	5.00	0.25	<b>0.40</b>	0.55		
TNMG160412-NRP	2.00	<b>4.00</b>	6.00	0.30	<b>0.40</b>	0.50		
TNMG160412-NUK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40		
TNMG160412-NUP	1.00	<b>2.50</b>	4.00	0.18	<b>0.30</b>	0.42		

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
TNMG160412-NUX	1.00	2.50	4.00	0.18	0.30	0.42
TNMG160416-NMK	0.50	2.00	3.50	0.25	0.35	0.45
TNMG220408-NMK	2.00	4.00	6.00	0.25	0.35	0.45
TNMG220408-NMM	2.00	4.50	7.00	0.25	0.35	0.45
TNMG220408-NMP	3.00	4.50	6.00	0.20	0.30	0.40
TNMG220408-NRK	3.00	6.00	9.00	0.35	0.50	0.65
TNMG220408-NUP	2.00	4.50	7.00	0.18	0.30	0.42
TNMG220412-NMK	2.00	4.00	6.00	0.30	0.40	0.50
TNMG220412-NMM	2.00	4.50	7.00	0.30	0.40	0.50
TNMG220412-NMP	3.00	4.50	6.00	0.25	0.35	0.45
TNMG220412-NRK	3.00	6.00	9.00	0.40	0.55	0.70
TNMG220412-NRP	4.00	6.00	8.00	0.35	0.50	0.65
TNMG220412-NUP	2.00	4.50	7.00	0.22	0.35	0.48
TNMG220416-NMK	2.00	4.00	6.00	0.35	0.45	0.55
TNMG220416-NMM	2.00	4.50	7.00	0.35	0.45	0.55
TNMG220416-NRK	3.00	6.00	9.00	0.45	0.60	0.75
TNMG220416-NRP	4.00	6.00	8.00	0.40	0.55	0.70
TNMG220416-NUP	2.00	4.50	7.00	0.24	0.40	0.56
TNMX160408-NWU	0.50	1.50	2.50	0.20	0.40	0.60
TNMX160412-NWU	0.50	1.50	2.50	0.25	0.45	0.65
TPEH090202 <sup>1</sup> / <sub>4</sub> -PPF	0.10	0.30	0.50	0.03	0.06	0.09
TPEH090204 <sup>1</sup> / <sub>4</sub> -PPF	0.10	0.30	0.50	0.04	0.07	0.10
TPEH110302 <sup>1</sup> / <sub>4</sub> -PPF	0.10	0.40	0.70	0.04	0.07	0.10
TPEH110304 <sup>1</sup> / <sub>4</sub> -PPF	0.10	0.40	0.70	0.04	0.08	0.12
TPEH110304 <sup>1</sup> / <sub>4</sub> -PPM	0.40	1.00	1.60	0.03	0.06	0.09
VBET110302 <sup>1</sup> / <sub>4</sub> -PPF	0.10	0.40	0.70	0.04	0.07	0.10
VBET110302 <sup>1</sup> / <sub>4</sub> -PPM	0.40	1.00	1.60	0.03	0.05	0.07
VBET110304 <sup>1</sup> / <sub>4</sub> -PPF	0.10	0.40	0.70	0.04	0.08	0.12
VBET110304 <sup>1</sup> / <sub>4</sub> -PPM	0.40	1.00	1.60	0.03	0.06	0.09
VBMT110304-PFU	0.20	0.80	1.40	0.05	0.11	0.17
VBMT160402-PFU	0.30	1.00	1.70	0.05	0.10	0.15
VBMT160404-PFU	0.30	1.00	1.70	0.06	0.14	0.22
VBMT160404-PMU	0.60	1.80	3.00	0.07	0.16	0.25
VBMT160408-PFU	0.30	1.00	1.70	0.08	0.16	0.24
VBMT160408-PMU	0.60	1.80	3.00	0.08	0.19	0.30
VBMT160408-PRU	1.50	2.50	3.50	0.12	0.22	0.32
VCGX110302-PMN	0.30	1.50	2.70	0.05	0.10	0.15
VCGX110304-PMN	0.30	1.50	2.70	0.06	0.13	0.20
VCGX110308-PMN	0.30	1.50	2.70	0.08	0.16	0.24
VCGX160402-PMN	0.50	2.00	3.50	0.06	0.11	0.16
VCGX160404-PMN	0.50	2.00	3.50	0.08	0.16	0.24
VCGX160408-PMN	0.50	2.00	3.50	0.10	0.20	0.30
VCGX160412-PMN	0.50	2.00	3.50	0.12	0.24	0.36
VCGX220512-PMN	1.00	3.00	5.00	0.14	0.27	0.40
VCGX220516-PMN	1.00	3.00	5.00	0.14	0.30	0.46
VCGX220530-PMN	1.00	3.00	5.00	0.20	0.40	0.60
VCMT110304-PMU	0.50	1.50	2.50	0.06	0.13	0.20
VCMT110308-PMU	0.50	1.50	2.50	0.08	0.16	0.24
VCMT160404-PMU	0.60	1.80	3.00	0.07	0.16	0.25
VCMT160404-PRU	1.50	2.50	3.50	0.10	0.19	0.28
VCMT160408-PMU	0.60	1.80	3.00	0.08	0.19	0.30
VCMT160408-PRU	1.50	2.50	3.50	0.12	0.22	0.32
VNGG160404-NMN	0.50	2.00	3.50	0.10	0.20	0.30
VNMG160408-NMN	0.50	2.00	3.50	0.15	0.25	0.35
VNMG160404-NMK	0.50	2.00	3.50	0.10	0.20	0.30
VNMG160404-NMM	1.00	2.50	4.00	0.15	0.25	0.35

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
VNMG160404-NMP	1.50	2.50	3.50	0.12	0.20	0.28
VNMG160404-NSM	0.40	1.20	2.00	0.08	0.14	0.20
VNMG160404-NSP	0.40	1.20	2.00	0.08	0.15	0.22
VNMG160404-NUK	0.50	2.00	3.50	0.10	0.20	0.30
VNMG160404-NUP	1.00	2.50	4.00	0.10	0.20	0.30
VNMG160408-NMK	0.50	2.00	3.50	0.15	0.25	0.35
VNMG160408-NMM	1.00	2.50	4.00	0.20	0.30	0.40
VNMG160408-NMP	1.50	2.50	3.50	0.16	0.25	0.34
VNMG160408-NRK	1.50	4.00	6.50	0.20	0.30	0.40
VNMG160408-NSM	0.40	1.20	2.00	0.10	0.18	0.26
VNMG160408-NSP	0.40	1.20	2.00	0.10	0.22	0.34
VNMG160408-NUK	0.50	2.00	3.50	0.15	0.25	0.35
VNMG160408-NUP	1.00	2.50	4.00	0.15	0.25	0.35
VNMG160412-NMK	0.50	2.00	3.50	0.20	0.30	0.40
VNMG160412-NMP	1.50	2.50	3.50	0.20	0.30	0.40
VNMG160412-NRK	1.50	4.00	6.50	0.25	0.35	0.45
VNMG160412-NUK	0.50	2.00	3.50	0.20	0.30	0.40
VNMG160412-NUP	1.00	2.50	4.00	0.18	0.30	0.42
WBET060102 <sup>1</sup> / <sub>4</sub> -PPF	0.10	0.30	0.50	0.03	0.06	0.09
WBET060104 <sup>1</sup> / <sub>4</sub> -PPF	0.10	0.30	0.50	0.04	0.07	0.10
WCMT12T304-PMU	0.60	1.80	3.00	0.07	0.16	0.25
WCMT12T308-PMU	0.60	1.80	3.00	0.08	0.19	0.30
WNGG060404-NMN	0.30	1.00	1.70	0.08	0.15	0.22
WNGG060408-NMN	0.30	1.00	1.70	0.10	0.20	0.30
WNGG080404-NMN	0.50	2.00	3.50	0.10	0.20	0.30
WNGG080408-NMN	0.50	2.00	3.50	0.15	0.25	0.35
WNMA080408	2.00	4.00	6.00	0.25	0.35	0.45
WNMA080412	2.00	4.00	6.00	0.35	0.45	0.55
WNMA080416	2.00	4.00	6.00	0.45	0.55	0.65
WNMG060404-NMM	0.70	1.50	2.30	0.13	0.20	0.27
WNMG060404-NMP	1.00	1.50	2.00	0.10	0.15	0.20
WNMG060404-NSP	0.30	0.70	1.10	0.06	0.12	0.18
WNMG060404-NUP	0.70	1.50	2.30	0.08	0.15	0.22
WNMG060408-NMM	0.70	1.50	2.30	0.18	0.25	0.32
WNMG060408-NMP	1.00	1.50	2.00	0.15	0.20	0.25
WNMG060408-NRK	1.00	2.00	3.00	0.15	0.25	0.35
WNMG060408-NSP	0.30	0.70	1.10	0.08	0.16	0.24
WNMG060408-NUP	0.70	1.50	2.30	0.12	0.20	0.28
WNMG060412-NMM	0.70	1.50	2.30	0.20	0.28	0.36
WNMG080404-NMK	0.50	2.00	3.50	0.10	0.20	0.30
WNMG080404-NMM	1.00	2.50	4.00	0.15	0.25	0.35
WNMG080404-NMP	1.50	2.50	3.50	0.12	0.20	0.28
WNMG080404-NSM	0.40	1.20	2.00	0.08	0.14	0.20
WNMG080404-NSP	0.40	1.20	2.00	0.08	0.15	0.22
WNMG080404-NUK	0.50	2.00	3.50	0.10	0.20	0.30
WNMG080404-NUP	1.00	2.50	4.00	0.10	0.20	0.30
WNMG080404-NUX	1.00	2.50	4.00	0.10	0.20	0.30
WNMG080408-NMK	0.50	2.00	3.50	0.15	0.25	0.35
WNMG080408-NMM	1.00	2.50	4.00	0.20	0.30	0.40
WNMG080408-NMP	1.50	2.50	3.50	0.16	0.25	0.34
WNMG080408-NRK	1.50	4.00	6.50	0.20	0.30	0.40
WNMG080408-NRM	2.00	3.50	5.00	0.20	0.35	0.50
WNMG080408-NRP	2.00	4.00	6.00	0.25	0.35	0.45
WNMG080408-NSM	0.40	1.20	2.00	0.10	0.18	0.26
WNMG080408-NSP	0.40	1.20	2.00	0.10	0.22	0.34
WNMG080408-NUK	0.50	2.00	3.50	0.15	0.25	0.35

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



# TURNING Parameters - depth of cut and feed rate · CARBIDE

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
WNMG080408-NUP	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
WNMG080408-NUX	1.00	<b>2.50</b>	4.00	0.15	<b>0.25</b>	0.35
WNMG080408-NWU	0.50	<b>1.50</b>	2.50	0.20	<b>0.40</b>	0.60
WNMG080408-NWX	1.00	<b>2.50</b>	4.00	0.20	<b>0.40</b>	0.60
WNMG080412-NMK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40
WNMG080412-NMM	1.00	<b>2.50</b>	4.00	0.25	<b>0.35</b>	0.45
WNMG080412-NMP	1.50	<b>2.50</b>	3.50	0.20	<b>0.30</b>	0.40
WNMG080412-NRK	1.50	<b>4.00</b>	6.50	0.25	<b>0.35</b>	0.45
WNMG080412-NRM	2.00	<b>3.50</b>	5.00	0.25	<b>0.40</b>	0.55
WNMG080412-NRP	2.00	<b>4.00</b>	6.00	0.30	<b>0.40</b>	0.50
WNMG080412-NUK	0.50	<b>2.00</b>	3.50	0.20	<b>0.30</b>	0.40
WNMG080412-NUP	1.00	<b>2.50</b>	4.00	0.18	<b>0.30</b>	0.42
WNMG080412-NUX	1.00	<b>2.50</b>	4.00	0.18	<b>0.30</b>	0.42
WNMG080412-NWU	0.50	<b>1.50</b>	2.50	0.25	<b>0.45</b>	0.65
WNMG080416-NMP	1.50	<b>2.50</b>	3.50	0.25	<b>0.35</b>	0.45
WNMG080416-NRP	2.00	<b>4.00</b>	6.00	0.35	<b>0.45</b>	0.55
WNMG080416-NUP	1.00	<b>2.50</b>	4.00	0.20	<b>0.35</b>	0.50

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

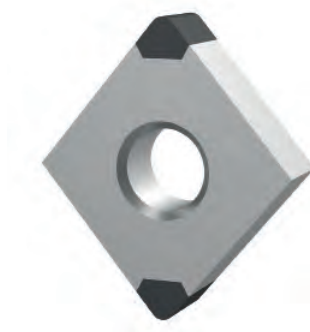
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



Catalogue Preview - AMB 2022



## TURNING PCBN

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	ISO 513	PCBN		
		PVD COATED	UNCOATED	
A - TURNING	K	K01	MBK450C	MBK450U
		K10	MBH500C	MBH500U
		K20		MBI600U
		K40		MBH900U MBH950U
B - THREADING	Cast iron			
C - GROOVING	S	S01	MBL450C	
		S10		
		S20		
		S30		
D - MILLING	H	H01	MBL050C	
		H10	MBL150C	
		H20	MBL200C	
		H30	MBL250C	
E - DRILLING	Hardened steel		MBL300C	
			MBL350C	
			MBH900U	
			MBH950U	
F - ACCESSORIES	HRSA			
G - SPARE PARTS				

HRSA: heat resistance super alloy

Catalogue PI - AMB 2022

GRADE	COMPOSITION	HARDNESS HV	COATING		APPLICATION	FEATURES
			TECHNOLOGY	COMPOSITION		
<b>NBL050C</b>	Low volume CBN 40%	2.700	PVD	AlTiN	H H01 H10	Great performance on high speed machining under continuous cutting conditions.
<b>NBL150C</b>	Low volume CBN 50%	2.900	PVD	AlTiN	H H05 H15	First choice for continuous cut machining. High reliability under various cutting conditions, from low to high cutting speed.
<b>NBL200C</b>	Low volume CBN 55%	3.000	PVD	AlTiN <sub>3</sub> N <sub>4</sub>	H H10 H20	New universal grade mainly combined with full solid style and solid brazing. Coating layer with extreme hardness allows great wear resistance.
<b>NBL250C</b>	Low volume CBN 60%	3.200	PVD	AlTiN	H H10 H25	First choice for general purpose machining even with light to medium interruptions.
<b>NBL300C</b>	Low volume CBN 70%	3.300	PVD	AlTiN	H H10 H30	All-around grade with a perfect balance between toughness and wear resistance. Can be applied both on interrupted and continuous cut.
<b>NBL350C</b>	Low volume CBN 75%	3.400	PVD	AlTiN	H H20 H35	Extreme toughness for heavy interruption workpieces.
<b>NBH450C</b>	High volume CBN 95%	4.400	PVD	TiCN+TiN	K K01 K20	First choice for gray cast iron finishing at very high cutting condition and with great wear resistance.
<b>NBH450U</b>	High volume CBN 95%	4.400	-	-	K K01 K20	Same as NBH450C but uncoated. Generally suggested under interrupted conditions.
<b>NBH500C</b>	High volume CBN 90%	4.200	PVD	AlTiN	K K10 K25	Main choice for gray cast iron machining with negative inserts, both for finishing and roughing. Mostly available for full solid geometries.
<b>NBH500U</b>	High volume CBN 90%	4.200	-	-	K K10 K25	Same as NBH500C but uncoated. Generally suggested under most severe cutting conditions.
<b>NBH600U</b>	High volume CBN 90%	3.800	-	-	K K20 K30	Tough grade for severe application on cast iron. Coarse CBN powder combined with a metallic binder for maximum reliability even on interrupted cut.
<b>NBH900U</b>	High volume CBN 80%	3.500	-	-	H H25 H35	Universal grade for severe applications both on ISO K and ISO H materials. High reliability on roughing operations.
					K K25 K35	
<b>NBH950U</b>	High volume CBN 90%	4.000	-	-	H H30 H35	Extreme toughness mainly for cast iron machining but applicable, as alternative grade, even on hardened steel.
					K K30 K35	

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A - TURNING

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C - GROOVING

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E - DRILLING

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G - SPARE PARTS

ISO 513	nixkoTOOLS	ISCAR	KENAMETAL	KYOCERA	MITSUBISHI	SANDVIK	SECO	SUMITOMO	TAEGUTEC	TUNGALOY	WALTER
<b>K</b>	<b>K01 - K10</b>	<u>NBH450C</u>	IB05S IB10K IB10S	KB1345 KB5630	KBN475	BC5110 MB710	CB7525	CBN200 CK2065	BNC500	TB7015	BX930
	<b>K10 - K20</b>	<u>NBH500C</u> <u>NBH600U</u>	IB90 IB90A	KB1340 KB1345 KBK45	<u>KBN60M</u>	MB4120 MB730	CB7525	CBN200 CBN300 CBN300P CBN400C	BN500 BN7000 BNC8115	TB7015 TB7020	BX480 WBK20
	<b>K20 - K30</b>	<u>NBH600U</u> <u>NBH900U</u> <u>NBH950U</u>	IB20KD IB90A	KB1340 KBK45	<u>KBN900</u>	MBS140	CB7925	CBN500	BNS800 BNS8125	TB7020	BXC90 WBK30
<b>H</b>	<b>H01 - H10</b>	<u>NBL050C</u> <u>NBL150C</u>	IB05H IB10H IB10HC IB50	<u>KBH10B</u>	<u>KBN05M</u> <u>KBN10M</u> KBN510	BC8105 BC8110 MB8110	CB7015 CB7105 CB7115	CBN010 CBN150 CBN060K CH0550	BN1000 BNC100 BNC2010 BNC2115 BNX10	TB610	BX310 BXM10 WBH10 WBH10C
	<b>H10 - H20</b>	<u>NBL200C</u> <u>NBL250C</u> <u>NBL300C</u>	IB20H IB20HC IB25HA IB55	<u>KBH20B</u>	<u>KBN25M</u> KBN525	BC8120 BC8220 MB8120	CB7025 CB7125	CBN060K CH2540	BN2000 BNC160 BNC200 BNC2020 BNC2125 BNC8115 BNX20	TB650	BX330 BX360 BXA20 BXM20 BXC50 WBH20
	<b>H20 - H30</b>	<u>NBL300C</u> <u>NBL350C</u> <u>NBH900U</u> <u>NBH950U</u>	IB25HC IB90	<u>KB5630</u>	<u>KBN35M</u>	BC8130 MB8130	CB7135 CB7925	CH3515	BNC300 BNC8115 BNX25	TB670	BX380

BLACK: CVD, UNDERLINED: PVD, RED: uncoated

This table is our own estimation based on information available to the public and is not authorized by the company mentioned on it.

Catalogue Preview - A92 2022

NEGATIVE type with hole			C	D	S	T	V	W	
			80°	55°	90°	60°	35°	80°	
<b>K</b>	UNIVERSAL	<b>UE</b>  S01520 carbide backed	 A105 SIZE 12	 A111 SIZE 15		 A122 SIZE 16	 A127 SIZE 16		
		<b>UE</b>  S02020 full solid	 A107 SIZE 09 12	 A113 SIZE 15	 A120 SIZE 12	 A124 SIZE 16		 A131 SIZE 08	
	SHARP	<b>SE</b>  T01020 carbide backed	 A107 SIZE 12						
<b>H</b>	UNIVERSAL	<b>UE</b>  S01225 vertical brazing	 A107 SIZE MCC 12	 A113 SIZE MDN 15	 A120 SIZE 12	 A124 SIZE 16	 A130 SIZE 16	 A131 SIZE 08	
		<b>UE</b>  S01225 solid brazing		 A113 SIZE 15					
		<b>UE</b>  S02020 full solid	 A107 SIZE 09 12						
	SHARP	<b>SE</b>  S01015 vertical brazing	 A107 SIZE MCC 12	 A113 SIZE MDN 15		 A124 SIZE 16	 A130 SIZE 16	 A131 SIZE 08	
		<b>SE</b>  S01015 solid brazing		 A114 SIZE 15					

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**full solid:** Full PCBN structure, maximizes performances and reduces the cost per edge. Higher cutting speed and depth of cut can be applied.

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING





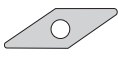

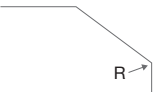
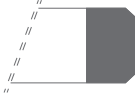



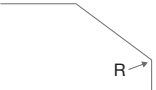
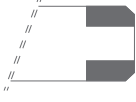

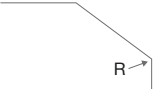



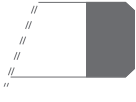

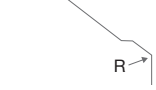


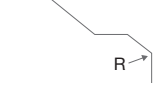


C - GROOVING

D - MILLING


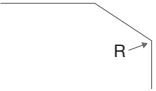




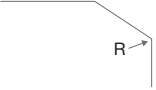









E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

NEGATIVE type with hole			C	D	S	T	V	W	
									
			80°	55°	90°	60°	35°	80°	
H	REINFORCED	<b>RE</b>  S01535	 vertical brazing	<input type="checkbox"/> A108  SIZE 12		<input type="checkbox"/> A124  SIZE 16		<input type="checkbox"/> A131  SIZE 08	
		<b>RE</b>  S01535	 solid brazing		<input type="checkbox"/> A114  SIZE 15				
		<b>RE</b>  S01535	 full solid	<input type="checkbox"/> A108  SIZE 09					
	CHIPBREAKER	WIPER	<b>WE</b>  S01015	 vertical brazing	<input type="checkbox"/> A108  SIZE 12				
			<b>CF</b>  S01035	 vertical brazing	<input type="checkbox"/> A109  SIZE 12				
			<b>CM</b>  S01235	 vertical brazing	<input type="checkbox"/> A109  SIZE 12				

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**vertical brazing:** the PCBN layer is as thick as the carbide body for the best heat dissipation and brazing strength. Vacuum brazing is necessary.  
**full solid:** Full PCBN structure, maximizes performances and reduces the cost per edge. Higher cutting speed and depth of cut can be applied.

NEGATIVE type without hole		C	R	S	T			
								
		80°	-	90°	60°			
K	UNIVERSAL	<b>UE</b>  S02020 full solid	<input type="checkbox"/> A110  SIZE 09 12	<input type="checkbox"/> A119  SIZE 06 09 12	<input type="checkbox"/> A121  SIZE 09 12	<input type="checkbox"/> A125  SIZE 11 16		
		<b>UE</b>  S02020 full solid with dimple	<input type="checkbox"/> A110  SIZE 12		<input type="checkbox"/> A121  SIZE 12			
	SHARP	<b>SE</b>  T01020 full solid		<input type="checkbox"/> A119  SIZE 09				
		REINFORCED	<b>RE</b>  S02525 (size 09) - S10020 (size 12) full solid		<input type="checkbox"/> A119  SIZE 09 12			
	<b>RH</b>  S04025 full solid			<input type="checkbox"/> A119  SIZE 09				
	H	UNIVERSAL	<b>UE</b>  S02020 full solid	<input type="checkbox"/> A110  SIZE 09 12	<input type="checkbox"/> A119  SIZE 09 12	<input type="checkbox"/> A121  SIZE 09 12	<input type="checkbox"/> A125  SIZE 11 16	
<b>SE</b>  T01020 full solid				<input type="checkbox"/> A119  SIZE 09				
REINFORCED		<b>RE</b>  S02525 (size 09) - S10020 (size 12) full solid		<input type="checkbox"/> A119  SIZE 09 12				

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A - TURNING
B - THREADING
C - GROOVING
D - MILLING
E - DRILLING
F - ACCESSORIES
G - SPARE PARTS

A - TURNING

B - THREADING




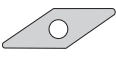







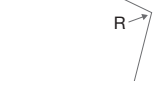








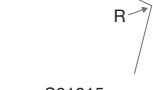

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

POSITIVE type with hole			C	D	R	T	V	
								
			80°	55°	-	60°	35°	
K	UNIVERSAL	<b>UE</b>  S01520 carbide backed	<input type="checkbox"/> A105  SIZE 06 09	<input type="checkbox"/> A111  SIZE 11		<input type="checkbox"/> A122  SIZE 09 11 16	<input type="checkbox"/> A127  SIZE 16	
		<b>UE</b>  S02020 full solid			<input type="checkbox"/> A118  SIZE 09 12			
	SHARP	<b>SE</b>  T01020 carbide backed				<input type="checkbox"/> A122  SIZE 11		
		<b>RE</b>  S01530 carbide backed				<input type="checkbox"/> A123  SIZE 11 16	<input type="checkbox"/> A128  SIZE 16	
	H	UNIVERSAL	<b>UE</b>  S01225 solid brazing	<input type="checkbox"/> A105  SIZE 06 09 11	<input type="checkbox"/> A111  SIZE 07 11		<input type="checkbox"/> A122  SIZE 09 11 16	<input type="checkbox"/> A127  SIZE 11 16
			<b>SE</b>  S01015 solid brazing	<input type="checkbox"/> A105  SIZE 06 09	<input type="checkbox"/> A111  SIZE 07 11		<input type="checkbox"/> A122  SIZE 11 16	<input type="checkbox"/> A127  SIZE 11 16
		SHARP	<b>SF</b>  T01015 solid brazing	<input type="checkbox"/> A105  SIZE 06 09	<input type="checkbox"/> A111  SIZE 07 11			<input type="checkbox"/> A127  SIZE 11 16
			<b>RE</b>  S01535 solid brazing	<input type="checkbox"/> A106  SIZE 06 09	<input type="checkbox"/> A112  SIZE 07 11		<input type="checkbox"/> A122  SIZE 11 16	<input type="checkbox"/> A128  SIZE 16
		WIPER	<b>WE</b>  S01015 solid brazing	<input type="checkbox"/> A106  SIZE 06 09				

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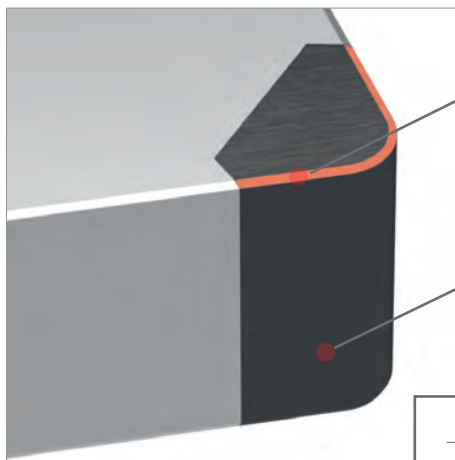


# UE

## Edge preparation

- First choice for general machining application under variable cutting conditions from continuous to interrupted cut
- Available in a broad range of grades both for cast iron and hardened steel machining
- UE universal edge can be supplied in different PCBN formats, carbide backed, solid brazing, vertical brazing and full solid
- Best compromise between sharpness and robustness of cutting edge

### • Features of UE edge preparation

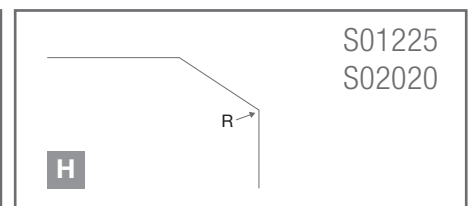
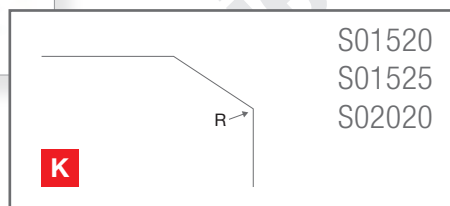


#### UNIVERSAL EDGE

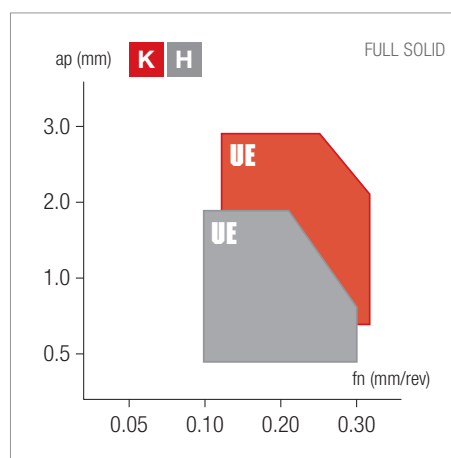
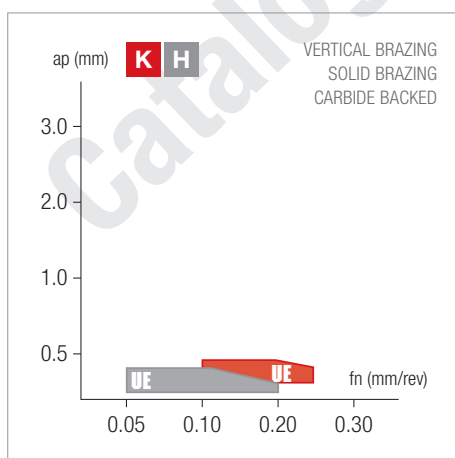
- The edge preparation has been optimized according to insert style and workpiece material
- The chamfer width vary from 0.12 mm to 0.20 mm with an angle of 20°- 25°

#### MULTIPLE SOLUTIONS

- All NIKKO PCBN format available: full solid, vertical brazing, solid brazing and carbide backed



### • Application range



DIMPLED INSERTS AVAILABLE

**!**  
High performance alternative to conventional Si<sub>3</sub>N<sub>4</sub> ceramic for cast iron roughing.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

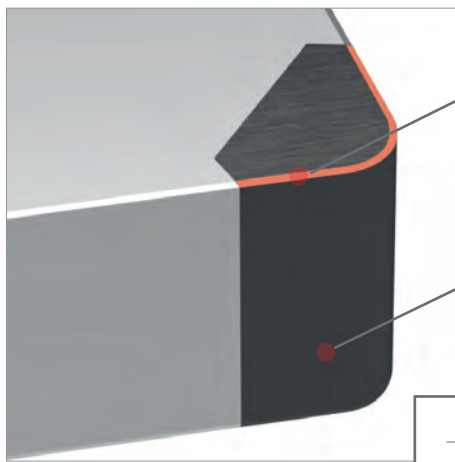
G - SPARE PARTS

# SE

Edge preparation

- Recommended for continuous cut application with stable conditions
- Cutting forces reduced by 10% in comparison with most common general purpose design
- SE sharp edge is generally combined with high wear resistance grades for high cutting speed machining
- Thanks to his “sharp action” drastically reduces the burrs formation

## • Features of SE edge preparation

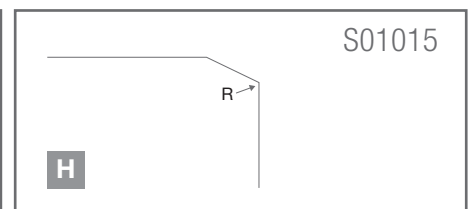
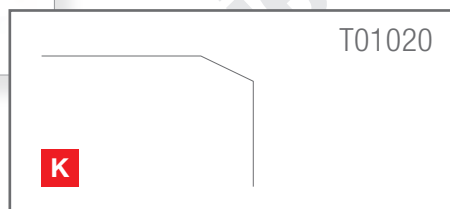


### SHARP EDGE

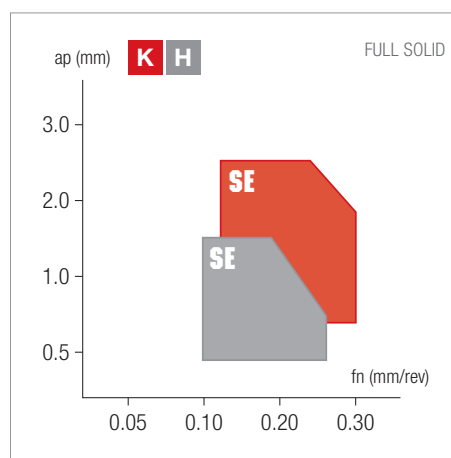
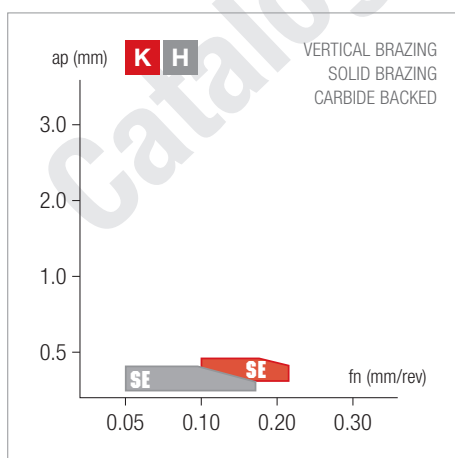
- The edge preparation has been optimized according to insert style and workpiece material
- The chamfer width is 0.10 mm with angle from 15° to 20°

### MULTIPLE SOLUTIONS

- All NIKKO PCBN format available: full solid, vertical brazing, solid brazing and carbide backed



## • Application range



T TYPE AVAILABLE FOR ISO K

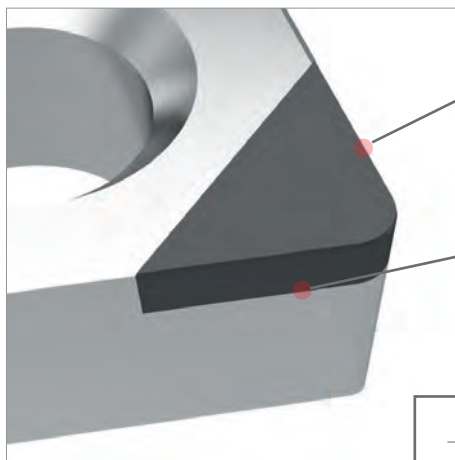
T land without honing prevent burrs formation on cast iron machining.

## SF

## Edge preparation

- Recommended for high precision machining of very small parts under continuous cutting conditions
- Low cutting forces allows machining of thin workpieces avoiding vibrations, obtaining strict dimensional tolerances
- SF for super fine finishing is combined with a special version of NBL050C named NBL050CX with a coating specifically studied to enhance the sharp action of this geometry.

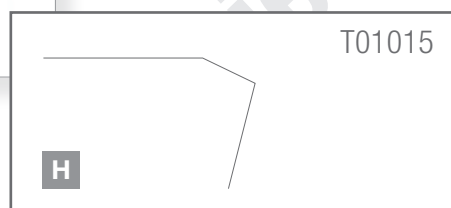
- Features of SF edge preparation

**SUPER FINE**

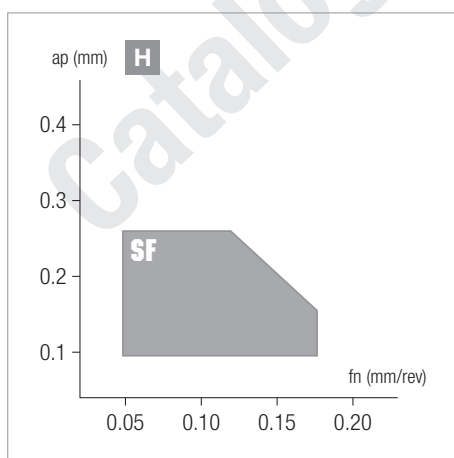
- The edge preparation has been optimized for small part machining and best dimensional tolerances
- The chamfer width is 0.10 mm with an angle of 15°, without honing

**SOLID BRAZING**

- Direct brazing between PCBN and carbide, with special vacuum technology, produce a pure and reliable cutting material



- Application range



## SHARP AND PRECISE



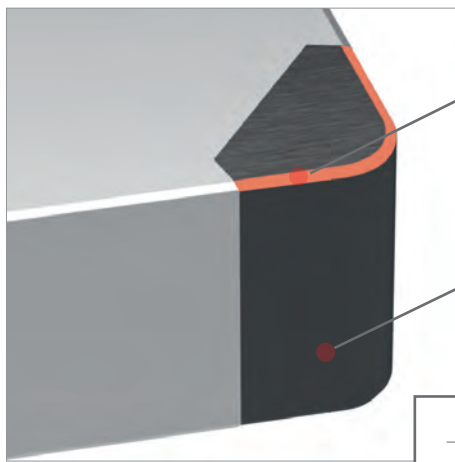
Combined only with positive inserts.  
Perfect solution for very small radii.  
0.1 radius can be produced as semi-standard product.

# RE

Edge preparation

- Specifically designed to support heavy interruptions, keeping reliable machining
- In case of hardened steel machining a larger chamfer angle improves the cutting edge resistance
- RE reinforced edge is always combined with high toughness grades
- In combination with solid round inserts is a great solution for roll machining in steel industry

## • Features of RE edge preparation

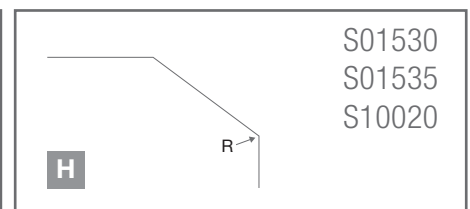
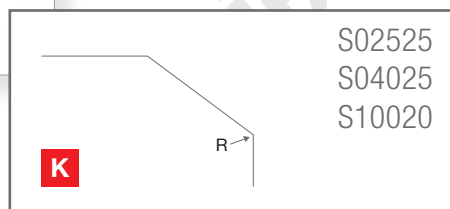


### REINFORCED EDGE

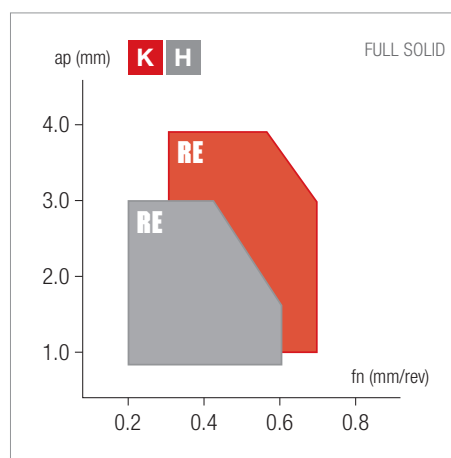
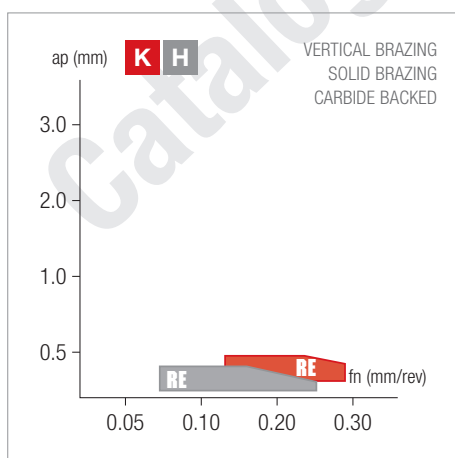
- Big chamfer and angle to keep strong the cutting edge
- The chamfer width starts from 0.15 mm for brazed type and reached 1 mm for solid


### MULTIPLE SOLUTIONS

- All NIKKO PCBN format available: full solid, vertical brazing, solid brazing and carbide backed



## • Application range



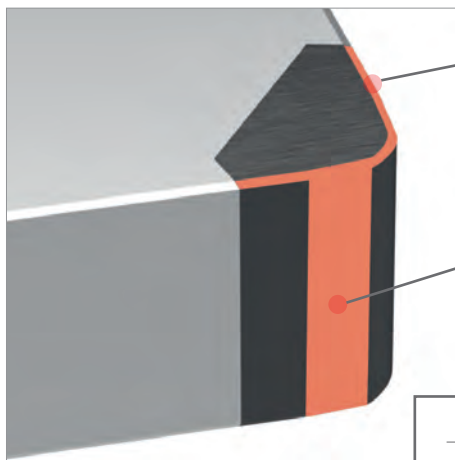
 Cutting forces could be slightly higher compared to general purpose type, stable damping and equipment are strongly recommended.

# WE

## Edge preparation

- Wiper geometry with special arc design for maximum performance and low cutting forces
- Improves productivity thanks to high feed machining or reaches surface roughness comparable to grinding if used under standard cutting conditions
- WE wiper edge is available with a broad range of grade for hardened steel

### • Features of WE edge preparation

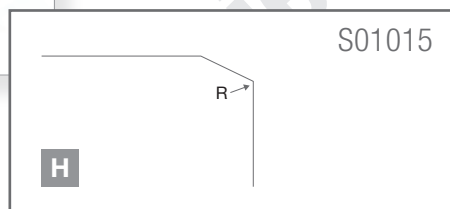


#### WIPER EDGE

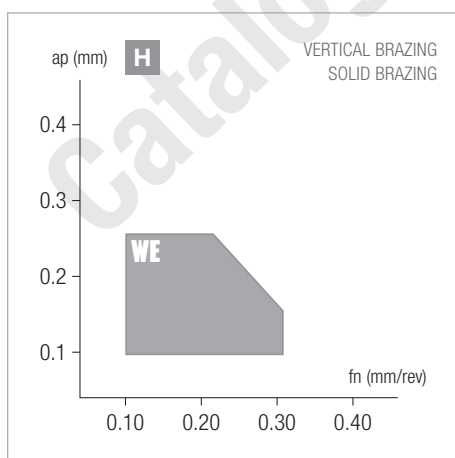
- Small chamfer and reduced angle for a very smooth cutting action
- The chamfer width is 0.1 mm with an inclination of 15°

#### ARC GEOMETRY

- Wiper advantages are granted by a special design of the cutting edge. A big arc has been added in place of conventional shape



### • Application range



#### SPECIAL DESIGN UPON REQUEST



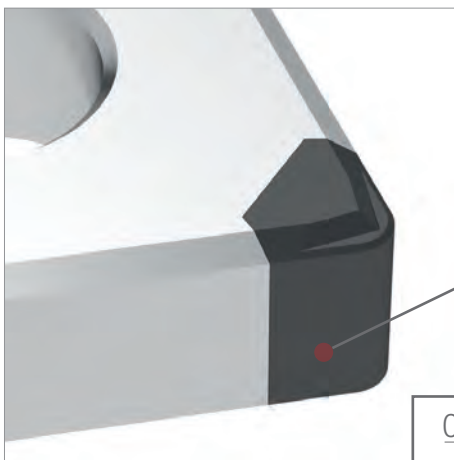
Wiper "concept" can be applied to any shape even if the most common are the one with 80° angle can be provided even in combination of full solid grades.

# CF/CM

Edge preparation

- 3D chipbreaker geometries for perfect chip control in most demanding applications
- CM is focused on carburized layer removal while CF is mainly for hardened steel where long chips compromise the processing (internal turning is a typical application)
- Tailor-made solutions can be realized both for negative and positive inserts

## • Features of CF/CM edge preparation

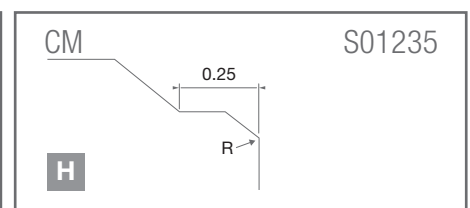
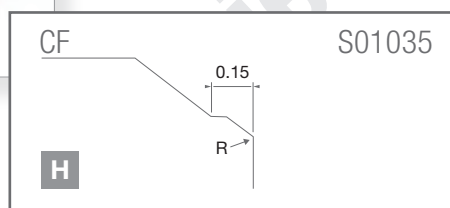


### INGENIOUS DESIGN

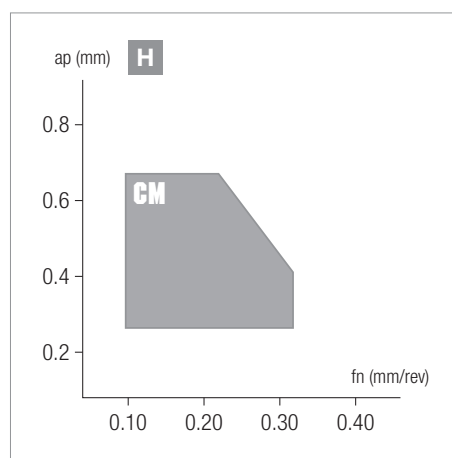
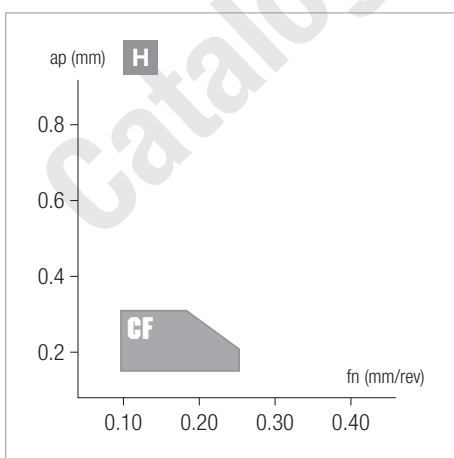
- Excellent performance thanks to the separation of chipbreaker and cutting edge
- Small chamfer to reduce cutting forces and 35° angle for a better robustness

### GREAT RELIABILITY

- Available with stable and reliable vertical brazing technology



## • Application range



CHIPBREAKER+WIPER AVAILABLE

**!**  
The combined types CFW and CMW are also available. Perfect chip control and great surface finishing in one step.

K		BRAZED TIP		SOLID			
		NEGATIVE	POSITIVE	NEGATIVE	POSITIVE		
●	tool life	-	-	-	-		
	1 <sup>st</sup> CHOICE	<b>NBH450C / UE</b>	<b>NBH450C / UE</b>	<b>NBH500C / UE</b>	-		
	toughness	NBH500C / UE	-	NBH900U / UE	-		
●	tool life	NBH450C / UE	-		-		
	1 <sup>st</sup> CHOICE	<b>NBH500C / UE</b>	<b>NBH450C / UE</b>	<b>NBH500C / UE</b>	-		
	toughness	NBH900U / UE	NBH450U / RE	NBH600U / UE	-		
⊕	tool life	NBH500C / UE	-	NBH500C / UE	-		
	1 <sup>st</sup> CHOICE	<b>NBH900U / RE</b>	-	<b>NBH600U / UE</b>	-		
	toughness	-	-	NBH900U / UE	-		

H		BRAZED TIP		BRAZED TIP (WIPER)		SOLID	
		NEGATIVE	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE	POSITIVE
●	tool life	NBL050C / UE	NBL050C / SE	-	-	-	-
	1 <sup>st</sup> CHOICE	<b>NBL150C / UE</b>	<b>NBL150C / SE</b>	<b>NBL050C / WE</b>	<b>NBL050C / WE</b>	<b>NBL200C / UE</b>	-
	toughness	NBL250C / UE	NBL250C / UE	NBL150C / WE	NBL150C / WE	NBL250C / UE	-
●	tool life	NBL150C / UE	NBL150C / UE	NBL050C / WE	NBL050C / WE	NBL200C / UE	-
	1 <sup>st</sup> CHOICE	<b>NBL250C / UE</b>	<b>NBL250C / UE</b>	<b>NCL150C / WE</b>	<b>NCL150C / WE</b>	<b>NBL250C / UE</b>	-
	toughness	NBL300C / UE	NBL300C / UE	NBL250C / WE	-	NBH900U / UE	-
⊕	tool life	NBL300C / UE	NBL300C / UE	-	-	-	-
	1 <sup>st</sup> CHOICE	<b>NBL350C / RE</b>	<b>NBL350C / RE</b>	-	-	<b>NBH900U / RE</b>	-
	toughness	NBH900U / RE	-	-	-	NBH950U / RE	-

Catalog

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<b>C</b>	<b>N</b>	<b>M</b>	<b>G</b>	<b>12</b>	<b>04</b>	<b>08</b>	<b>S</b>	-	<b>4</b>	<b>V</b>	-	<b>UE</b>	<b>NBL</b>	<b>250</b>
1	2	3	4	5	6	7	8		9	10		11	12	13

1	SHAPE
C	80° rhombic
D	55° rhombic
K	55° parallelogram
S	90° square
T	60° triangular
V	35° rhombic
W	80° trigon

2	RELIEF ANGLE
B	5°
C	7°
D	15°
E	20°
N	0°
P	11°

3 TOLERANCES			
Symbol	I.C.	Thickness	Corner height
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
M	±0.05 ~ ±0.15	±0.13	±0.08 ~ ±0.18
U	±0.08 ~ ±0.25	±0.13	±0.13 ~ ±0.38

4 HOLE/CHIPBREAKER			
Symbol	Hole	Hole countersink	Chipbreaker
A		✓	✗
G		✓	✗
M		✓	✗
N		✗	✗
T		✓	40°÷60°
W		✓	40°÷60°
X	NIKKO norm		

5 EDGE LENGHT							
I.C. (mm)	C shape	D shape	R shape	S shape	T shape	V shape	W shape
3.97	03	04		03	06		
4.76	04	05		04	08	08	
5.00			05				
5.56	05	06		05	09		03
6.00			06				
6.35	06	07		06	11	11	04
7.94	08	09		07	13		05
8.00			08				
9.53	09	11	09	09	16	16	06
10.00		12	10				
12.00							
12.70	12	15	12	12	22	22	08
15.88	16	19	15	15	27	24	10
16.00			16				
19.05	19	23	19	19	33	33	13
20.00			20				
22.23	22	27		22	38		
25.00			25				
25.40	25	31	25	25	44	44	17
31.75	32	38	31	31	54	54	21
32.00			32				

6 THICKNESS	
Symbol	(mm)
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.53

7 RADIUS	
Symbol	(mm)
005	0.05
01	0.10
02	0.20
04	0.40
08	0.80
12	1.20
16	1.60
20	2.00
24	2.40

8 EDGE PREPARATION		
Symbol	Shape	
E	honing	
F	sharp edge	
S	honing + chamfering	
T	chamfering	

9	NUMBER OF EDGES
...	number of brazed tip

10	BRAZING TYPE
C	carbide backed
S	solid brazing
V	vertical brazing

11	EDGE PREPARATION
SE	sharp edge
UE	universal edge
RE	reinforced edge
WE	wiper edge
CBx	chipbreaker (CBF finishing, CBM medium)

12	GRADE - features
NBL	low content CBN
NBH	high content CBN

13	GRADE - material
000÷390	ISO H
400÷690	ISO K
700÷790	ISO S
800÷890	sintered materials
900÷990	universal

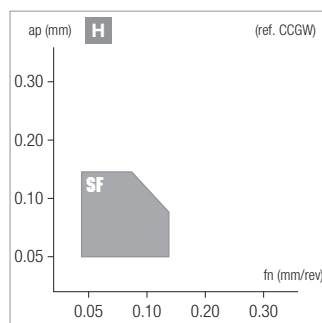
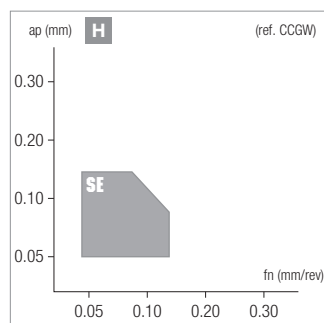
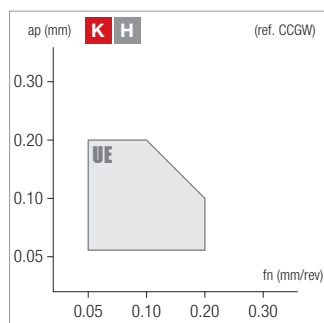
14	GRADE - coating
C	coated
U	uncoated
X	special



<h1>CC</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition						
	BH PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD
ISO - with hole	<b>NB</b> H450C	<b>NB</b> L050C	<b>NB</b> L050CX	<b>NB</b> L150C	<b>NB</b> L250C	<b>NB</b> L300C	<b>NB</b> L350C
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>Clearance angle 7°, effectively reduces the risk of chip jamming when boring</li> <li>80° corner can be used for both turning and facing operations</li> <li>Solid brazing type provides better stability and reliability than conventional carbide backed brazing type</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	○
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice	○ suitable	▲	○	▲	○
Dimensions	ISO						Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)
	<b>P</b>						
	<b>M</b>						
	<b>K</b>	400					
		1200					
	<b>N</b>						
	<b>S</b>						
<b>H</b>	120	120	100	80	60	60	
	240	240	220	200	180	160	

	Designation	RE	IC	S	D1	LE	Stock							
							●	○	●	○	●	○	●	○
UNIVERSAL  solid brazing	CCGW060202S-UE-2S	0.2	6.35	2.38	2.8	2.8	○		○					
	CCGW060204S-UE-2S	0.4	6.35	2.38	2.8	2.8	●		●	●	●	○		
	CCGW060208S-UE-2S	0.8	6.35	2.38	2.8	2.7			○	○	○			
	CCGW09T302S-UE-2S	0.2	9.525	3.97	4.4	2.8			○					
	CCGW09T304S-UE-2S	0.4	9.525	3.97	4.4	2.8	●		●	●	●	○		
	CCGW09T308S-UE-2S	0.8	9.525	3.97	4.4	2.7			●	●	●	○		
	CCGW120404S-UE-2S	0.4	12.7	4.76	5.5	2.8				○				
	CCGW120408S-UE-2S	0.8	12.7	4.76	5.5	2.7				○				
UNIVERSAL  carbide backed	CCGW060204S-UE-2C	0.4	6.35	2.38	2.8	2.8	●							
	CCGW060208S-UE-2C	0.8	6.35	2.38	2.8	2.7	○							
	CCGW09T304S-UE-2C	0.4	9.525	3.97	4.4	2.8	●							
	CCGW09T308S-UE-2C	0.8	9.525	3.97	4.4	2.7	●							
	CCGW120408S-UE-2C	0.8	12.7	4.76	5.5	2.7	○							
SHARP  solid brazing	CCGW060202S-SE-2S	0.2	6.35	2.38	2.8	2.8	○		●					
	CCGW060204S-SE-2S	0.4	6.35	2.38	2.8	2.8	●		●					
	CCGW060208S-SE-2S	0.8	6.35	2.38	2.8	2.7			○					
	CCGW09T302S-SE-2S	0.2	9.525	3.97	4.4	2.8	○		●					
	CCGW09T304S-SE-2S	0.4	9.525	3.97	4.4	2.8	●		●					
	CCGW09T308S-SE-2S	0.8	9.525	3.97	4.4	2.7			●					
SHARP  solid brazing without honing	CCGW060202T-SF-2S	0.2	6.35	2.38	2.8	2.8			●					
	CCGW060204T-SF-2S	0.4	6.35	2.38	2.8	2.8			●					
	CCGW09T304T-SF-2S	0.4	9.525	3.97	4.4	2.8			●					
	CCGW09T308T-SF-2S	0.8	9.525	3.97	4.4	2.7			○					

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



A - TURNING

B - THREADING

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D - MILLING

E - DRILLING

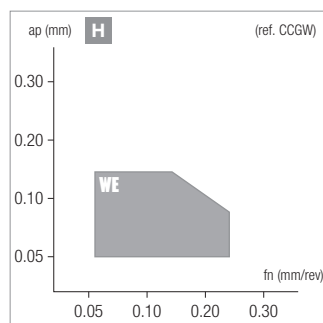
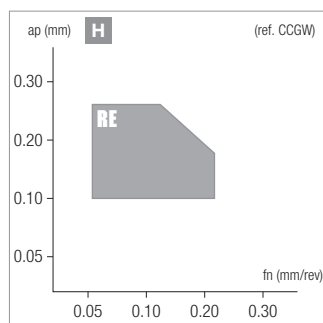
F - ACCESSORIES

G - SPARE PARTS

<h1>CC</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition							BH	BL	BL	BL	BL	BL	BL				
	PVD PVD PVD PVD PVD PVD PVD							PVD	PVD	PVD	PVD	PVD	PVD	PVD				
ISO - with hole								<b>NB</b> H450C	<b>NB</b> L050C	<b>NB</b> L050CX	<b>NB</b> L150C	<b>NB</b> L250C	<b>NB</b> L300C	<b>NB</b> L350C				
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>Clearance angle 7°, effectively reduces the risk of chip jamming when boring</li> <li>80° corner can be used for both turning and facing operations</li> <li>Solid brazing type provides better stability and reliability than conventional carbide backed brazing type</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable		General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable		Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable													
Dimensions		ISO							Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)									
		<b>P</b>																
		<b>M</b>																
		<b>K</b>		400														
		<b>N</b>		1200														
		<b>S</b>																
		<b>H</b>		120	240	120	240	100	220	80	200	60	180	60	160			

Designation		RE	IC	S	D1	LE	Stock								
<b>RE H</b>  solid brazing interrupted cut	CCGW060204S-RE-2S	0.4	6.35	2.38	2.8	2.8									●
	CCGW060208S-RE-2S	0.8	6.35	2.38	2.8	2.7									○
	CCGW09T304S-RE-2S	0.4	9.525	3.97	4.4	2.8									●
	CCGW09T308S-RE-2S	0.8	9.525	3.97	4.4	2.7									○
<b>WE H</b>  solid brazing roughness oriented	CCGW060204S-WE-2S	0.4	6.35	2.38	2.8	2.8	●		●						
	CCGW09T304S-WE-2S	0.4	9.525	3.97	4.4	2.8	●		●						
	CCGW09T308S-WE-2S	0.8	9.525	3.97	4.4	2.7	○		●						

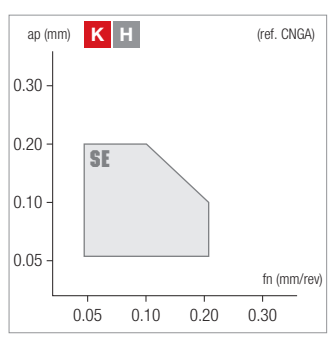
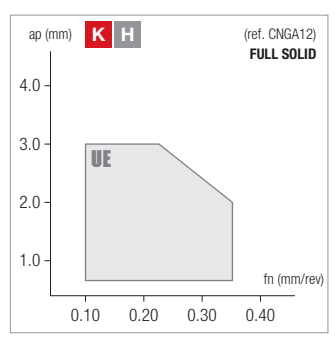
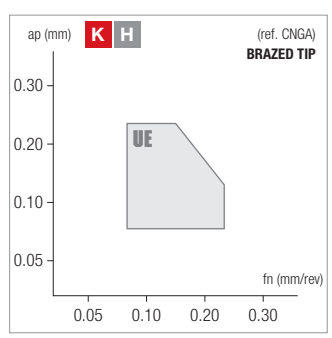
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▼ stock exhaustion



<h1>CN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition														
	BH PVD	BH	BH PVD	BH	BH	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD			
ISO - with hole	MBH450C	MBH450U	MBH500C	MBH600U	MBH900U	MBL050C	MBL150C	MBL200C	MBL250C	MBL300C	MBL350C				
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Strong cutting edge with secure seating in the insert pocket creates good surface finishing</li> <li>Vertical brazing type and solid type CBN show better performance in interrupted machining</li> <li>The use of chip breaker on CBN brazed tips effectively improves chip flow control</li> <li>Advanced wiper edge design improves surface quality in high efficiency machining</li> </ul>	Stable machining, light cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
	General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>			
	Unstable machining, heavy cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>			
	Dimensions					ISO									
						Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)									
						P									
						M									
						K									
						N									
						S									
						H									

Designation		RE	IC	S	D1	LE	Stock																
UNIVERSAL 	CNGA120404S-UE-4V	0.4	12.7	4.76	5.16	2.6																	
	CNGA120408S-UE-4V	0.8	12.7	4.76	5.16	2.5																	
	CNGA120412S-UE-4V	1.2	12.7	4.76	5.16	2.5																	
UNIVERSAL 	CNGA120408S-UE-4C	0.8	12.7	4.76	5.16	2.5																	
	CNGA120412S-UE-4C	1.2	12.7	4.76	5.16	2.5																	
UNIVERSAL 	CNGA090308S-UE	0.8	9.525	3.18	3.81	8.9																	
	CNGA120408S-UE	0.8	12.7	4.76	5.16	12.1																	
	CNGA120412S-UE	1.2	12.7	4.76	5.16	11.7																	
SHARP 	CNGA120404S-SE-4V	0.4	12.7	4.76	5.16	2.6																	
	CNGA120408S-SE-4V	0.8	12.7	4.76	5.16	2.5																	
	CNGA120412S-SE-4V	1.2	12.7	4.76	5.16	2.5																	
SHARP 	CNGA120408T-SE-4V	0.8	12.7	4.76	5.16	2.5																	

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



A - TURNING

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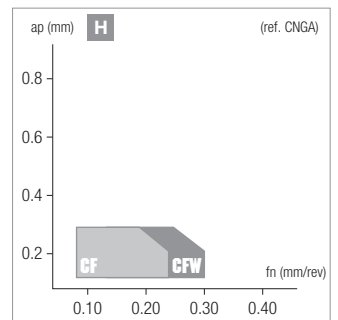
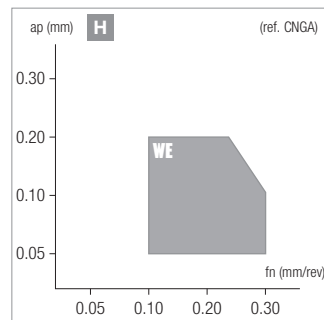
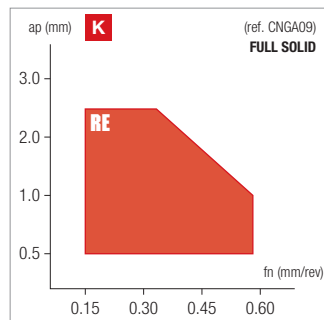
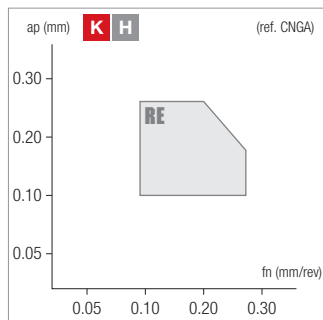
F - ACCESSORIES

G - SPARE PARTS

<h1>CN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition											
	BH PVD	BH	BH PVD	BH	BH	BL PVD	BL	BL PVD	BL	BL PVD	BL	BL PVD
ISO - with hole	<b>MBH450C</b>	<b>MBH450U</b>	<b>MBH500C</b>	<b>MBH600U</b>	<b>MBH900U</b>	<b>NBL050C</b>	<b>NBL150C</b>	<b>NBL200C</b>	<b>NBL250C</b>	<b>NBL300C</b>	<b>NBL350C</b>	
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Strong cutting edge with secure seating in the insert pocket creates good surface finishing</li> <li>Vertical brazing type and solid type CBN show better performance in interrupted machining</li> <li>The use of chip breaker on CBN brazed tips effectively improves chip flow control</li> <li>Advanced wiper edge design improves surface quality in high efficiency machining</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable		General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable		Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable							
	Dimensions		ISO									
			Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)									
			P									
			M									
			K									
		N										
		S										
		H										
		400	400	300	300	200						
		1200	1200	1400	1200	1200						
							40	120	100	80	80	60
							180	240	220	220	200	60
											180	160

Designation		RE	IC	S	D1	LE	Stock						
SHARP	<b>SE K</b>												
	CNGA120408T-SE-4C	0.8	12.7	4.76	5.16	2.5		○					
carbide backed without honing													
REINFORCED	<b>RE KH</b>												
		CNGA120404S-RE-4V	0.4	12.7	4.76	5.16	2.6						○
	CNGA120408S-RE-4V	0.8	12.7	4.76	5.16	2.5							●
vertical brazing interrupted cut													
	CNGA120412S-RE-4V	1.2	12.7	4.76	5.16	2.5							●
REINFORCED	<b>RE K</b>												
	CNGA090308S-RE	0.8	9.525	3.18	3.81	8.9							○
full solid interrupted cut													
WIPER	<b>WE H</b>												
		CNGA120404S-WE-4V	0.4	12.7	4.76	5.16	2.6				○		
	CNGA120408S-WE-4V	0.8	12.7	4.76	5.16	2.5					●	○	
vertical brazing roughness oriented													
	CNGA120412S-WE-4V	1.2	12.7	4.76	5.16	2.5					●	○	
CHIPBREAKER	<b>CF H</b>												
		CNGA120404S-CF-4V	0.4	12.7	4.76	5.16	2.6						●
	CNGA120408S-CF-4V	0.8	12.7	4.76	5.16	2.5							●
vertical brazing finishing													
	CNGA120412S-CF-4V	1.2	12.7	4.76	5.16	2.5							●

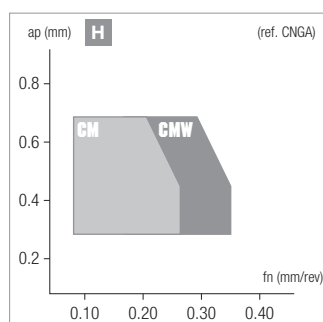
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▼ stock exhaustion



<h1>CN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition																				
	BH PVD	BH	BH PVD	BH	BH	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD									
ISO - with hole	<b>MBH450C</b>	<b>MBH450U</b>	<b>MBH500C</b>	<b>MBH600U</b>	<b>MBH900U</b>	<b>NBL050C</b>	<b>NBL150C</b>	<b>NBL200C</b>	<b>NBL250C</b>	<b>NBL300C</b>	<b>NBL350C</b>										
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Strong cutting edge with secure seating in the insert pocket creates good surface finishing</li> <li>Vertical brazing type and solid type CBN show better performance in interrupted machining</li> <li>The use of chip breaker on CBN brazed tips effectively improves chip flow control</li> <li>Advanced wiper edge design improves surface quality in high efficiency machining</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>										
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>										
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>									
	<b>Dimensions</b>	<b>ISO</b>																			
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																			
		<b>P</b>																			
		<b>M</b>																			
		<b>K</b>	400 1200	400 1200	300 1400	300 1200	200 1200														
		<b>N</b>																			
		<b>S</b>																			
		<b>H</b>					40 180	120 240	100 220	80 220	80 200	60 180	60 160								

Designation		RE	IC	S	D1	LE	Stock															
<b>CHIPBREAKER</b> <b>CFW H</b>	 vertical brazing finishing with WIPER	CNGA120408S-CFW-4V	0.8	12.7	4.76	5.16	2.5															
		CNGA120412S-CFW-4V	1.2	12.7	4.76	5.16	2.5															
<b>CHIPBREAKER</b> <b>CM H</b>	 vertical brazing medium	CNGA120408S-CM-4V	0.8	12.7	4.76	5.16	2.5															
		CNGA120412S-CM-4V	1.2	12.7	4.76	5.16	2.5															
<b>CHIPBREAKER</b> <b>CMW H</b>	 vertical brazing medium with WIPER	CNGA120408S-CMW-4V	0.8	12.7	4.76	5.16	2.5															
		CNGA120412S-CMW-4V	1.2	12.7	4.76	5.16	2.5															

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

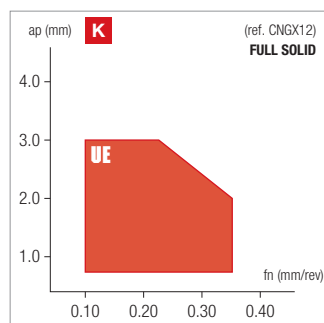
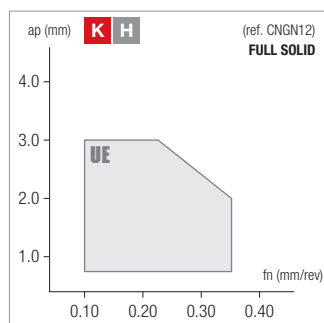


A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

<h1>CN</h1>	BH: High volume CBN PVD: Physical vapour deposition			BH	BH	BH
	ISO - without hole			<b>MBH500C</b>	<b>MBH900U</b>	<b>MBH950U</b>
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Strong cutting edge with secure seating in the insert pocket creates good surface finishing</li> <li>Solid style CBN has stronger performance in interrupted applications</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	○		
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	○	
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice ▲ suitable	▲	▲	▲	
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
	<b>P</b>					
	<b>M</b>					
	<b>K</b>	300 1400	200 1200	180 1000		
	<b>N</b>					
	<b>S</b>					
	<b>H</b>		40 180	40 160		

Designation		RE	IC	S	D1	LE	Stock	
<b>UNIVERSAL</b>  full solid high depth of cut	<b>UE K H</b>						○	
	CNGN090308S-UE	0.8	9.525	3.18	-	8.9		○
	CNGN090312S-UE	1.2	9.525	3.18	-	8.5		● ▽
	CNGN090316S-UE	1.6	9.525	3.18	-	8.1		○
	CNGN120408S-UE	0.8	12.7	4.76	-	12.1		●
	CNGN120412S-UE	1.2	12.7	4.76	-	11.7		● ▽
CNGN120416S-UE	1.6	12.7	4.76	-	11.3		○	
<b>UNIVERSAL</b>  full solid dimpled type	<b>UE K</b>							
	CNGX120712S-UE	1.2	12.7	4.76	-	11.7		●
CNGX120716S-UE	1.6	12.7	4.76	-	11.3		●	

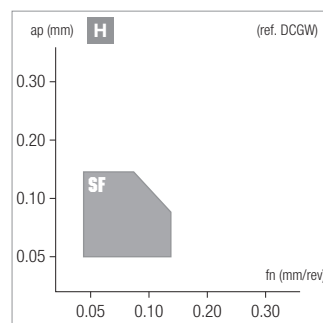
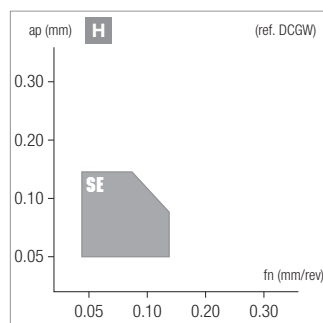
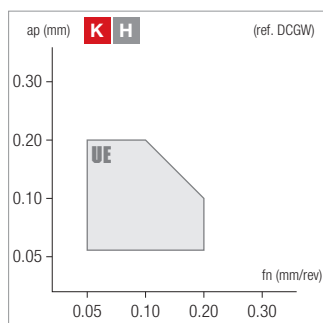
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>DC</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition							
	BH PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD
ISO - with hole	<b>NB</b> H450C	<b>NB</b> L050C	<b>NB</b> L050CX	<b>NB</b> L150C	<b>NB</b> L250C	<b>NB</b> L300C	<b>NB</b> L350C	
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>7° clearance angle, less risk of chip-jamming in boring</li> <li>Somewhat weaker edge strength than a triangle insert</li> <li>Solid brazing generally shows better stability and reliability comparing to conventional carbide backed brazing</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	●	●	●	○	○	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●			○	●	●	○
	Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚠ suitable	⚠					⚠	⚠
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
	<b>P</b>							
	<b>M</b>							
	<b>K</b>	400 1200						
	<b>N</b>							
	<b>S</b>							
	<b>H</b>	120 240	120 240	100 220	80 200	60 180	60 160	

Designation		RE	IC	S	D1	LE	Stock									
UNIVERSAL  solid brazing	<b>UE H</b>	DCGW070202S-UE-2S	0.2	6.35	2.38	2.8	2.5		○		●					
		DCGW070204S-UE-2S	0.4	6.35	2.38	2.8	2.4		●		●	●	○	○		
		DCGW070208S-UE-2S	0.8	6.35	2.38	2.8	2				○	○	○			
		DCGW11T302S-UE-2S	0.2	9.525	3.97	4.4	2.5		○		●		●			
		DCGW11T304S-UE-2S	0.4	9.525	3.97	4.4	2.4		●		●	●	●	○		
		DCGW11T308S-UE-2S	0.8	9.525	3.97	4.4	2				●	●	●	○		
UNIVERSAL  carbide backed	<b>UE K</b>	DCGW11T304S-UE-2C	0.4	9.525	3.97	4.4	2.4		●							
		DCGW11T308S-UE-2C	0.8	9.525	3.97	4.4	2		○							
SHARP  solid brazing	<b>SE H</b>	DCGW070202S-SE-2S	0.2	6.35	2.38	2.8	2.5		▲		●					
		DCGW070204S-SE-2S	0.4	6.35	2.38	2.8	2.4		▲		●					
		DCGW070208S-SE-2S	0.8	6.35	2.38	2.8	2				○					
		DCGW11T302S-SE-2S	0.2	9.525	3.97	4.4	2.5		▲		●					
		DCGW11T304S-SE-2S	0.4	9.525	3.97	4.4	2.4		▲		●					
		DCGW11T308S-SE-2S	0.8	9.525	3.97	4.4	2				●	●				
SHARP  solid brazing without honing	<b>SF H</b>	DCGW070202T-SF-2S	0.2	6.35	2.38	2.8	2.5			●						
		DCGW070204T-SF-2S	0.4	6.35	2.38	2.8	2.4			●						
		DCGW11T302T-SF-2S	0.2	9.525	3.97	4.4	2.5			●						
		DCGW11T304T-SF-2S	0.4	9.525	3.97	4.4	2.4			●						
		DCGW11T308T-SF-2S	0.8	9.525	3.97	4.4	2			●						

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

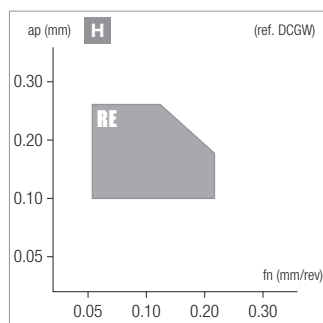
F - ACCESSORIES

G - SPARE PARTS

<h1>DC</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition							BH PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD
	ISO - with hole	MBH450C	NBL050C	NBL050CX	NBL150C	NBL250C	NBL300C	NBL350C						
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>7° clearance angle, less risk of chip-jamming in boring</li> <li>Somewhat weaker edge strength than a triangle insert</li> <li>Solid brazing generally shows better stability and reliability comparing to conventional carbide backed brazing</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	●	○	○						
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●			○	●	●	○					
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable	⊕						⊕	⊕				
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>											
	<b>P</b>													
	<b>M</b>													
	<b>K</b>	400 1200												
	<b>N</b>													
	<b>S</b>													
	<b>H</b>	120 240	120 240	100 220	80 200	60 180	60 160							

REINFORCED	Designation	RE	IC	S	D1	LE	Stock						
	DCGW070204S-RE-2S	0.4	6.35	2.38	2.8	2.4							○
	DCGW070208S-RE-2S	0.8	6.35	2.38	2.8	2							○
	DCGW11T304S-RE-2S	0.4	9.525	3.97	4.4	2.4							●
	DCGW11T308S-RE-2S	0.8	9.525	3.97	4.4	2							●

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

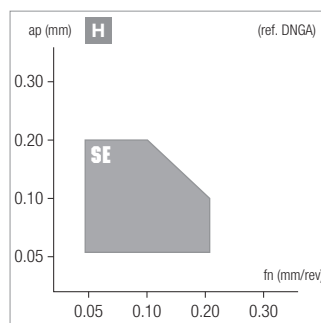
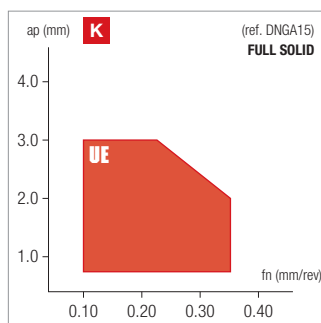
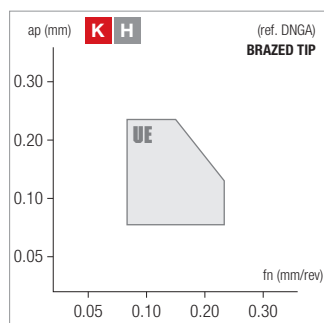




<h1>DN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition										
	BH PVD	BH PVD	BH	BH	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	
ISO - with hole	<b>MBH450C</b>	<b>MBH500C</b>	<b>MBH600U</b>	<b>MBH900U</b>	<b>MBL050C</b>	<b>MBL150C</b>	<b>MBL250C</b>	<b>MBL300C</b>	<b>MBL350C</b>		
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>Somewhat weaker edge strength than a triangle insert</li> <li>Vertical brazing and solid type has impressive performance on interrupted applications</li> <li>Solid brazing generally shows improved stability and reliability comparing to conventional carbide backed brazing</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable										
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable										
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable										
	Dimensions	ISO Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)									
		<b>P</b>									
<b>M</b>											
<b>K</b>		400 1200	300 1400	300 1200	200 1200						
<b>N</b>											
<b>S</b>											
<b>H</b>				40 180	120 240	100 220	80 200	60 180	60 160		

	Designation	RE	IC	S	D1	LE	Stock												
UNIVERSAL  vertical brazing	DNGA150404S-UE-4V	0.4	12.7	4.76	5.16	2.7													
	DNGA150408S-UE-4V	0.8	12.7	4.76	5.16	2.3													
	DNGA150604S-UE-4V	0.4	12.7	6.35	5.16	2.7													
	DNGA150608S-UE-4V	0.8	12.7	6.35	5.16	2.3													
	DNGA150612S-UE-4V	1.2	12.7	6.35	5.16	2													
UNIVERSAL  solid brazing	DNGA150604S-UE-4S	0.4	12.7	6.35	5.16	2.4													
	DNGA150608S-UE-4S	0.8	12.7	6.35	5.16	2													
	DNGA150612S-UE-4S	1.2	12.7	6.35	5.16	2.1													
UNIVERSAL  carbide backed	DNGA150608S-UE-4C	0.8	12.7	6.35	5.16	2													
UNIVERSAL  full solid high depth of cut	DNGA150608S-UE	0.8	12.7	6.35	5.16	14.7													
	DNGA150612S-UE	0.8	12.7	6.35	5.16	14.3													
SHARP  vertical brazing	DNGA150404S-SE-4V	0.4	12.7	4.76	5.16	2.7													
	DNGA150408S-SE-4V	0.8	12.7	4.76	5.16	2.3													

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

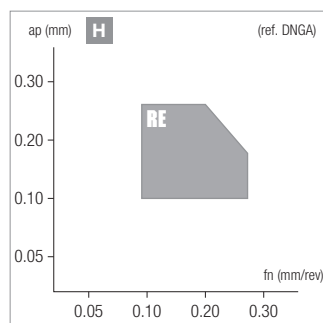
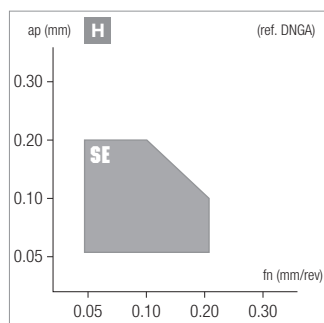
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

DN	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition									
	BH PVD	BH PVD	BH	BH	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD
ISO - with hole	MBH450C	MBH500C	MBH600U	MBH900U	MBL050C	MBL150C	MBL250C	MBL300C	MBL350C	
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>Somewhat weaker edge strength than a triangle insert</li> <li>Vertical brazing and solid type has impressive performance on interrupted applications</li> <li>Solid brazing generally shows improved stability and reliability comparing to conventional carbide backed brazing</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable									
	Dimensions ISO				Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)					
	P									
	M									
	K	400 1200	300 1400	300 1200	200 1200					
	N									
	S									
	H				40 180	120 240	100 220	80 200	60 180	60 160
Designation	RE	IC	S	D1	LE	Stock				
<b>SHARP</b> <b>SE</b> H  solid brazing	DNGA150604S-SE-4S	0.4	12.7	6.35	5.16	2.4			○	○
	DNGA150608S-SE-4S	0.8	12.7	6.35	5.16	2			○	○
<b>REINFORCED</b> <b>RE</b> H  solid brazing <b>interrupted cut</b>	DNGA150604S-RE-4S	0.4	12.7	6.35	5.16	2.4				○
	DNGA150608S-RE-4S	0.8	12.7	6.35	5.16	2				○
	DNGA150612S-RE-4S	1.2	12.7	6.35	5.16	2.1				○

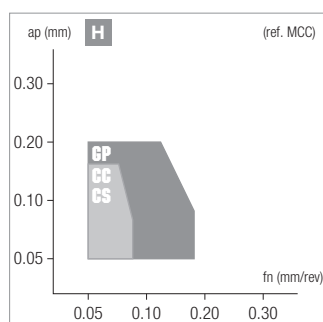
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>MCC</h1>	BL: Low volume CBN BH: High volume CBN PVD: Physical vapour deposition	BL	BL PVD	BL	BH	
		<b>MB200</b>	<b>MB250</b>	<b>MB350</b>	<b>MB450U</b>	
ISO - with hole						
<ul style="list-style-type: none"> <li>1st solution for micro-boring</li> <li>Precision brazed and ground insert tailored for micro boring operation, completing the MCC family with advanced materials</li> <li>Micro boring bar with coolant both in steel (with Vortex technology) and in carbide</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	●	○		●
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	○	●	○	●
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice ▲ suitable			▲	▲
<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
	<b>P</b>					
	<b>M</b>					
	<b>K</b>				400 1200	
	<b>N</b>					
	<b>S</b>					
	<b>H</b>	100 220	80 200	60 160	60 160	

Designation		RE	IC	S	D1	LE	Stock					
UNIVERSAL	<b>GP KH</b>  carbide backed	MCC.R02T-GP-1C	0.2	3.5	1.4	1.9	1.5			▽	▽	
	MCC.R04T-GP-1C	0.4	3.5	1.4	1.9	1.5				▽		
SHARP	<b>CC H</b>  carbide backed	MCC.R02T-CC-1C	0.2	3.5	1.4	1.9	1.5			▽		
SHARP	<b>CS H</b>  carbide backed	MCC.R02S-CS-1C	0.2	3.5	1.4	1.9	1.5	▽				

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

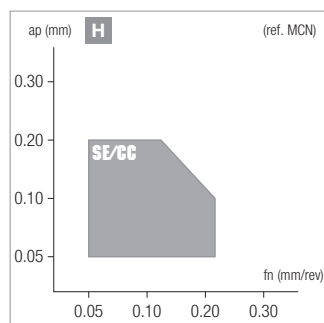
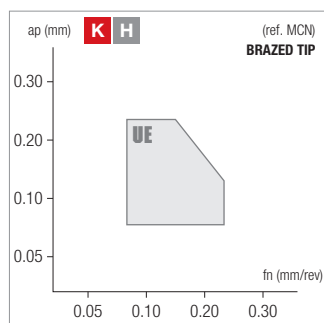
F - ACCESSORIES

G - SPARE PARTS

<h1>MCN</h1>	BL: Low volume CBN BH: High volume CBN PVD: Physical vapour deposition					BL PVD	BL PVD	BL PVD	BL PVD	BH PVD	
	<h2>MicroNega - with hole</h2>					<b>NBL150C</b>	<b>NBL250C</b>	<b>NBS150</b>	<b>NBS250</b>	<b>NBS450</b>	
<ul style="list-style-type: none"> <li>MicroNega system it serves as an alternative to positive conventional solutions</li> <li>Excellent economy for external small part machining or small boring application</li> <li>Special holders tailored with big clearance angle, adapt itself for boring application, effectively reduces the risk of chip-jamming</li> <li>Vertical brazed type CBN provides the MicroNega family with advanced opportunity</li> </ul>					Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●
					General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	○	●	○	●	○
					Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable					⊕
<b>Dimensions</b>					<b>ISO</b>						
					<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>						
					<b>P</b>						
					<b>M</b>						
					<b>K</b>					400 1200	
					<b>N</b>						
					<b>S</b>						
<b>H</b>	100 220	80 200	100 220	80 200							

Designation		RE	IC	S	D1	LE	Stock					
UNIVERSAL 	<b>UE H</b>											
	MCN.R02S-UE-4V	0.2	7.5	3.18	3.6	2.2	▲					
	MCN.R04S-UE-4V	0.4	7.5	3.18	3.6	2.2	▲					
vertical brazing	MCN.R08S-UE-4V	0.8	7.5	3.18	3.6	2.1	▲					
UNIVERSAL 	<b>GP KH</b>											
	MCN.R02S-GP-4V	0.2	7.5	3.18	3.6	2.2			●	▽		
	MCN.R04S-GP-4V	0.4	7.5	3.18	3.6	2.2			●	▽		
vertical brazing	MCN.R08S-GP-4V	0.8	7.5	3.18	3.6	2.1			●	▽		
SHARP 	<b>SE H</b>											
	MCN.R02S-SE-4V	0.2	7.5	3.18	3.6	2.2	○					
	MCN.R04S-SE-4V	0.4	7.5	3.18	3.6	2.2	▲					
vertical brazing	MCN.R08S-SE-4V	0.8	7.5	3.18	3.6	2.1	▲					
SHARP 	<b>CC H</b>											
	MCN.R04S-CC-4V	0.4	7.5	3.18	3.6	2.2			●			
vertical brazing	MCN.R08S-CC-4V	0.8	7.5	3.18	3.6	2.1			●			

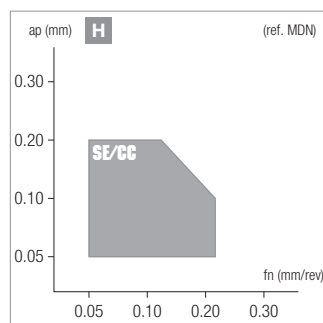
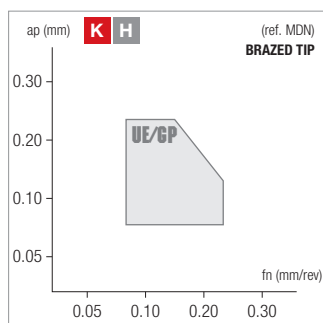
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion




<b>MDN</b>	BL: Low volume CBN BH: High volume CBN PVD: Physical vapour deposition	BL PVD	BL PVD	BL PVD	BL PVD	BH PVD	
		<b>NBL150C</b>	<b>NBL250C</b>	<b>NBS150</b>	<b>NBS250</b>	<b>NBS450</b>	
<b>MicroNega - with hole</b>							
<ul style="list-style-type: none"> <li>• MicroNega system it serves as an alternative to positive conventional solutions</li> <li>• Excellent economy for external small part machining or small boring application</li> <li>• Special holders tailored with big clearance angle, adapt itself for boring application, effectively reduces the risk of chip-jamming</li> <li>• Vertical brazed type CBN provides the MicroNega family with advanced opportunity</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	○	●	○	●	○
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable					⊕
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
	<b>P</b>						
	<b>M</b>						
	<b>K</b>				400	1200	
	<b>N</b>						
	<b>S</b>						
	<b>H</b>	100 220	80 200	100 220	80 200		


Designation		RE	IC	S	D1	LE	Stock					
UNIVERSAL 	MDN.R02S-UE-4V	0.2	7	3.18	3.6	2.4		▲				
	MDN.R04S-UE-4V	0.4	7	3.18	3.6	2.2		▲				
	MDN.R08S-UE-4V	0.8	7	3.18	3.6	1.8		▲				
UNIVERSAL 	MDN.R02S-GP-4V	0.2	7	3.18	3.6	2.4			●	▽		
	MDN.R04S-GP-4V	0.4	7	3.18	3.6	2.2			●	▽		
	MDN.R08S-GP-4V	0.8	7	3.18	3.6	1.8			●	▽		
SHARP 	MDN.R02S-SE-4V	0.2	7	3.18	3.6	2.4		▲				
	MDN.R04S-SE-4V	0.4	7	3.18	3.6	2.2		▲				
	MDN.R08S-SE-4V	0.8	7	3.18	3.6	1.8		▲				
SHARP 	MDN.R02S-CC-4V	0.2	7	3.18	3.6	2.4			●			
	MDN.R04S-CC-4V	0.4	7	3.18	3.6	2.2			●			
	MDN.R08S-CC-4V	0.8	7	3.18	3.6	1.8			●			

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



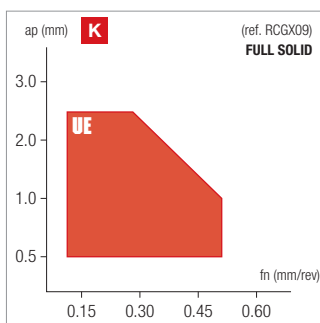
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<b>RC</b>	BH: High volume CBN	BH						
	MBH6000							
ISO - without hole								
<ul style="list-style-type: none"> <li>Very strong and universal use insert shape</li> <li>With a high volume tough grade, able to cope with the challenges in heavy load applications</li> <li>Stable sitting on the holder pocket</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable							
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	○						
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	▲ ▼						
	<b>Dimensions</b> <span style="margin-left: 20px;"><b>ISO</b></span> <span style="margin-left: 20px;"><b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b></span>							
	<table border="1" style="margin: auto;"> <tr><td style="background-color: #ADD8E6;">P</td></tr> <tr><td style="background-color: #FFFF00;">M</td></tr> <tr><td style="background-color: #FFA07A;"><b>K</b> 300 1200</td></tr> <tr><td style="background-color: #90EE90;">N</td></tr> <tr><td style="background-color: #D2B48C;">S</td></tr> <tr><td style="background-color: #E0E0E0;">H</td></tr> </table>	P	M	<b>K</b> 300 1200	N	S	H	
P								
M								
<b>K</b> 300 1200								
N								
S								
H								

	Designation	RE	IC	S	D1	LE	Stock
UNIVERSAL  full solid	RCGX090700S-UE	4.76	9.525	7.94	-	-	●
	RCGX120700S-UE	6.35	12.7	7.94	-	-	●

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

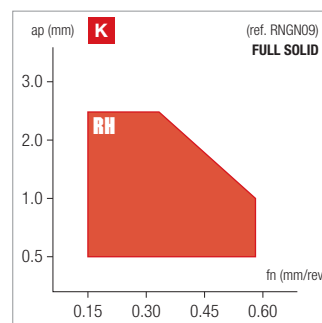
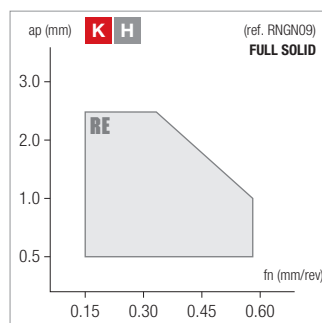
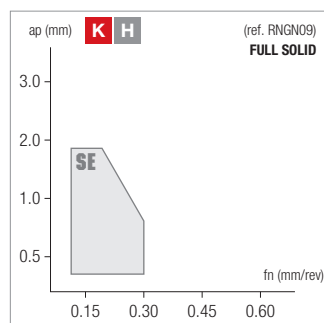
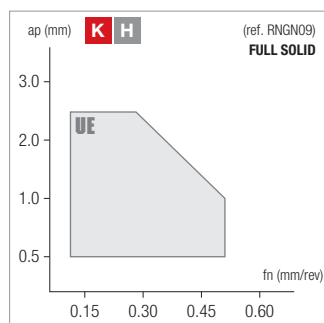
Catalogue Preview - AMB



<h1>RN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition						BH	BH	BH	BH	BL	BL																																										
							PVD				PVD	PVD																																										
ISO - without hole							<b>MBH500C</b>	<b>MBH500U</b>	<b>MBH900U</b>	<b>MBH950U</b>	<b>MBL200C</b>	<b>MBL250C</b>																																										
<ul style="list-style-type: none"> <li>Very strong and universal use insert shape</li> <li>Could be used both in turning and profile milling</li> <li>With a nice range of grade choices, able to cope with challenges in diverse applications</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable						○	○	○	○	●	○																																										
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable						●	●	●	○	●	●																																										
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▲ suitable						▲	▲	▲	▲																																												
Dimensions						ISO						Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)																																										
						<b>P</b>						<table border="1"> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td><b>K</b></td><td>300 1400</td><td>300 1400</td><td>200 1200</td><td>180 1000</td><td></td></tr> <tr><td><b>N</b></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td><b>S</b></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td><b>H</b></td><td></td><td></td><td>40 180</td><td>40 160</td><td>80 220</td><td>80 200</td></tr> </table>																		<b>K</b>	300 1400	300 1400	200 1200	180 1000		<b>N</b>						<b>S</b>						<b>H</b>			40 180	40 160	80 220	80 200
						<b>K</b>	300 1400	300 1400	200 1200	180 1000																																												
						<b>N</b>																																																
						<b>S</b>																																																
<b>H</b>			40 180	40 160	80 220	80 200																																																
<b>M</b>																																																						
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Designation		RE	IC	S	D1	LE	Stock							
UNIVERSAL	 full solid	RNGN060300S-UE	3.18	6.35	3.18	-	-	●						
		RNGN090300S-UE	4.76	9.525	3.18	-	-	●	●	●	●	●		
		RNGN120300S-UE	6.35	12.7	3.18	-	-		○	●				
		RNGN120400S-UE	6.35	12.7	4.76	-	-	●	●	●	●	●		
SHARP	 full solid without honing	RNGN090300T-SE	4.76	9.525	3.18	-	-	●			●			
REINFORCED	 full solid interrupted cut	RNGN090300S-RE	4.76	9.525	3.18	-	-	●	●					
		RNGN120400S-RE	6.35	12.7	4.76	-	-		●	○				
REINFORCED	 full solid	RNGN090300S-RH	4.76	9.525	3.18	-	-	●						

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

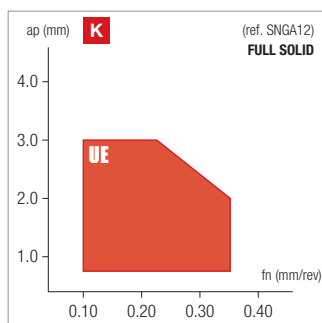
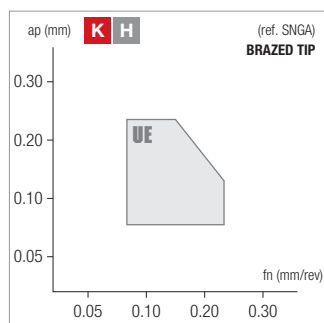
F - ACCESSORIES

G - SPARE PARTS

<h1>SN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition					BH PVD	BH	BH	BL PVD	BL PVD
	ISO - with hole					<b>MBH500C</b>	<b>MBH600U</b>	<b>MBH900U</b>	<b>MBL150C</b>	<b>MBL250C</b>
• Very strong 90° corner with excellent economy (8 edges on double-sided inserts), especially with vertical brazing or solid type CBNs • Mostly used for rough facing operations • Unable to turn or face up to a shoulder (must be used in a tool holder with min. 5° lead angle) • High radial forces push against the workpiece when used for turning • Should always be used in a stable set-up					Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	○	○	○	●	○
					General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●
					Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	▲	▲	▲		
Dimensions <span style="float: right;">ISO</span> <span style="float: right;">Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</span>										
					<b>P</b>					
					<b>M</b>					
					<b>K</b>	300 1400	300 1200	200 1200		
					<b>N</b>					
					<b>S</b>					
					<b>H</b>			40 180	100 220	80 200

Designation		RE	IC	S	D1	LE	Stock				
UNIVERSAL  vertical brazing	UE <b>K H</b> SNGA120404S-UE-8V	0.4	12.7	4.76	5.16	2.2			●		
	SNGA120408S-UE-8V	0.8	12.7	4.76	5.16	2.2			●	○	○
	SNGA120412S-UE-8V	1.2	12.7	4.76	5.16	2.2			●		
UNIVERSAL  full solid high depth of cut	UE <b>K</b> SNGA120408S-UE	0.8	12.7	4.76	5.16	11.9	○	○			
	SNGA120412S-UE	1.2	12.7	4.76	5.16	11.5	●	○			

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

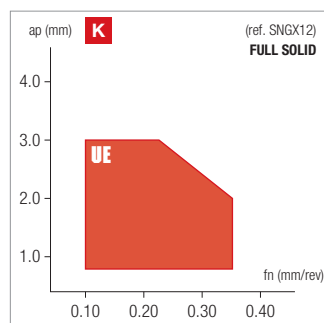
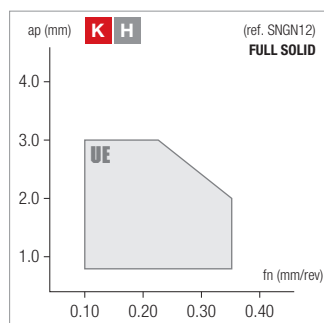




<h1>SN</h1>	BH: High volume CBN PVD: Physical vapour deposition				BH	BH	BH	BH
	PVD				MBH500C	MBH600U	MBH900U	MBH950U
ISO - without hole								
<ul style="list-style-type: none"> <li>Very strong 90° corner with excellent economy (8 edges on double-sided inserts), especially with solid type CBNs</li> <li>Mostly used for rough facing operations</li> <li>Unable to turn or face up to a shoulder (must be used in a tool holder with min. 5° lead angle)</li> <li>High radial forces push against the workpiece when used for turning</li> <li>Should always be used in a stable set-up</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	○	○	○	○	○
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice ▲ suitable	▲	▲	▲	▲	▲	▲
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
<p>8 edges</p>	<b>P</b>							
	<b>M</b>							
	<b>K</b>	300 1400	300 1200	200 1200	180 1000			
	<b>N</b>							
	<b>S</b>							
	<b>H</b>			40 180	40 160			

	Designation	RE	IC	S	D1	LE	Stock				
UNIVERSAL	<p>full solid high depth of cut</p>	SNGN090308S-UE	0.8	9.525	3.18	-	8.7		○		
		SNGN090312S-UE	1.2	9.525	3.18	-	8.3		●	▽	
		SNGN090316S-UE	1.6	9.525	3.18	-	7.9		●		
		SNGN090412S-UE	1.2	9.525	4.76	-	8.3		▽		
		SNGN120408S-UE	0.8	12.7	4.76	-	11.9		●		
		SNGN120412S-UE	1.2	12.7	4.76	-	11.5		●	○	
		SNGN120416S-UE	1.6	12.7	4.76	-	11.1		○		
UNIVERSAL	<p>full solid dimpled type</p>	SNGX120412S-UE	1.2	12.7	4.76	-	11.5		●		
		SNGX120712S-UE	1.2	12.7	7.94	-	11.5		●		
		SNGX120716S-UE	1.6	12.7	7.94	-	11.1		●		

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

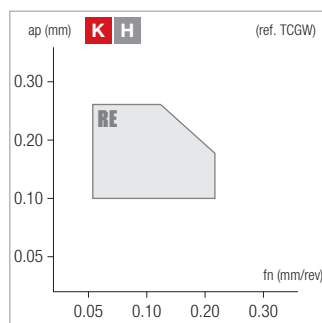
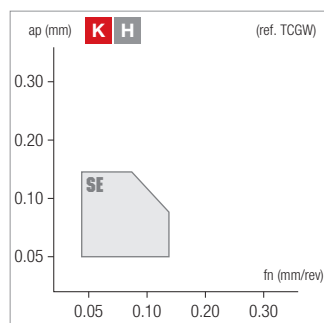
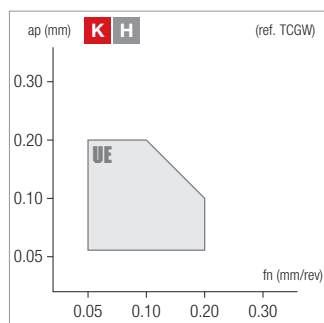
F - ACCESSORIES

G - SPARE PARTS

<h1>TC</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition							BH	BH	BH	BL	BL	BL	BL
	ISO - with hole							PVD			PVD	PVD	PVD	PVD
<ul style="list-style-type: none"> <li>Very versatile insert shape</li> <li>Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>Extra clearance between the insert and the workpiece bore, greatly reduce the risk of chip jamming</li> <li>Boring bars made of steel (Vortex technology) and carbide are available</li> <li>Edge is measurably weaker than 80° diamond shape inserts</li> </ul>	Stable machining, light cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>							
	General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Unstable machining, heavy cut <input type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Dimensions	ISO												
	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)													
	<b>P</b>													
	<b>M</b>													
	<b>K</b>	400 1200	400 1200	300 1400										
	<b>N</b>													
	<b>S</b>													
<b>H</b>								120 240	100 220	80 200	60 160			

Designation		RE	IC	S	D1	LE	Stock							
<b>UNIVERSAL</b>  solid brazing	TCGW110204S-UE-3S	0.4	6.35	2.38	2.8	2.5								
	TCGW110208S-UE-3S	0.8	6.35	2.38	2.8	2.2								
	TCGW16T304S-UE-3S	0.4	9.525	3.97	4.4	2.5								
	TCGW16T308S-UE-3S	0.8	9.525	3.97	4.4	2.2								
<b>UNIVERSAL</b>  carbide backed	TCGW090204S-UE-3C	0.4	5.56	2.38	2.5	2.5								
	TCGW110204S-UE-3C	0.4	6.35	2.38	2.8	2.5								
	TCGW110208S-UE-3C	0.8	6.35	2.38	2.8	2.2								
	TCGW16T304S-UE-3C	0.4	9.525	3.97	4.4	2.5								
	TCGW16T308S-UE-3C	0.8	9.525	3.97	4.4	2.2								
<b>SHARP</b>  solid brazing	TCGW110204S-SE-3S	0.4	6.35	2.38	2.8	2.5								
	TCGW110208S-SE-3S	0.8	6.35	2.38	2.8	2.2								
	TCGW16T304S-SE-3S	0.4	9.525	3.97	4.4	2.5								
	TCGW16T308S-SE-3S	0.8	9.525	3.97	4.4	2.2								
<b>SHARP</b>  carbide backed without honing	TCGW110204T-SE-3C	0.4	6.35	2.38	2.8	2.5								
<b>REINFORCED</b>  solid brazing interrupted cut	TCGW110204S-RE-3S	0.4	6.35	2.38	2.8	2.5								
	TCGW110208S-RE-3S	0.8	6.35	2.38	2.8	2.2								
	TCGW16T304S-RE-3S	0.4	9.525	3.97	4.4	2.5								
	TCGW16T308S-RE-3S	0.8	9.525	3.97	4.4	2.2								

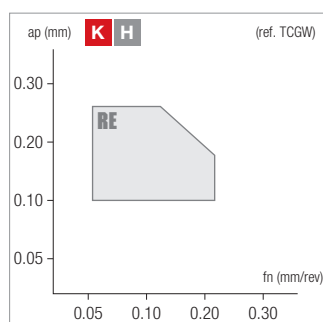
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>TC</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition								
	BH PVD	BH	BH	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	
ISO - with hole	<b>NB</b> H450C	<b>NB</b> H450U	<b>NB</b> H500U	<b>NB</b> L050C	<b>NB</b> L150C	<b>NB</b> L250C	<b>NB</b> L350C		
<ul style="list-style-type: none"> <li>Very versatile insert shape</li> <li>Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>Extra clearance between the insert and the workpiece bore, greatly reduce the risk of chip jamming</li> <li>Boring bars made of steel (Vortex technology) and carbide are available</li> <li>Edge is measurably weaker than 80° diamond shape inserts</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>						
		<b>P</b>							
		<b>M</b>							
		<b>K</b>	400 1200	400 1200	300 1400				
		<b>N</b>							
		<b>S</b>							
		<b>H</b>				120 240	100 220	80 200	60 160

REINFORCED	Designation	RE	IC	S	D1	LE	Stock										
carbide backed interrupted cut	TCGW110208S-RE-3C	0.8	6.35	2.38	2.8	2.2	●	▽									
	TCGW16T308S-RE-3C	0.8	9.525	3.97	4.4	2.2	○										

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

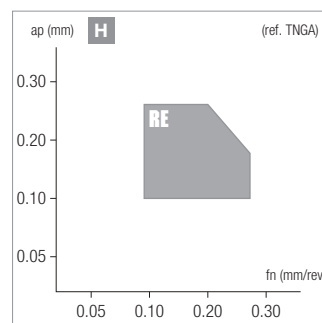
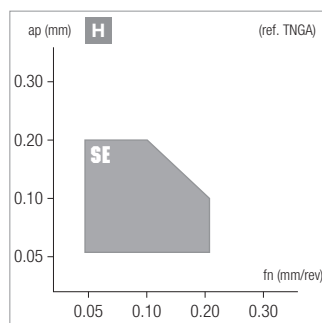
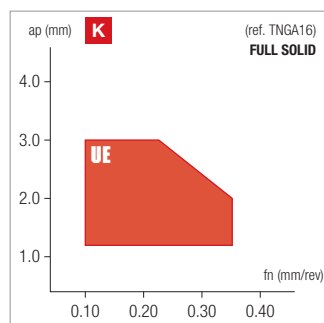
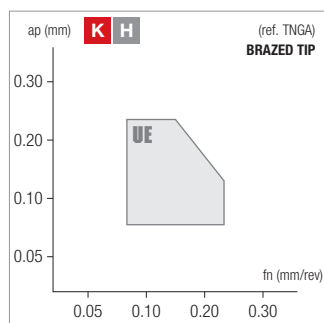
F - ACCESSORIES

G - SPARE PARTS

<h1>TN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition										
	ISO - with hole	BH PVD	BH PVD	BH	BH	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	
<ul style="list-style-type: none"> <li>Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling, sometimes even threading</li> <li>Good economy with up to 6 cutting edges</li> <li>Be sure not to use "too large" a triangle insert. A T11 insert can manage the same depth of cut as C09 in most situations with nearly the same insert strength, but cost much lower than T16</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	○		○	●	●	○	○		
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	●	○	●		○	●	●	○	
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable	⚡	⚡	⚡	⚡				⚡	⚡	
	Dimensions	ISO <b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>									
		P									
	M										
	K	400 1200	300 1400	300 1200	200 1200						
	N										
	S										
	H				40 180	120 240	100 220	80 200	60 180	60 160	

Designation		RE	IC	S	D1	LE	Stock												
UNIVERSAL vertical brazing	TNGA160404S-UE-6V	0.4	9.525	4.76	3.81	2.9	●	●	●	●	●	●	○						
	TNGA160408S-UE-6V	0.8	9.525	4.76	3.81	2.6	●	●	●	●	●	●	○						
	TNGA160412S-UE-6V	1.2	9.525	4.76	3.81	2.4	○	●	○	○	○	○	○						
UNIVERSAL carbide backed	TNGA160404S-UE-6C	0.4	9.525	4.76	3.81	2.5	○												
	TNGA160408S-UE-6C	0.8	9.525	4.76	3.81	2.2	○												
	TNGA160412S-UE-6C	1.2	9.525	4.76	3.81	2.4	○												
UNIVERSAL full solid high depth of cut	TNGA160408S-UE	0.8	9.525	4.76	3.81	15.7	●	○											
	TNGA160412S-UE	1.2	9.525	4.76	3.81	15.3	○	○											
SHARP vertical brazing	TNGA160404S-SE-6V	0.4	9.525	4.76	3.81	2.9				○	○								
	TNGA160408S-SE-6V	0.8	9.525	4.76	3.81	2.6				○	○								
	TNGA160412S-SE-6V	1.2	9.525	4.76	3.81	2.4				○	○								
REINFORCED vertical brazing interrupted cut	TNGA160404S-RE-6V	0.4	9.525	4.76	3.81	2.9											○		
	TNGA160408S-RE-6V	0.8	9.525	4.76	3.81	2.6												○	
	TNGA160412S-RE-6V	1.2	9.525	4.76	3.81	2.4												○	

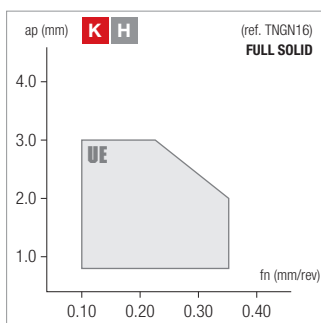
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>TN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition		BH	BL				
			PVD					
ISO - without hole			<b>MBH900U</b>	<b>MBL200C</b>				
<ul style="list-style-type: none"> <li>Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling, sometimes even threading</li> <li>Good economy with up to 6 cutting edges</li> <li>Be sure not to use "too large" a triangle insert. A T11 insert can manage the same depth of cut as C09 in most situations with nearly the same insert strength, but cost much lower than T16</li> </ul>	Stable machining, light cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input type="radio"/>	<input checked="" type="radio"/>					
	General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>					
	Unstable machining, heavy cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input type="radio"/>					
	<b>Dimensions</b>		<b>ISO</b>					
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>						
		<b>P</b>						
		<b>M</b>						
		<b>K</b>	200 1200					
		<b>N</b>						
		<b>S</b>						
	<b>H</b>	40 180	80 220					
<b>Designation</b>		<b>RE</b>	<b>IC</b>	<b>S</b>	<b>D1</b>	<b>LE</b>	<b>Stock</b>	
UNIVERSAL  full solid high depth of cut	<b>UE K H</b> TNGN160408S-UE	0.8	9.525	4.76	-	15.7	●	●

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

Catalogue Preview - AMB



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

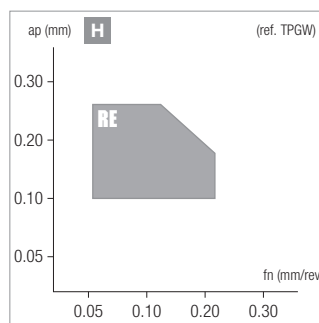
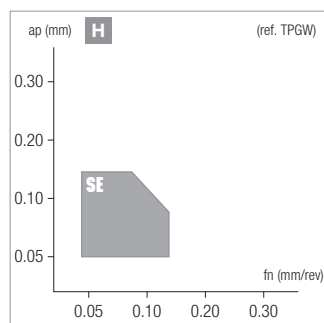
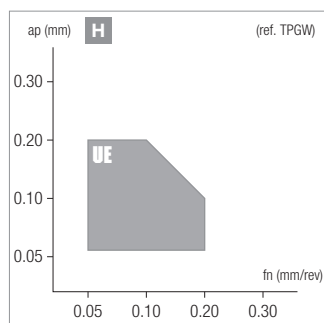
F - ACCESSORIES

G - SPARE PARTS

<h1>TP</h1>	BL: Low volume CBN PVD: Physical vapour deposition			BL PVD	BL PVD	BL PVD		
	ISO - with hole			<b>NBL150C</b>	<b>NBL250C</b>	<b>NBL350C</b>		
<ul style="list-style-type: none"> <li>Very versatile insert shape</li> <li>Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>Extra clearance between the insert and the workpiece bore, greatly reduce the risk of chip jamming</li> <li>Boring bars made of steel (Vortex technology) and carbide are available</li> <li>Edge is measurably weaker than 80° diamond shape inserts</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		
	Unstable machining, heavy cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>		
	<b>Dimensions</b>		<b>ISO</b>					<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
		<b>P</b>						
		<b>M</b>						
		<b>K</b>						
		<b>N</b>						
		<b>S</b>						
	<b>H</b>	100 220	80 200	60 160				

Designation		RE	IC	S	D1	LE	Stock	
<b>UNIVERSAL</b>  solid brazing	TPGW090204S-UE-3S	0.4	5.56	2.38	3	2.5	<input checked="" type="radio"/>	<input type="radio"/>
	TPGW110302S-UE-3S	0.2	6.35	3.18	3.3	2.6	<input type="radio"/>	<input type="radio"/>
	TPGW110304S-UE-3S	0.4	6.35	3.18	3.3	2.5	<input checked="" type="radio"/>	<input type="radio"/>
	TPGW110308S-UE-3S	0.8	6.35	3.18	3.3	2.2	<input checked="" type="radio"/>	<input type="radio"/>
<b>SHARP</b>  solid brazing	TPGW110304S-SE-3S	0.4	6.35	3.18	3.3	2.5	<input type="radio"/>	<input type="radio"/>
	TPGW110308S-SE-3S	0.8	6.35	3.18	3.3	2.2	<input type="radio"/>	<input type="radio"/>
<b>REINFORCED</b>  solid brazing interrupted cut	TPGW110304S-RE-3S	0.4	6.35	3.18	3.3	2.5	<input type="radio"/>	<input type="radio"/>

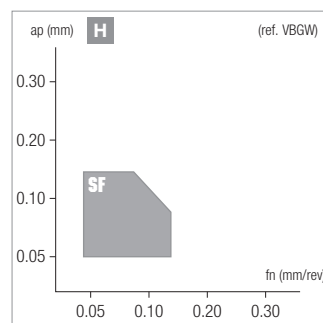
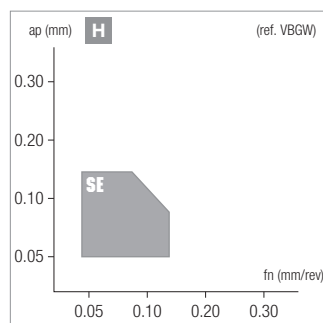
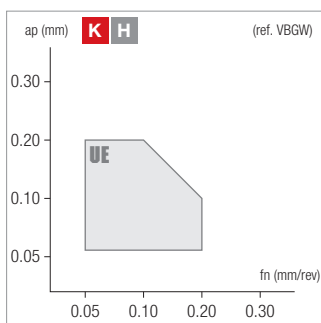
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>VB</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition								
	BH PVD	BH PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	
ISO - with hole	<b>NB</b> H450C	<b>NB</b> H450U	<b>NB</b> L050C	<b>NB</b> L050CX	<b>NB</b> L150C	<b>NB</b> L250C	<b>NB</b> L300C	<b>NB</b> L350C	
<ul style="list-style-type: none"> <li>1st choice for intricate shape copy turning</li> <li>Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>Can work extremely close to the tailstock/live center</li> <li>Positive style can be used for external and internal applications, in many cases improved performance outweighs the increased cost per edge (2 edges vs. 4 edges of a double sided VNGA)</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	○	○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	●	○	●	○	
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊖ suitable	⊕	⊕			⊕	⊕
	<b>Dimensions</b>	<b>ISO</b>							<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
	<b>P</b>								
	<b>M</b>								
	<b>K</b>	400	400						
	<b>N</b>	1200	1200						
	<b>S</b>								
	<b>H</b>			120	120	100	80	60	60
			240	240	220	200	180	160	

Designation		RE	IC	S	D1	LE	Stock											
UNIVERSAL	 solid brazing	VBGW110302S-UE-2S	0.2	6.35	3.18	2.8	3											
		VBGW110304S-UE-2S	0.4	6.35	3.18	2.8	2.5		●	●	●							
		VBGW160402S-UE-2S	0.2	9.525	4.76	4.4	3				●							
		VBGW160404S-UE-2S	0.4	9.525	4.76	4.4	2.5		●	●	●	●	○					
		VBGW160408S-UE-2S	0.8	9.525	4.76	4.4	2.2		●	●	●	●	○					
UNIVERSAL	 carbide backed	VBGW160404S-UE-2C	0.4	9.525	4.76	4.4	2.5	○										
		VBGW160408S-UE-2C	0.8	9.525	4.76	4.4	2.2	○										
SHARP	 solid brazing	VBGW110302S-SE-2S	0.2	6.35	3.18	2.8	3				●							
		VBGW110304S-SE-2S	0.4	6.35	3.18	2.8	2.5		●	●								
		VBGW160402S-SE-2S	0.2	9.525	4.76	4.4	3				●							
		VBGW160404S-SE-2S	0.4	9.525	4.76	4.4	2.5		●	●								
		VBGW160408S-SE-2S	0.8	9.525	4.76	4.4	2.2		●	●								
SHARP	 solid brazing without honing	VBGW110302T-SF-2S	0.2	6.35	3.18	2.8	3				●							
		VBGW110304T-SF-2S	0.4	6.35	3.18	2.8	2.5				●							
		VBGW160402T-SF-2S	0.2	9.525	4.76	4.4	3				○							
		VBGW160404T-SF-2S	0.4	9.525	4.76	4.4	2.5				●							
		VBGW160408T-SF-2S	0.8	9.525	4.76	4.4	2.2				●							

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

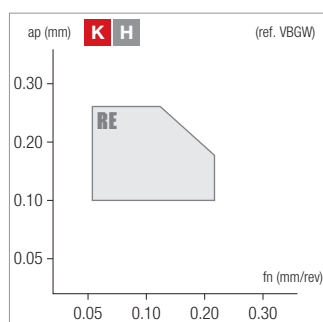
F - ACCESSORIES

G - SPARE PARTS

<h1>VB</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition									
	ISO - with hole	BH PVD	BH	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	BL PVD	
<ul style="list-style-type: none"> <li>1st choice for intricate shape copy turning</li> <li>Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>Can work extremely close to the tailstock/live center</li> <li>Positive style can be used for external and internal applications, in many cases improved performance outweighs the increased cost per edge (2 edges vs. 4 edges of a double sided VNGA)</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	●	○	○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	●			○	●	○
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊖ suitable	⊕	⊖					⊖
	<b>Dimensions</b>	<b>ISO</b>								
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>									
	<b>P</b>									
<b>M</b>										
<b>K</b>	400	400								
<b>N</b>	1200	1200								
<b>S</b>										
<b>H</b>			120	120	100	80	60	60		
			240	240	220	200	180	160		

Designation		RE	IC	S	D1	LE	Stock			
<b>RE H</b>  solid brazing interrupted cut	VBGW160404S-RE-2S	0.4	9.525	4.76	4.4	2.5				
	VBGW160408S-RE-2S	0.8	9.525	4.76	4.4	2.2				○
<b>RE K</b>  carbide backed interrupted cut	VBGW160404S-RE-2C	0.4	9.525	4.76	4.4	2.5	○			
	VBGW160408S-RE-2C	0.8	9.525	4.76	4.4	2.2	○			

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

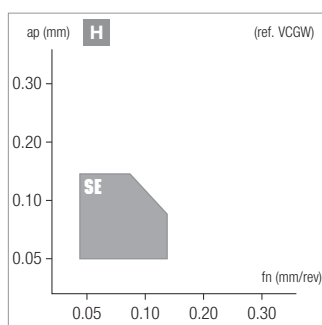
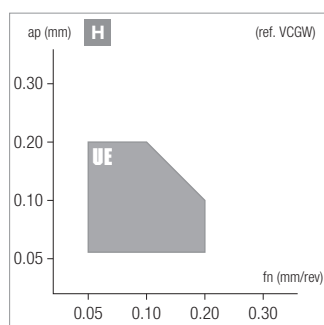




<h1>VC</h1>	BL: Low volume CBN PVD: Physical vapour deposition		BL PVD	BL PVD
	ISO - with hole  • 1st choice for intricate shape copy turning • Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49° • Can work extremely close to the tailstock/live center • Positive style can be used for external and internal applications, in many cases improved performance outweighs the increased cost per edge (2 edges vs. 4 edges of a double sided VNGA)		<b>NBL150C</b>	<b>NBL250C</b>
Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ○ suitable				
<b>Dimensions</b>		<b>ISO</b>		
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>		
		<b>P</b>	<b>M</b>	<b>K</b>
		<b>N</b>	<b>S</b>	<b>H</b>
		100 220	80 200	

Designation		RE	IC	S	D1	LE	Stock	
<b>UNIVERSAL</b>  solid brazing	VCGW110304S-UE-2S	0.4	6.35	3.18	2.8	2.5	●	
	VCGW160404S-UE-2S	0.4	9.525	4.76	4.4	2.5	●	
	VCGW160408S-UE-2S	0.8	9.525	4.76	4.4	2.2	●	
<b>SHARP</b>  solid brazing	VCGW110304S-SE-2S	0.4	6.35	3.18	2.8	2.5	●	
	VCGW160404S-SE-2S	0.4	9.525	4.76	4.4	2.5	●	
	VCGW160408S-SE-2S	0.8	9.525	4.76	4.4	2.2	○	

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

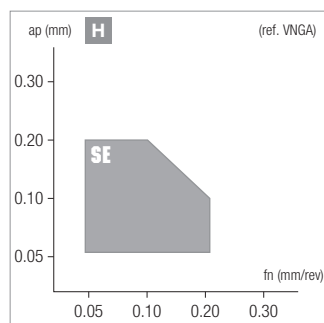
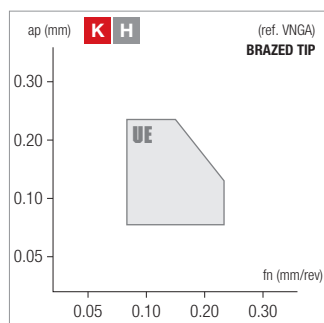
F - ACCESSORIES

G - SPARE PARTS

<h1>VN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition		BH PVD	BH PVD	BH	BL PVD	BL PVD			
	ISO - with hole		<b>MBH450C</b>	<b>MBH500C</b>	<b>MBH900U</b>	<b>MBL150C</b>	<b>MBL250C</b>			
<ul style="list-style-type: none"> <li>• 1st choice for intricate shape copy turning</li> <li>• Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>• Can work extremely close to the tailstock/live center</li> <li>• The weakest turning insert shape among all, ap and fn should be lighter</li> <li>• Double sided style should mainly be used for external applications</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▲ suitable							
	Dimensions		ISO Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)							
			<b>P</b>							
			<b>M</b>							
		<b>K</b>	400 1200	300 1400	200 1200					
		<b>N</b>								
		<b>S</b>								
		<b>H</b>			40 180	100 220	80 200			

Designation		RE	IC	S	D1	LE	Stock			
UNIVERSAL vertical brazing	VNGA160404S-UE-4V	0.4	9.525	4.76	3.81	2.2	●	▽	○	
	VNGA160408S-UE-4V	0.8	9.525	4.76	3.81	2.3	●		○	
UNIVERSAL carbide backed	VNGA160404S-UE-4C	0.4	9.525	4.76	3.81	2.5	○			
	VNGA160408S-UE-4C	0.8	9.525	4.76	3.81	2.2	○			
SHARP vertical brazing	VNGA160404S-SE-4V	0.4	9.525	4.76	3.81	2.2			○	
	VNGA160408S-SE-4V	0.8	9.525	4.76	3.81	2.3			○	

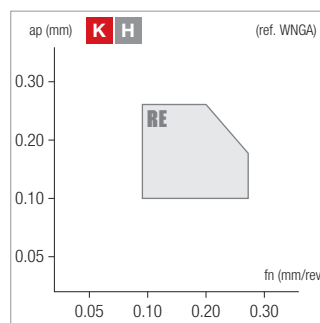
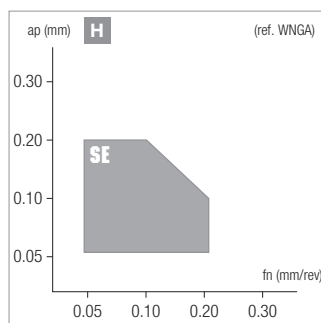
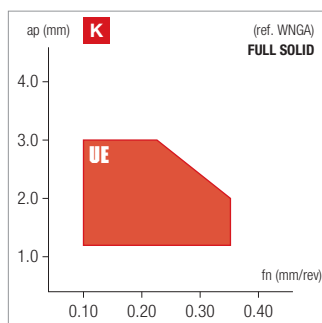
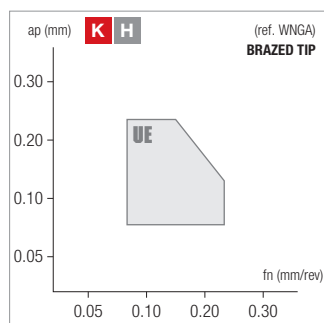
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>WN</h1>	BH: High volume CBN BL: Low volume CBN PVD: Physical vapour deposition							BH	BH	BH	BL	BL	BL	BL			
								PVD			PVD	PVD	PVD	PVD			
ISO - with hole								<b>NBHS00C</b>	<b>NBH600U</b>	<b>NBH900U</b>	<b>NBL150C</b>	<b>NBL250C</b>	<b>NBL300C</b>	<b>NBL350C</b>			
<ul style="list-style-type: none"> <li>6-corner 80° diamond shape that can increase economy compared to CNGA-style inserts</li> <li>Generally used on more moderate depths of cut and feedrates than CNGA-style inserts</li> <li>Seating of insert in pocket is less stable as CNGA-style inserts</li> <li>Cannot take as deep a depth of cut as similar sized CNGA-style insert</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable														
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable														
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable														
	<b>Dimensions</b>	<b>ISO</b>						<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>									
<p>6 edges</p>	<b>P</b>																
	<b>M</b>																
	<b>K</b>	300 1400	300 1200	200 1200													
	<b>N</b>																
	<b>S</b>																
<b>H</b>			40 180	100 220	80 200	60 180	60 160										

Designation		RE	IC	S	D1	LE	Stock										
UNIVERSAL  vertical brazing	WNGA080404S-UE-6V	0.4	12.7	4.76	5.16	2.6			●	○	○	○					
	WNGA080408S-UE-6V	0.8	12.7	4.76	5.16	2.6			○	●	●	○					
	WNGA080412S-UE-6V	1.2	12.7	4.76	5.16	2.5			●	○	○	○					
UNIVERSAL  full solid high depth of cut	WNGA080408S-UE	0.8	12.7	4.76	5.16	7.9	○	○									
	WNGA080412S-UE	1.2	12.7	4.76	5.16	7.5	○	○									
SHARP  vertical brazing	WNGA080404S-SE-6V	0.4	12.7	4.76	5.16	2.6					○						
	WNGA080408S-SE-6V	0.8	12.7	4.76	5.16	2.6					○						
REINFORCED  vertical brazing interrupted cut	WNGA080404S-RE-6V	0.4	12.7	4.76	5.16	2.6			●				○				
	WNGA080408S-RE-6V	0.8	12.7	4.76	5.16	2.6			●				●				
	WNGA080412S-RE-6V	1.2	12.7	4.76	5.16	2.5			●				○				

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

ISO 513	MATERIAL	HARDNESS HB	NBH450C			NBH450U			NBH500C		
			min	start	max	min	start	max	min	start	max
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	● 400	<b>700</b>	1000	● 400	<b>700</b>	1000	○ 500	<b>1000</b>	1500
			● 380	<b>650</b>	920	● 380	<b>650</b>	920	● 400	<b>900</b>	1400
			⊕ 340	<b>600</b>	860	⊕ 340	<b>600</b>	860	⊕ 300	<b>800</b>	1300
ISO 513	MATERIAL	HARDNESS HB	NBLO50C			NBL150C			NBL200C		
			min	start	max	min	start	max	min	start	max
<b>H1</b>	Case-hardened steel (ex. 1.7131/16 MnCr 5)	50 ÷ 56	● 120	<b>200</b>	280	● 100	<b>160</b>	220	○ 100	<b>150</b>	200
						☺ 90	<b>150</b>	210	● 90	<b>135</b>	180
<b>H2</b>	Bearing steel, quenched and tempered steel (ex. 1.3505/100 Cr 6)	54 ÷ 62	● 100	<b>170</b>	240	● 100	<b>150</b>	200	○ 100	<b>140</b>	180
						☺ 90	<b>140</b>	190	● 90	<b>130</b>	170
<b>H3</b>	Hardened tool steel (ex. 1.2436/X 210 CrW 12/2312)	60 ÷ 65	● 100	<b>140</b>	180	● 80	<b>130</b>	180	○ 80	<b>120</b>	160
						☺ 70	<b>120</b>	170	● 70	<b>110</b>	150
<b>H4</b>	White cast iron (ex. 0.9625/G-X260 NiCr 4 2/Ni-Hard)	54 ÷ 62									

Catalogue Preview - F

<b>NBH500U</b>			<b>NBH600U</b>			<b>NBH900U</b>			<b>NBH950U</b>								
min	start	max	min	start	max	min	start	max	min	start	max						
○ 500	1000	1500				○ 500	800	1100									
● 400	900	1400	○ 400	800	1200	● 400	700	1000	○ 400	800	1200						
⊕ 300	800	1300	⊕ 300	600	900	⊕ 300	600	900	⊕ 450	750	1050						
<b>NBL250C</b>			<b>NBL300C</b>			<b>NBL350C</b>			<b>NBH500C</b>			<b>NBH900U</b>			<b>NBH950U</b>		
min	start	max	min	start	max	min	start	max	min	start	max	min	start	max	min	start	max
○ 100	140	180	○ 80	130	180												
● 90	130	170	● 70	120	170	○ 70	110	150									
			⊕ 60	110	160	⊕ 60	100	140									
○ 80	130	180	○ 80	120	160							○ 80	130	180			
● 70	120	170	● 70	110	150	○ 70	100	130				● 70	120	170			
			⊕ 60	100	140	⊕ 60	90	120				⊕ 65	110	155			
○ 70	110	150	○ 70	100	130							○ 70	110	150			
● 60	100	140	● 60	90	120	○ 60	80	100				● 60	100	140			
			⊕ 50	80	110	⊕ 50	70	90				⊕ 60	90	120			
									○ 100	140	180	○ 80	130	180	○ 80	130	180
									● 90	130	170	● 70	120	170	● 70	120	170
									⊕ 80	120	160	⊕ 50	100	150	⊕ 70	110	150

Catalogue Preview - F

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
CCGW060202S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
CCGW060202S-UE-2S	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
CCGW060202T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
CCGW060204S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
CCGW060204S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
CCGW060204S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
CCGW060204S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
CCGW060204S-WE-2S	0.05	<b>0.10</b>	0.15	0.07	<b>0.14</b>	0.21
CCGW060204T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
CCGW060208S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
CCGW060208S-SE-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
CCGW060208S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CCGW060208S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CCGW09T302S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
CCGW09T302S-UE-2S	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
CCGW09T304S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
CCGW09T304S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
CCGW09T304S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
CCGW09T304S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
CCGW09T304S-WE-2S	0.05	<b>0.10</b>	0.15	0.07	<b>0.14</b>	0.21
CCGW09T304T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
CCGW09T308S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
CCGW09T308S-SE-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
CCGW09T308S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CCGW09T308S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CCGW09T308S-WE-2S	0.05	<b>0.10</b>	0.15	0.07	<b>0.15</b>	0.23
CCGW09T308T-SF-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
CCGW120404S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
CCGW120408S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CCGW120408S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CNGA090308S-RE	0.50	<b>1.50</b>	2.50	0.08	<b>0.16</b>	0.24
CNGA090308S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.20</b>	0.30
CNGA120404S-CF-4V	0.08	<b>0.17</b>	0.26	0.08	<b>0.14</b>	0.20
CNGA120404S-RE-4V	0.08	<b>0.17</b>	0.26	0.08	<b>0.14</b>	0.20
CNGA120404S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
CNGA120404S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
CNGA120404S-WE-4V	0.06	<b>0.13</b>	0.20	0.10	<b>0.17</b>	0.24
CNGA120408S-CF-4V	0.08	<b>0.17</b>	0.26	0.08	<b>0.15</b>	0.22
CNGA120408S-CFW-4V	0.08	<b>0.17</b>	0.26	0.10	<b>0.19</b>	0.28
CNGA120408S-CM-4V	0.30	<b>0.50</b>	0.70	0.08	<b>0.16</b>	0.24
CNGA120408S-CMW-4V	0.30	<b>0.50</b>	0.70	0.10	<b>0.20</b>	0.30
CNGA120408S-RE-4V	0.08	<b>0.17</b>	0.26	0.08	<b>0.16</b>	0.24
CNGA120408S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CNGA120408S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
CNGA120408S-UE-4C	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
CNGA120408S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
CNGA120408S-WE-4V	0.06	<b>0.13</b>	0.20	0.10	<b>0.19</b>	0.28
CNGA120408T-SE-4C	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CNGA120408T-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
CNGA120412S-CF-4V	0.08	<b>0.17</b>	0.26	0.08	<b>0.16</b>	0.24
CNGA120412S-CFW-4V	0.08	<b>0.17</b>	0.26	0.10	<b>0.20</b>	0.30
CNGA120412S-CM-4V	0.30	<b>0.50</b>	0.70	0.08	<b>0.17</b>	0.26
CNGA120412S-CMW-4V	0.30	<b>0.50</b>	0.70	0.10	<b>0.22</b>	0.34
CNGA120412S-RE-4V	0.08	<b>0.17</b>	0.26	0.08	<b>0.17</b>	0.26
CNGA120412S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.14</b>	0.22
CNGA120412S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
CNGA120412S-UE-4C	0.07	<b>0.16</b>	0.25	0.08	<b>0.16</b>	0.24
CNGA120412S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.16</b>	0.24
CNGA120412S-WE-4V	0.06	<b>0.13</b>	0.20	0.10	<b>0.20</b>	0.30
CNGN090308S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.20</b>	0.30
CNGN090312S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.23</b>	0.36
CNGN090316S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.25</b>	0.40
CNGN120408S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
CNGN120412S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
CNGN120416S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.25</b>	0.40
CNGX120712S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
CNGX120716S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.25</b>	0.40
DCGW070202S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
DCGW070202S-UE-2S	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
DCGW070202T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
DCGW070204S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
DCGW070204S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
DCGW070204S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
DCGW070204T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
DCGW070208S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
DCGW070208S-SE-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
DCGW070208S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
DCGW11T302S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
DCGW11T302S-UE-2S	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
DCGW11T302T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
DCGW11T304S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
DCGW11T304S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
DCGW11T304S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
DCGW11T304S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
DCGW11T304T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
DCGW11T308S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
DCGW11T308S-SE-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
DCGW11T308S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
DCGW11T308S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
DCGW11T308T-SF-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
DNGA150404S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
DNGA150404S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
DNGA150408S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
DNGA150408S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
DNGA150604S-RE-4S	0.08	<b>0.17</b>	0.26	0.08	<b>0.14</b>	0.20
DNGA150604S-SE-4S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
DNGA150604S-UE-4S	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
DNGA150604S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
DNGA150608S-RE-4S	0.08	<b>0.17</b>	0.26	0.08	<b>0.16</b>	0.24
DNGA150608S-SE-4S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
DNGA150608S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
DNGA150608S-UE-4C	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
DNGA150608S-UE-4S	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
DNGA150608S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
DNGA150612S-RE-4S	0.08	<b>0.17</b>	0.26	0.08	<b>0.17</b>	0.26
DNGA150612S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
DNGA150612S-UE-4S	0.07	<b>0.16</b>	0.25	0.08	<b>0.16</b>	0.24
DNGA150612S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.16</b>	0.24
MCC.R02S-CS-1C	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
MCC.R02T-CC-1C	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
MCC.R02T-GP-1C	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
MCC.R04T-GP-1C	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
MCN.R02S-GP-4V	0.07	<b>0.16</b>	0.25	0.06	<b>0.12</b>	0.18
MCN.R02S-SE-4V	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
MCN.R02S-UE-4V	0.07	<b>0.16</b>	0.25	0.06	<b>0.12</b>	0.18
MCN.R04S-CC-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
MCN.R04S-GP-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
MCN.R04S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
MCN.R04S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
MCN.R08S-CC-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
MCN.R08S-GP-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
MCN.R08S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
MCN.R08S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
MDN.R02S-CC-4V	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
MDN.R02S-GP-4V	0.07	<b>0.16</b>	0.25	0.06	<b>0.12</b>	0.18
MDN.R02S-SE-4V	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
MDN.R02S-UE-4V	0.07	<b>0.16</b>	0.25	0.06	<b>0.12</b>	0.18
MDN.R04S-CC-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
MDN.R04S-GP-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
MDN.R04S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
MDN.R04S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
MDN.R08S-CC-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
MDN.R08S-GP-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
MDN.R08S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
MDN.R08S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
RCGX090700S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.30</b>	0.50
RCGX120700S-UE	0.50	<b>2.00</b>	3.50	0.10	<b>0.35</b>	0.60
RNGN060300S-UE	0.50	<b>1.00</b>	1.50	0.10	<b>0.20</b>	0.30
RNGN090300S-RE	0.50	<b>1.50</b>	2.50	0.15	<b>0.35</b>	0.55
RNGN090300S-RH	0.50	<b>1.50</b>	2.50	0.15	<b>0.35</b>	0.55
RNGN090300S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.30</b>	0.50
RNGN090300T-SE	0.20	<b>1.00</b>	1.80	0.10	<b>0.20</b>	0.30
RNGN120300S-UE	0.50	<b>2.00</b>	3.50	0.10	<b>0.35</b>	0.60
RNGN120400S-RE	0.50	<b>2.00</b>	3.50	0.10	<b>0.45</b>	0.80
RNGN120400S-UE	0.50	<b>2.00</b>	3.50	0.10	<b>0.35</b>	0.60
SNGA120404S-UE-8V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
SNGA120408S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
SNGA120408S-UE-8V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
SNGA120412S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
SNGA120412S-UE-8V	0.07	<b>0.16</b>	0.25	0.08	<b>0.16</b>	0.24
SNGN090308S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.20</b>	0.30
SNGN090312S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.23</b>	0.36
SNGN090316S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.25</b>	0.40
SNGN090412S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.23</b>	0.36
SNGN120408S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
SNGN120412S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
SNGN120416S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.25</b>	0.40
SNGX120412S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
SNGX120712S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
SNGX120716S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.25</b>	0.40
TCGW090204S-UE-3C	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
TCGW110204S-RE-3S	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
TCGW110204S-SE-3S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
TCGW110204S-UE-3C	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
TCGW110204S-UE-3S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
TCGW110204T-SE-3C	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
TCGW110208S-RE-3C	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
TCGW110208S-RE-3S	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
TCGW110208S-SE-3S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
TCGW110208S-UE-3C	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
TCGW110208S-UE-3S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
TCGW16T304S-RE-3S	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
TCGW16T304S-SE-3S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
TCGW16T304S-UE-3C	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
TCGW16T304S-UE-3S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
TCGW16T308S-RE-3C	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
TCGW16T308S-RE-3S	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
TCGW16T308S-SE-3S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
TCGW16T308S-UE-3C	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
TCGW16T308S-UE-3S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
TNGA160404S-RE-6V	0.08	<b>0.17</b>	0.26	0.08	<b>0.14</b>	0.20
TNGA160404S-SE-6V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
TNGA160404S-UE-6C	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
TNGA160404S-UE-6V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
TNGA160408S-RE-6V	0.08	<b>0.17</b>	0.26	0.08	<b>0.16</b>	0.24
TNGA160408S-SE-6V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
TNGA160408S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
TNGA160408S-UE-6C	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
TNGA160408S-UE-6V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
TNGA160412S-RE-6V	0.08	<b>0.17</b>	0.26	0.08	<b>0.17</b>	0.26
TNGA160412S-SE-6V	0.06	<b>0.13</b>	0.20	0.06	<b>0.14</b>	0.22
TNGA160412S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
TNGA160412S-UE-6C	0.07	<b>0.16</b>	0.25	0.08	<b>0.16</b>	0.24
TNGA160412S-UE-6V	0.07	<b>0.16</b>	0.25	0.08	<b>0.16</b>	0.24
TNGM110308S-UE	0.50	<b>1.50</b>	2.50	0.10	<b>0.20</b>	0.30
TNGM160408S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
TPGW090204S-UE-3S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
TPGW110302S-UE-3S	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
TPGW110304S-RE-3S	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
TPGW110304S-SE-3S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
TPGW110304S-UE-3S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
TPGW110308S-SE-3S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
TPGW110308S-UE-3S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
VBGW110302S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
VBGW110302S-UE-2S	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
VBGW110302T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
VBGW110304S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
VBGW110304S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
VBGW110304T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
VBGW160402S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
VBGW160402S-UE-2S	0.06	<b>0.13</b>	0.20	0.05	<b>0.10</b>	0.15
VBGW160402T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.06</b>	0.08
VBGW160404S-RE-2C	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
VBGW160404S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.13</b>	0.20
VBGW160404S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
VBGW160404S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
VBGW160404S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
VBGW160404T-SF-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
VBGW160408S-RE-2C	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
VBGW160408S-RE-2S	0.08	<b>0.16</b>	0.25	0.06	<b>0.14</b>	0.22
VBGW160408S-SE-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
VBGW160408S-UE-2C	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
VBGW160408S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
VBGW160408T-SF-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
VCGW110304S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
VCGW110304S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
VCGW160404S-SE-2S	0.05	<b>0.10</b>	0.15	0.04	<b>0.08</b>	0.12
VCGW160404S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
VCGW160408S-SE-2S	0.05	<b>0.10</b>	0.15	0.05	<b>0.10</b>	0.15
VCGW160408S-UE-2S	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
VNGA160404S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
VNGA160404S-UE-4C	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
VNGA160404S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
VNGA160408S-SE-4V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
VNGA160408S-UE-4C	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
VNGA160408S-UE-4V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
WNGA080404S-RE-6V	0.08	<b>0.17</b>	0.26	0.08	<b>0.14</b>	0.20
WNGA080404S-SE-6V	0.06	<b>0.13</b>	0.20	0.06	<b>0.12</b>	0.18
WNGA080404S-UE-6V	0.07	<b>0.16</b>	0.25	0.08	<b>0.14</b>	0.20
WNGA080408S-RE-6V	0.08	<b>0.17</b>	0.26	0.08	<b>0.16</b>	0.24
WNGA080408S-SE-6V	0.06	<b>0.13</b>	0.20	0.06	<b>0.13</b>	0.20
WNGA080408S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
WNGA080408S-UE-6V	0.07	<b>0.16</b>	0.25	0.08	<b>0.15</b>	0.22
WNGA080412S-RE-6V	0.08	<b>0.17</b>	0.26	0.08	<b>0.17</b>	0.26
WNGA080412S-UE	1.00	<b>2.00</b>	3.00	0.10	<b>0.23</b>	0.36
WNGA080412S-UE-6V	0.07	<b>0.16</b>	0.25	0.08	<b>0.16</b>	0.24

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

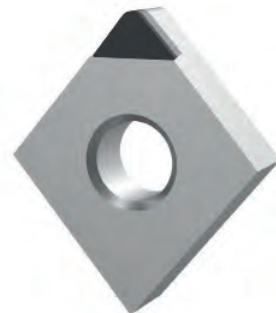
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



Catalogue Preview - AMB 2022



## TURNING Diamond

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- A - TURNING
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ISO 513	DIAMOND		
	PCD	CVD	MONO
<b>N</b> Non ferrous materials	N01	ND190	NDD*
	N10	ND150	NDM*
	N20	ND100	
	N30	ND050	
<b>S</b> HRSA	S01		
	S10	ND050	
	S20		
<b>H</b> Hardened steel	S30		
	H01	ND190	
	H10		
	H20		
	H30		

HRSA: heat resistance super alloy

\*NDD-CVD diamond and NDM-monocrystalline diamond are available upon request

AMB 2022

Catalogue PI

GRADE	COMPOSITION	HARDNESS HV	GRIT SIZE	BINDER	APPLICATION	FEATURES
<b>ND050</b> new name: <b>NDP001</b>	diamond 85%	5.000	~ 1 µm	Wc + Co	<b>N</b> N20 N35	Excellent surface finishing and very good toughness. First choice for titanium alloys machining.
<b>ND100</b> new name: <b>NDP010</b>	diamond 95%	6.000	10 µm	Wc + Co	<b>N</b> N10 N30	First choice for all-around application on non ferrous materials.
<b>ND150</b> new name: <b>NDP302</b>	diamond 95%	7.000	multi-modal 30 + 2 µm	Wc + Co	<b>N</b> N05 N25	Multi-modal grade for a perfect combination between toughness and wear resistance. Good solution for high silicon aluminium and bi-metal applications.
<b>ND190</b> new name: <b>NDP025</b>	diamond 90%	7.000	25 µm	Wc + Co	<b>N</b> N01 N15	Excellent wear resistance. First choice for high silicon aluminium alloys (Si > 13%), tungsten carbide and ceramic.
<b>NDD</b> CVD diamond	-	8.000	-	binder free	<b>N</b> N01 N10	Better tool life compared to PCD grades. Best performance on abrasive materials like, AISi, graphite, CFRP carbon fiber-reinforced plastic.
<b>NDM</b> Monocrystalline diamond	-	10.000	-	binder free	<b>N</b> N01 N05	Best surface finishing (roughness values are of the order of nanometres) unattainable with conventional polycrystalline tool materials.

NDD-CVD diamond and NDM-monocrystalline diamond are available upon request

Catalogue Preview - AMD

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	ISO 513	nikkoTOOLS	ISCAR	KENAMETAL	KYOCERA	mitsubishi	SANDVIK	SECO	SUMITOMO	TAEGUTEC	TUNGALOY	WALTER	
A - TURNING	N	N01 - N10	ND150 ND190		KD1405		MD205 MD220		PCD30	DA90	TD810	DX140 DX160	
		N10 - N20	ND100 ND150	ID5	KD1425	KPD010	MD220 MD230	CD10	PCD20	DA150	KP300	DX120 DX140	WDN10
		N20 - N30	ND050 ND100	ID5	KD1400	KPD001 KPD010	MD230 MD2030	CD05 CD10	PCD20	DA1000 DA2200	TD830	DX110 DX120	WDN10

This table is our own estimation based on information available to the public and is not authorized by the company mentioned on it.

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING


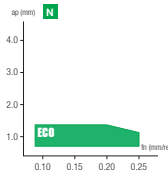





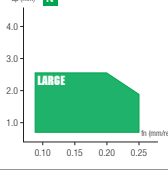





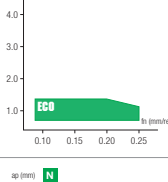




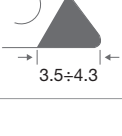
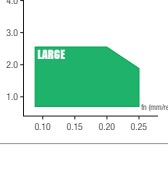




C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

NEGATIVE type with hole			C	D	T	W		
			80°	55°	60°	80°		
N	SLANT TIP	<p><b>ECO</b></p>  	 A151 SIZE 12	 A154 SIZE 15	 A160 SIZE 16	 A166 SIZE 08		
	<p><b>LARGE</b></p>  	 A151 SIZE 12	 A154 SIZE 15	 A160 SIZE 16	 A166 SIZE 08			
FLAT TIP	<p><b>ECO</b></p>  	 A151 SIZE 12	 A154 SIZE 15	 A160 SIZE 16	 A166 SIZE 08			
	<p><b>LARGE</b></p>  	 A151 SIZE 12	 A154 SIZE 15	 A160 SIZE 16	 A166 SIZE 08			

Catalogue Preview

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

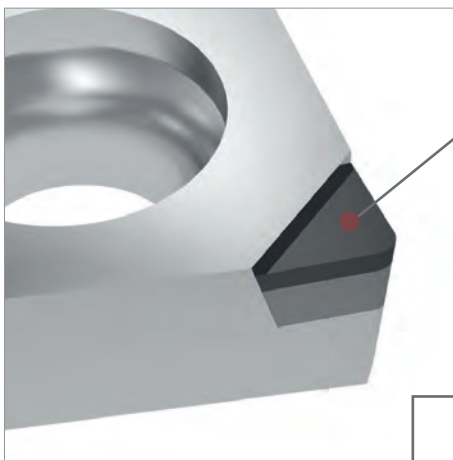
			C	D	T	V		
POSITIVE type with hole								
			80°	55°	60°	35°		
N	SLANT TIP	<b>ECO</b>  1.5÷3.0  ap (mm) vs. fz (mm/rev)	 A149 SIZE 06 09 12	 A152 SIZE 07 11	 A158 SIZE 08 09 11 16	 A162 SIZE 11 16		
		<b>LARGE</b>  2.9÷4.5  ap (mm) vs. fz (mm/rev)	 A149 SIZE 06 09 12	 A152 SIZE 07 11	 A158 SIZE 11 16	 A162 SIZE 16		
FLAT TIP	<b>ECO</b>  1.5÷3.0  ap (mm) vs. fz (mm/rev)	 A149 SIZE MCC 06 09 12	 A152 SIZE 07 11	 A158 SIZE 08 09 11 16	 A162 SIZE 11 16			
	<b>LARGE</b>  2.9÷4.5  ap (mm) vs. fz (mm/rev)	 A149 SIZE 06 09 12	 A152 SIZE 07 11	 A158 SIZE 11 16	 A162 SIZE 16			
3D CHIPBREAKER	<b>CBU</b>  0.04 30°  ap (mm) vs. fz (mm/rev)	 A150 SIZE 06 09	 A153 SIZE 07 11	 A159 SIZE 11 16	 A165 SIZE 11 16			
	<b>CBF</b>  0.05 30°  ap (mm) vs. fz (mm/rev)	 A150 SIZE 06	 A153 SIZE 07 11	 A159 SIZE 09 11 16	 A162 SIZE 11 16			
	<b>CBG</b>  0.1 20°  ap (mm) vs. fz (mm/rev)	 A150 SIZE 09	 A153 SIZE 11	 A159 SIZE 09 11 16	 A163 SIZE 11 16			
	<b>1S</b>   ap (mm) vs. fz (mm/rev)	 A150 SIZE 06 09	 A153 SIZE 07 11	 A159 SIZE 09 11 16	 A165 SIZE 11 16			
FULL EDGE	<b>FF</b>   ap (mm) vs. fz (mm/rev)	 A150 SIZE 09	 A153 SIZE 07 11	 A159 SIZE 11 16				
FULL FACE								

# Slant tip

Cutting edge

- The diamond tip is brazed with an inclination of 7°. This solution is available both for eco and large tip dimensions
- Soft cutting action drastically reduce vibration and burrs formation
- The slant cutting edge, thanks to reduced cutting forces, is a perfect solution for thin workpieces and help to maintain accurate dimensional tolerances
- Perfect combination for positive inserts with small radii

## • Features of Slant tip cutting edge

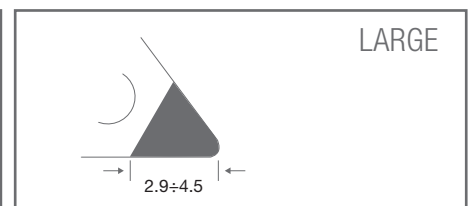
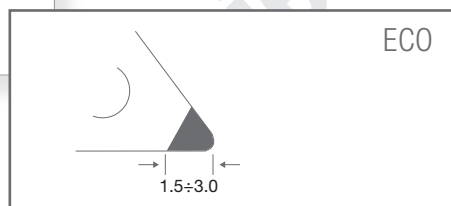


### SOFT CUTTING ACTION

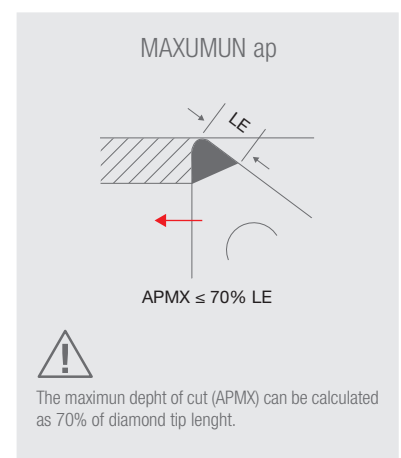
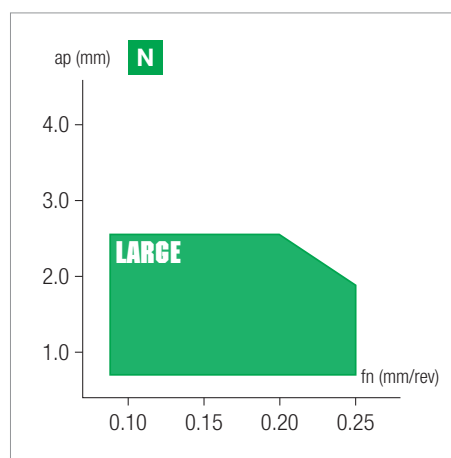
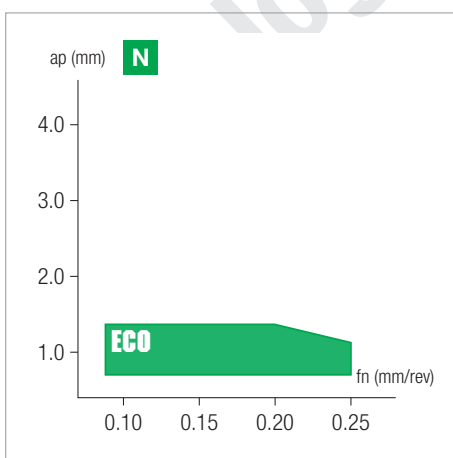
- The cutting edge is completely sharp (F type) as for all NIKKO diamond solutions
- The rake angle of all slant type is from 7° to 10°

### BROAD RANGE

- The availability of different tip sizes allow to face both finishing and roughing applications



## • Application range



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

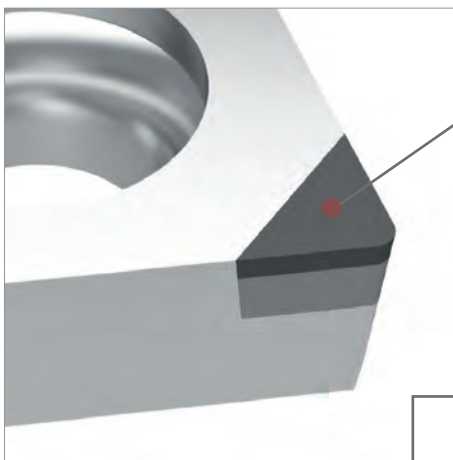
G - SPARE PARTS

# Flat tip

Cutting edge

- All-around solution for every kind of operation on non ferrous materials. The diamond tip is completely flat and is available both with eco and large tip dimensions
- Reliable and strong cutting edge able to produce excellent surface finishing
- The flat cutting edge can support machining from continuous to interrupted cut

## Features of Flat tip cutting edge

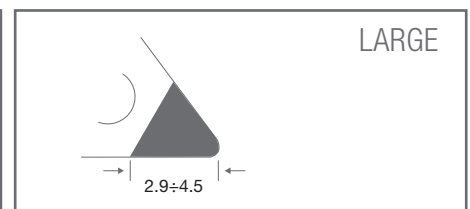
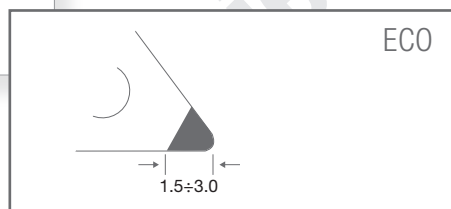


### RELIABLE CUTTING EDGE

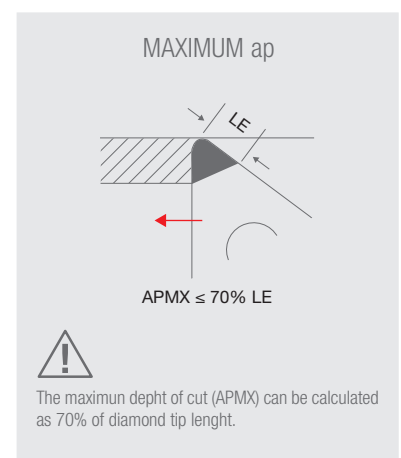
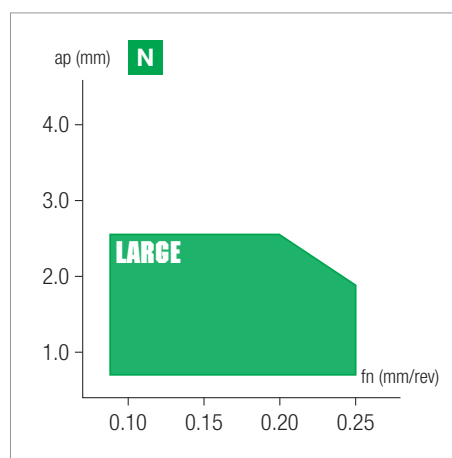
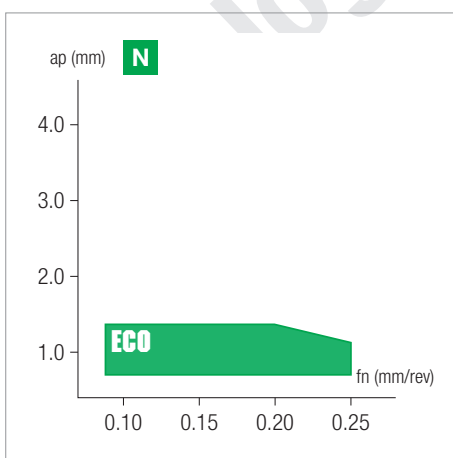
- Perfect combination among robust rake angle and sharp cutting edge
- First choice for universal use

### BROAD RANGE

- The availability of different tip sizes allow to face both finishing and roughing applications



## Application range



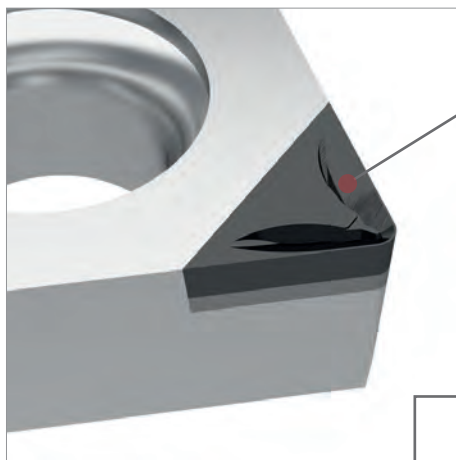


# CBU - 3D chipbreaker

Cutting edge

- Amazing chip control thanks to an improved 3D design made by latest laser technology
- Shows great performance from finishing to roughing
- Perfect for mass production operations avoiding problems caused by chips during automated manipulation of workpieces
- Sharp cutting edge to reduce scratches and improves surface finishing

## • Features of CBU chipbreaker

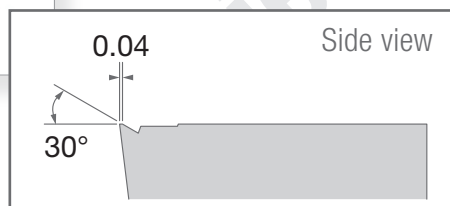


### STATE OF THE ART GEOMETRY

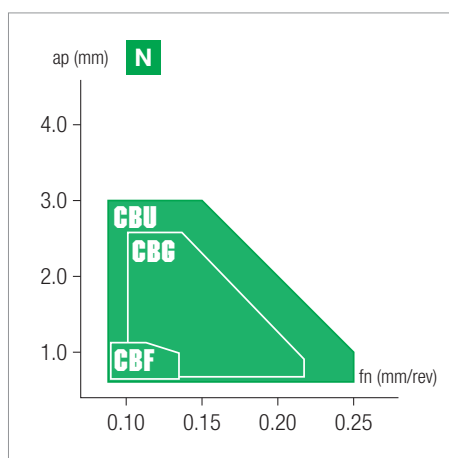
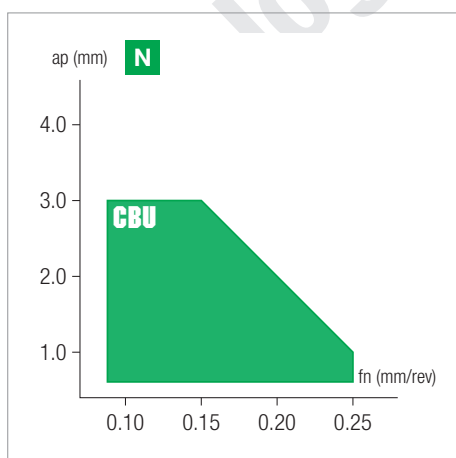
- The new design drastically improves the chip control performances
- Variable land to support broad range of application from finishing to roughing

### BROAD RANGE

- Most common geometries and radii available as standard. Tailor-made also possible upon request.



## • Application range



CBU VS. CONVENTIONAL STYLE

CBU cover the application range of our previous series (CBF, CBG) with improved performances.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

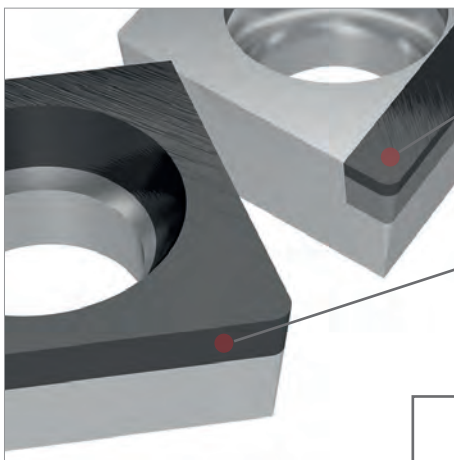
G - SPARE PARTS

# Full Face/Full Edge

Cutting edge

- Big size cutting edge for most severe cutting conditions with full face or with full cutting edge
- Best solutions for high depth of cut, chamfering application and when a long diamond tip is necessary due to a specific workpiece shape
- For full edge type (1S) generally is necessary to define the cutting direction (R or L)

## • Features of long cutting edge types

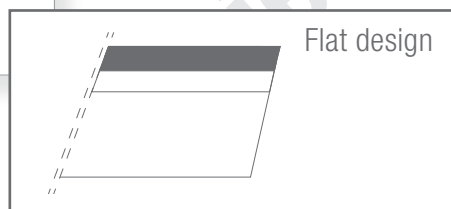


### 1S - FULL EDGE

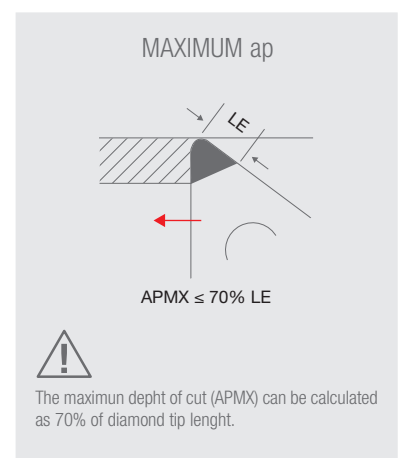
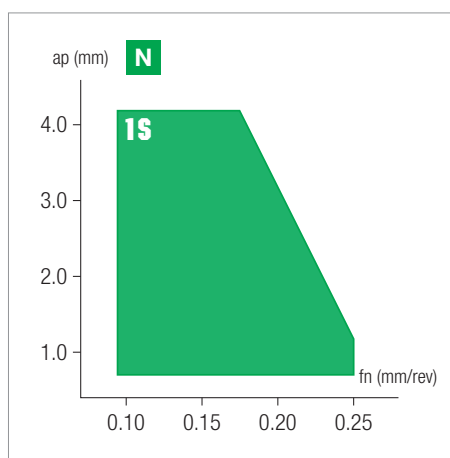
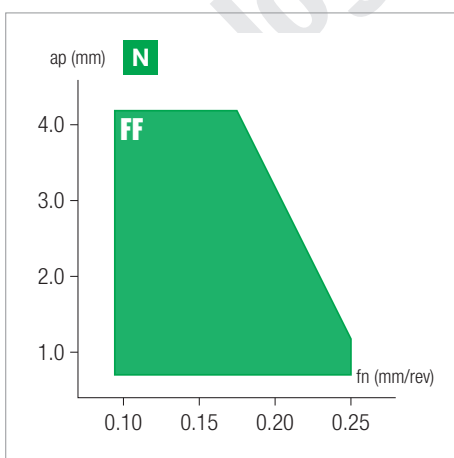
- Increased tip length allow higher depth of cut in comparison with conventional type
- Very common for long chamfering application

### FF - FULL FACE

- Great cost effective solution due to multiple cutting edges available. Maximum connection strength between PCD layer and carbide support.



## • Application range



N		STANDARD TIP		CHIPBREAKER			
		NEGATIVE	POSITIVE	NEGATIVE	POSITIVE		
●	tool life	ND150	ND150	-	-		
	▲ 1 <sup>st</sup> CHOICE ▼	<b>ND100</b>	<b>ND100</b>	-	<b>NDP010 / CBU</b>		
	toughness	ND050	ND050	-	-		
●	tool life	ND150	ND150	-	-		
	▲ 1 <sup>st</sup> CHOICE ▼	<b>ND100</b>	<b>ND100</b>	-	<b>NDP010 / CBU</b>		
	toughness	ND050	ND050	-	-		
⊕	tool life	ND100	ND100	-	-		
	▲ 1 <sup>st</sup> CHOICE ▼	<b>ND050</b>	<b>ND050</b>	-	-		
	toughness	-	-	-	-		

Catalogue Preview - AMD

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<b>D</b>	<b>C</b>	<b>G</b>	<b>X</b>	<b>11</b>	<b>T3</b>	<b>04</b>	-	<b>CBU</b>	-	<b>NDP</b>	<b>010</b>
1	2	3	4	5	6	7		8		9	10

1	SHAPE
C	80° rhombic
D	55° rhombic
K	55° parallelogram
S	90° square
T	60° triangular
V	35° rhombic
W	80° trigon

2	RELIEF ANGLE
B	5°
C	7°
D	15°
E	20°
N	0°
P	11°

3 TOLERANCES			
Symbol	I.C.	Thickness	Corner height
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
M	±0.05 ~ ±0.15	±0.13	±0.08 ~ ±0.18
U	±0.08 ~ ±0.25	±0.13	±0.13 ~ ±0.38

4 HOLE/CHIPBREAKER			
Symbol	Hole	Hole countersink	Chipbreaker
A	✓	✗	✗
G	✓	✗	double sided
M	✓	✗	single sided
N	✗	✗	✗
T	✓	40°÷60°	single sided
W	✓	40°÷60°	✗
X	NIKKO norm		

5 EDGE LENGHT							
I.C. (mm)	C shape	D shape	R shape	S shape	T shape	V shape	W shape
3.97	03	04		03	06		
4.76	04	05		04	08	08	
5.00			05				
5.56	05	06		05	09		03
6.00			06				
6.35	06	07		06	11	11	04
7.94	08	09		07	13		05
8.00			08				
9.53	09	11	09	09	16	16	06
10.00		12	10				
12.00							
12.70	12	15	12	12	22	22	08
15.88	16	19	15	15	27	24	10
16.00			16				
19.05	19	23	19	19	33	33	13
20.00			20				
22.23	22	27		22	38		
25.00			25				
25.40	25	31	25	25	44	44	17
31.75	32	38	31	31	54	54	21
32.00			32				

6 THICKNESS	
Symbol	(mm)
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.53

7 RADIUS	
Symbol	(mm)
005	0.05
01	0.10
02	0.20
04	0.40
08	0.80
12	1.20
16	1.60
20	2.00
24	2.40

8 EDGES GEOMETRY	
1S	full edge
CBU	3D chipbreaker
FF	full face
LRG	large tip size
-	eco tip size

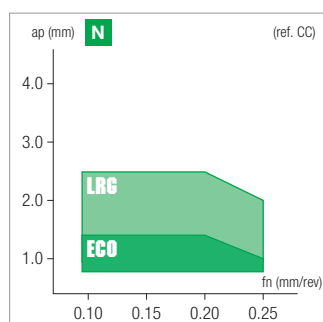
9 GRADE - features	
NDD	CVD diamond
NDM	monocrystalline diamond
NDP	PCD polycrystalline diamond

10 GRADE - grit size	
xxx	diamond grit (µm)

<h1>CC</h1>	DP: Polycrystalline diamond						
	DP	DP	DP	DP	DP	DP	
ISO - with hole	<b>ND050</b>	<b>ND100</b>	<b>ND120</b>	<b>ND150</b>	<b>ND190</b>	<b>NDP010</b>	
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>Clearance angle 7°, effectively reduces the risk of chip jamming when boring</li> <li>80° corner can be used for both turning and facing operations</li> <li>3D Chip breaker type enables excellent chip flow and chip control</li> <li>Full edge and full face type allows maximum ap and special applications</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○ ● ● ● ● ●				
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	● ● ● ○ ●				
	Unstable machining, heavy cut	● 1 <sup>st</sup> choice ○ suitable	○ ○ ○ ○ ○ ○				
<b>Dimensions</b>	<b>ISO</b>						
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>						
	<b>P</b>						
	<b>M</b>						
	<b>K</b>						
	<b>N</b>	500 1500	500 2000	500 2000	500 2500	500 2500	500 2000
	<b>S</b>	50 100					
<b>H</b>							

Designation		RE	IC	S	D1	LE	Stock						
<b>SLANT TIP</b> 	<b>eco N</b>	0.2	6.35	2.38	2.8	2.8		●					
	CCGT060202	0.4	6.35	2.38	2.8	2.8	○	●		○			
	CCGT060204	0.8	6.35	2.38	2.8	2.7		○					
	CCGT060208	0.2	9.525	3.97	4.4	2.8		●					
	CCGT09T302	0.4	9.525	3.97	4.4	2.8	●	●		●	○		
	CCGT09T304	0.8	9.525	3.97	4.4	2.7	○	●		●	○		
	CCGT09T308	0.4	12.7	4.76	5.5	2.8		●					
	CCGT120404	0.8	12.7	4.76	5.5	2.7		○					
<b>SLANT TIP</b> 	<b>LRG N</b>	0.4	6.35	2.38	2.8	3.2		○					
	CCGT060204-LRG	0.4	9.525	3.97	4.4	4.3		●					
	CCGT09T304-LRG	0.8	9.525	3.97	4.4	4.2		●					
	CCGT09T308-LRG	0.4	12.7	4.76	5.5	4.3		○					
	CCGT120404-LRG	0.8	12.7	4.76	5.5	4.2		○					
<b>FLAT TIP</b> 	<b>eco N</b>	0.2	6.35	2.38	2.8	2.8	○	●		○			
	CCGW060202	0.4	6.35	2.38	2.8	2.8	●	●		●			
	CCGW060204	0.8	6.35	2.38	2.8	2.7	○	○		○			
	CCGW060208	0.2	9.525	3.97	4.4	2.8		●					
	CCGW09T302	0.4	9.525	3.97	4.4	2.8	●	●		●	●		
	CCGW09T304	0.8	9.525	3.97	4.4	2.7	●	●		○	●		
	CCGW09T308	0.4	12.7	4.76	5.5	2.8	○	○		○			
	CCGW120404	0.8	12.7	4.76	5.5	2.7	○	○		○			
	CCGW120408	0.4	6.35	2.38	2.8	3.2		○					
<b>FLAT TIP</b> 	<b>LRG N</b>	0.4	9.525	3.97	4.4	4.3		●					
	CCGW09T304-LRG	0.8	9.525	3.97	4.4	4.2		○					
	CCGW09T308-LRG	0.4	12.7	4.76	5.5	4.3		●					
	CCGW120404-LRG	0.8	12.7	4.76	5.5	4.2		○					
	CCGW120408-LRG	0.4	6.35	2.38	2.8	3.2		○					

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

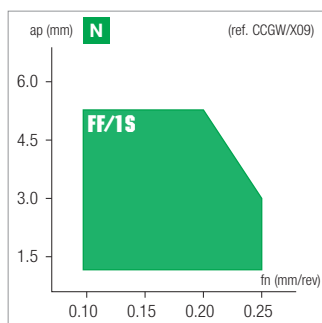
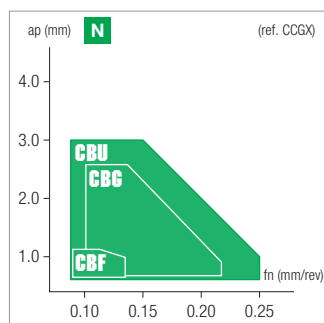
F - ACCESSORIES

G - SPARE PARTS

<h1>CC</h1>	DP: Polycrystalline diamond						DP	DP	DP	DP	DP	DP	
	ISO - with hole						ND050	ND100	ND120	ND150	ND190	NDP010	
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>Clearance angle 7°, effectively reduces the risk of chip jamming when boring</li> <li>80° corner can be used for both turning and facing operations</li> <li>3D Chip breaker type enables excellent chip flow and chip control</li> <li>Full edge and full face type allows maximum ap and special applications</li> </ul>	Stable machining, light cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>			
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>			
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	<b>Dimensions</b>		<b>ISO</b>										
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>											
		<b>P</b>											
		<b>M</b>											
		<b>K</b>											
		<b>N</b>	500	500	500	500	500	500	1500	2000	2000	2500	2500
		<b>S</b>	50						100				
<b>H</b>													

	Designation	RE	IC	S	D1	LE	Stock						
<b>3D CHIPBREAKER</b>  universal use	CCGX060202-CBU	0.2	6.35	2.38	2.8	3.3							●
	CCGX060204-CBU	0.4	6.35	2.38	2.8	3.1							●
	CCGX060208-CBU	0.8	6.35	2.38	2.8	2.6							●
	CCGX09T304-CBU	0.4	9.525	3.97	4.4	3.5							●
	CCGX09T308-CBU	0.8	9.525	3.97	4.4	3.3							●
<b>3D CHIPBREAKER</b>  finishing	CCGX060202-CBF	0.2	6.35	2.38	2.8	3.3				▽			
	CCGX060204-CBF	0.4	6.35	2.38	2.8	3.3				▽			
<b>3D CHIPBREAKER</b>  medium	CCGX09T308-CBG	0.8	9.525	3.97	4.4	4.2				▽			
<b>FULL EDGE</b>  high depth of cut right-hand shown	CCGX060204 <sup>1/2</sup> -1S	0.4	6.35	2.38	2.8	6				○			
	CCGX09T304 <sup>1/2</sup> -1S	0.4	9.525	3.97	4.4	9.3				○			
<b>FULL FACE</b>  high depth of cut	CCGW09T304-FF	0.4	9.525	3.97	4.4	9.3							●

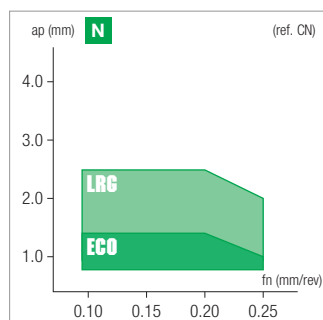
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<b>CN</b>	DP: Polycrystalline diamond	DP	
		<b>ND100</b>	
<b>ISO - with hole</b>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable ●		
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Strong cutting edge with secure seating in the insert pocket creates good surface finishing</li> <li>Strong cutting edge with secure seating in the insert pocket creates good surface finishing</li> <li>Flat tip offers economical solution</li> <li>Large tip allows much bigger ap, available with both slant and flat style</li> </ul>	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable ●		
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ○ suitable		
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
		<b>P</b>	
		<b>M</b>	
<b>K</b>			
<b>N</b>		500 2000	
<b>S</b>			
		<b>H</b>	

Designation		RE	IC	S	D1	LE	Stock
<b>SLANT TIP</b> <b>eco N</b>	CNGM120404	0.4	12.7	4.76	5.16	2.8	●
	CNGM120408 tip angle 7°	0.8	12.7	4.76	5.16	2.7	●
<b>SLANT TIP</b> <b>LRG N</b>	CNGM120404-LRG	0.4	12.7	4.76	5.16	4.3	○
	CNGM120408-LRG large tip tip angle 7°	0.8	12.7	4.76	5.16	4.2	○
<b>FLAT TIP</b> <b>eco N</b>	CNGA120404	0.4	12.7	4.76	5.16	2.8	○
	CNGA120408	0.8	12.7	4.76	5.16	2.7	●
<b>FLAT TIP</b> <b>LRG N</b>	CNGA120404-LRG	0.4	12.7	4.76	5.16	4.3	○
	CNGA120408-LRG large tip	0.8	12.7	4.76	5.16	4.2	○

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

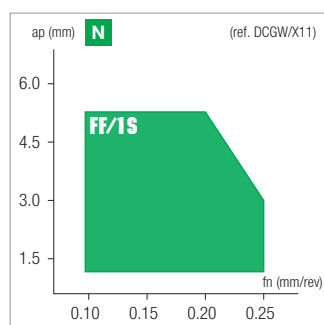
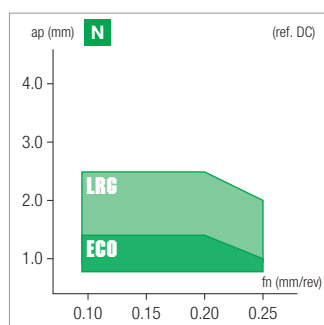
F - ACCESSORIES

G - SPARE PARTS

<h1>DC</h1>	DP: Polycrystalline diamond DC: Polycrystalline diamond						
	DP	DP	DP	DP	DP	DP	
ISO - with hole	ND050	ND100	ND120	ND150	ND190	NDP010	
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>7° clearance angle, less risk of chip-jamming in boring</li> <li>Chip breaker type enables excellent chip flow and chip control</li> <li>Full edge and full face type allows maximum ap and special applications</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable		Dimensions ISO Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)				
	<b>P</b>						
	<b>M</b>						
	<b>K</b>						
	<b>N</b>	500 1500	500 2000	500 2000	500 2500	500 2500	500 2000
	<b>S</b>	50 100					
	<b>H</b>						

Designation		RE	IC	S	D1	LE	Stock					
SLANT TIP  tip angle 7°	eco <b>N</b> DCGT070202	0.2	6.35	2.38	2.8	2.5	●					
	DCGT070204	0.4	6.35	2.38	2.8	2.4	●					
	DCGT070208	0.8	6.35	2.38	2.8	2	●					
	DCGT11T302	0.2	9.525	3.97	4.4	2.5	●					
	DCGT11T304	0.4	9.525	3.97	4.4	2.4	●	●	●	○		
	DCGT11T308	0.8	9.525	3.97	4.4	2	●	●	○	○		
SLANT TIP  large tip tip angle 7°	DCGT070204-LRG	0.4	6.35	2.38	2.8	2.9	○					
	DCGT11T304-LRG	0.4	9.525	3.97	4.4	3.9	●					
	DCGT11T308-LRG	0.8	9.525	3.97	4.4	3.5	●					
FLAT TIP 	eco <b>N</b> DCGW070202	0.2	6.35	2.38	2.8	2.5	●	●	○			
	DCGW070204	0.4	6.35	2.38	2.8	2.4	○	●	○			
	DCGW070208	0.8	6.35	2.38	2.8	2	○	○	○			
	DCGW11T302	0.2	9.525	3.97	4.4	2.5	○	●	○			
	DCGW11T304	0.4	9.525	3.97	4.4	2.4	●	●	●	○		
	DCGW11T308	0.8	9.525	3.97	4.4	2	●	●	●	●		
FLAT TIP  large tip	DCGW070204-LRG	0.4	6.35	2.38	2.8	2.9	●					
	DCGW11T304-LRG	0.4	9.525	3.97	4.4	3.9	●					
	DCGW11T308-LRG	0.8	9.525	3.97	4.4	3.5	○					

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

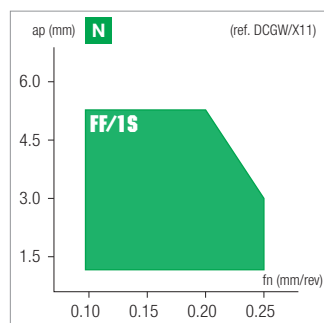
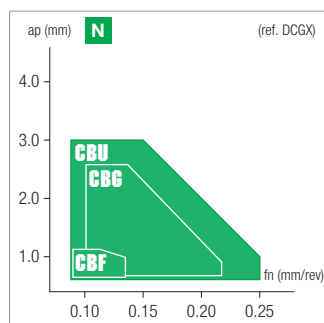




<h1>DC</h1>	DP: Polycrystalline diamond DC: Polycrystalline diamond						DP	DP	DP	DP	DP	DP					
	<p>ISO - with hole</p> <ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>7° clearance angle, less risk of chip-jamming in boring</li> <li>Chip breaker type enables excellent chip flow and chip control</li> <li>Full edge and full face type allows maximum ap and special applications</li> </ul>						Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚠ suitable										
<p>Dimensions</p>							ISO <b>P</b> <b>M</b> <b>K</b> <b>N</b> <b>S</b> <b>H</b>						Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)				
												ND050	ND100	ND120	ND150	ND190	NDP010

Designation		RE	IC	S	D1	LE	Stock						
3D CHIPBREAKER <b>CBU N</b> universal use	DCGX070202-CBU	0.2	6.35	2.38	2.8	3.4							●
	DCGX070204-CBU	0.4	6.35	2.38	2.8	3.2							●
	DCGX11T302-CBU	0.2	9.525	3.97	4.4	4.2							●
	DCGX11T304-CBU	0.4	9.525	3.97	4.4	3.8							●
	DCGX11T308-CBU	0.8	9.525	3.97	4.4	3.6							●
3D CHIPBREAKER <b>CBF N</b> finishing	DCGX070202-CBF	0.2	6.35	2.38	2.8	3				▽			
	DCGX11T302-CBF	0.2	9.525	3.97	4.4	4				▽			
3D CHIPBREAKER <b>CBG N</b> medium	DCGX11T304-CBG	0.4	9.525	3.97	4.4	3.9				▽			
	DCGX11T308-CBG	0.8	9.525	3.97	4.4	3.5				▽			
FULL EDGE <b>1S N</b> high depth of cut right-hand shown	DCGX070204/-1S	0.4	6.35	2.38	2.8	7.4						●	
	DCGX11T304/-1S	0.4	9.525	3.97	4.4	11.2						○	
	DCGX11T308/-1S	0.8	9.525	3.97	4.4	10.8						○	
FULL FACE <b>FF N</b> high depth of cut	DCGW070204-FF	0.4	6.35	2.38	2.8	7.4							●
	DCGW11T304-FF	0.4	9.525	3.97	4.4	11.2							●
	DCGW11T308-FF	0.8	9.525	3.97	4.4	10.8							●

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

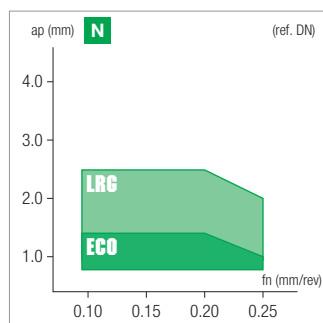


- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<h1>DN</h1>	DP: Polycrystalline diamond		DP
	<h2>ISO - with hole</h2>		<b>ND100</b>
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>7° clearance angle, less risk of chip-jamming in boring</li> <li>Slant tip enables better chip flow and chip control</li> <li>Large tip allows much bigger ap, available with both slant and flat style</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable ●		
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable ●		
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ○ suitable		
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
		<b>P</b>	
		<b>M</b>	
		<b>K</b>	
		<b>N</b>	500 2000
		<b>S</b>	
		<b>H</b>	

Designation		RE	IC	S	D1	LE	Stock	
<b>SLANT TIP</b> 	<b>eco N</b> DNGM150604	0.4	12.7	6.35	5.16	2.4	○	
	tip angle 7° DNGM150608	0.8	12.7	6.35	5.16	2	○	
<b>SLANT TIP</b>  <b>large tip</b> tip angle 7°	DNGM150604-LRG	0.4	12.7	6.35	5.16	3.9	○	
	DNGM150608-LRG	0.8	12.7	6.35	5.16	3.5	○	
<b>FLAT TIP</b> 	<b>eco N</b> DNGA150604	0.4	12.7	6.35	5.16	2.4	○	
	DNGA150608	0.8	12.7	6.35	5.16	2	●	
<b>FLAT TIP</b>  <b>large tip</b>	DNGA150604-LRG	0.4	12.7	6.35	5.16	3.9	○	
	DNGA150608-LRG	0.8	12.7	6.35	5.16	3.5	○	

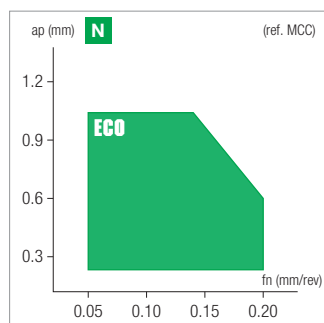
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>MCC</h1>	DP: Polycrystalline diamond			DP	DP	DP			
	ISO - with hole			<b>ND050</b>	<b>ND120</b>	<b>ND190</b>			
<ul style="list-style-type: none"> <li>1st solution for micro-boring</li> <li>Precision brazed and ground insert for microboring operation, completing the micro CC family</li> <li>Micro boring bar with coolant both in steel (with Vortex technology) and in carbide</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>			
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>				
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>				
	<b>Dimensions</b>	<b>ISO</b>			<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
	<b>P</b>								
	<b>M</b>								
	<b>K</b>								
	<b>N</b>	500	500	500					
		1500	2000	2500					
	<b>S</b>	50							
	100								
<b>H</b>									
<b>Designation</b>	<b>RE</b>	<b>IC</b>	<b>S</b>	<b>D1</b>	<b>LE</b>	<b>Stock</b>			
<b>FLAT TIP</b> 	<b>eco N</b>								
	<b>MCC.R02</b>	0.2	3.5	1.4	1.9	1.5	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<b>MCC.R04</b>	0.4	3.5	1.4	1.9	1.5	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

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

Catalogue Preview - AMB



A - TURNING

B - THREADING

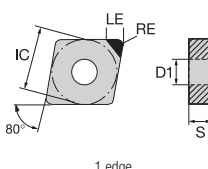
C - GROOVING




D - MILLING

E - DRILLING

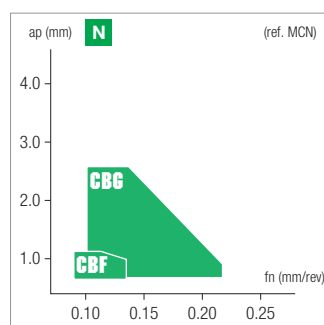
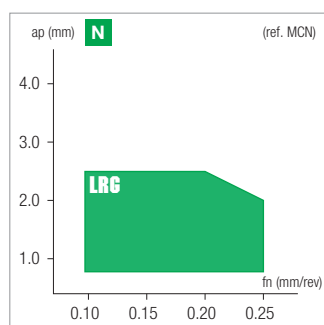
F - ACCESSORIES

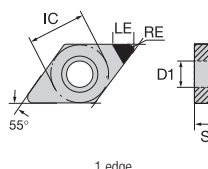
G - SPARE PARTS




<h1>MCN</h1>	DP: Polycrystalline diamond	DP
	<b>ND120</b>	
MicroNega - with hole	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚠ suitable	
<ul style="list-style-type: none"> <li>MicroNega system it serves as an alternative to positive conventional solutions</li> <li>Excellent economy for external small part machining or small boring application</li> <li>MicroNega family's PCD Solution, compatible with the entire holder range of MicroNega system</li> <li>Chip breaker type enables excellent chip flow and chip control, greatly improves the boring application</li> <li>Flat large tip offers economical solution allowing much bigger ap</li> </ul>	<b>Dimensions</b> 	<b>ISO</b> P M K N 500 2000 S H
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>

Designation		RE	IC	S	D1	LE	Stock
<b>FLAT TIP</b> <b>LRG N</b>  large tip	MCN.R02G-LRG	0.2	7.5	3.18	3.6	3.3	●
	MCN.R04G-LRG	0.4	7.5	3.18	3.6	3.3	●
	MCN.R08G-LRG	0.8	7.5	3.18	3.6	3.2	●
<b>3D CHIPBREAKER</b> <b>CBF N</b>  finishing	MCN.R02G-CBF	0.2	7.5	3.18	3.6	3.3	●
	MCN.R04G-CBF	0.4	7.5	3.18	3.6	3.3	●
<b>3D CHIPBREAKER</b> <b>CBG N</b>  medium	MCN.R04G-CBG	0.4	7.5	3.18	3.6	3.3	●
	MCN.R08G-CBG	0.8	7.5	3.18	3.6	3.2	●

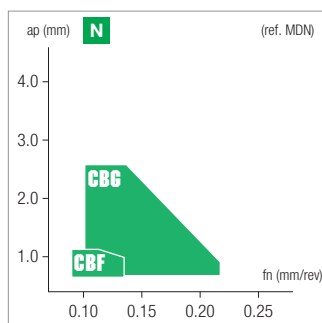
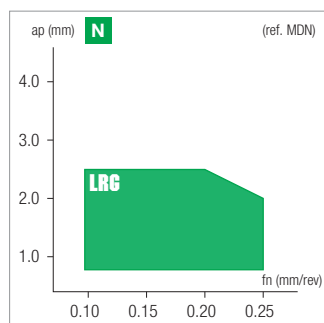
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>MDN</h1>	DP: Polycrystalline diamond	DP
	<b>ND120</b>	
<p><b>MicroNega - with hole</b></p> <ul style="list-style-type: none"> <li>• MicroNega system it serves as an alternative to positive conventional solutions</li> <li>• Excellent economy for external small part machining or small boring application</li> <li>• MicroNega family's PCD Solution, compatible with the entire holder range of MicroNega system</li> <li>• Chip breaker type enables excellent chip flow and chip control, greatly improves the boring application</li> <li>• Flat large tip offers economical solution allowing much bigger ap</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable ●	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable ●	
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable ○	
	Dimensions 	ISO <b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
	P M K N 500 S 2000 H	

Designation		RE	IC	S	D1	LE	Stock
<b>FLAT TIP</b>  LRG <b>N</b> large tip	MDN.R02G-LRG	0.2	7	3.18	3.6	3.1	●
	MDN.R04G-LRG	0.4	7	3.18	3.6	2.9	●
	MDN.R08G-LRG	0.8	7	3.18	3.6	2.5	●
<b>3D CHIPBREAKER</b>  CBF <b>N</b> finishing	MDN.R02G-CBF	0.2	7	3.18	3.6	3.1	●
	MDN.R04G-CBF	0.4	7	3.18	3.6	2.9	●
<b>3D CHIPBREAKER</b>  CBG <b>N</b> medium	MDN.R04G-CBG	0.4	7	3.18	3.6	2.9	●
	MDN.R08G-CBG	0.8	7	3.18	3.6	2.5	●

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

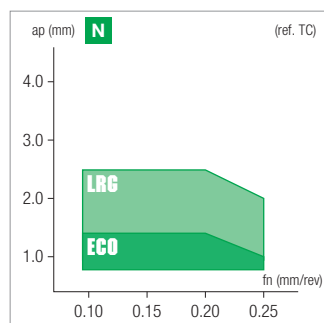
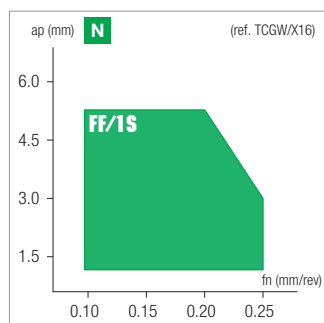
F - ACCESSORIES

G - SPARE PARTS

<h1>TC</h1>	DP: Polycrystalline diamond					DP	DP	DP	DP	DP
	ISO - with hole					<b>ND050</b>	<b>ND100</b>	<b>ND120</b>	<b>ND150</b>	<b>NDP010</b>
<ul style="list-style-type: none"> <li>Very versatile insert shape</li> <li>Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>3D Chip breaker type enables excellent chip flow and chip control</li> <li>Full edge and full face type allows maximum ap and special applications</li> </ul>	Stable machining, light cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	<b>Dimensions</b>		<b>ISO</b>							
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>								
		<b>P</b>								
		<b>M</b>								
		<b>K</b>								
		<b>N</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>1500</b>	<b>2000</b>	<b>2000</b>
<b>S</b>	<b>50</b>	<b>100</b>								
<b>H</b>										

Designation		RE	IC	S	D1	LE	Stock					
SLANT TIP  tip angle 7°	<b>eco N</b> TCGT090202	0.2	5.56	2.38	2.5	2.6		<input type="radio"/>				
	TCGT090204	0.4	5.56	2.38	2.5	2.5		<input type="radio"/>				
	TCGT110202	0.2	6.35	2.38	2.8	2.6		<input type="radio"/>				
	TCGT110204	0.4	6.35	2.38	2.8	2.5		<input checked="" type="radio"/>				
	TCGT110208	0.8	6.35	2.38	2.8	2.2		<input type="radio"/>				
	TCGT16T304	0.4	9.525	3.97	4.4	2.5		<input type="radio"/>				
	TCGT16T308	0.8	9.525	3.97	4.4	2.2		<input type="radio"/>				
SLANT TIP  large tip tip angle 7°	TCGT110204-LRG	0.4	6.35	2.38	2.8	4		<input type="radio"/>				
	TCGT110208-LRG	0.8	6.35	2.38	2.8	3.7		<input type="radio"/>				
	TCGT16T304-LRG	0.4	9.525	3.97	4.4	4		<input type="radio"/>				
	TCGT16T308-LRG	0.8	9.525	3.97	4.4	3.7		<input type="radio"/>				
FLAT TIP 	<b>eco N</b> TCGW090202	0.2	5.56	2.38	2.5	2.6		<input type="radio"/>				
	TCGW090204	0.4	5.56	2.38	2.5	2.5		<input checked="" type="radio"/>				
	TCGW110202	0.2	6.35	2.38	2.8	2.6		<input type="radio"/>				
	TCGW110204	0.4	6.35	2.38	2.8	2.5		<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		
	TCGW110208	0.8	6.35	2.38	2.8	2.2		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	TCGW16T304	0.4	9.525	3.97	4.4	2.5		<input checked="" type="radio"/>				
	TCGW16T308	0.8	9.525	3.97	4.4	2.2		<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		
FLAT TIP  large tip	TCGW110204-LRG	0.4	6.35	2.38	2.8	4		<input type="radio"/>				
	TCGW110208-LRG	0.8	6.35	2.38	2.8	3.7		<input checked="" type="radio"/>				
	TCGW16T304-LRG	0.4	9.525	3.97	4.4	4		<input checked="" type="radio"/>				
	TCGW16T308-LRG	0.8	9.525	3.97	4.4	3.7		<input checked="" type="radio"/>				

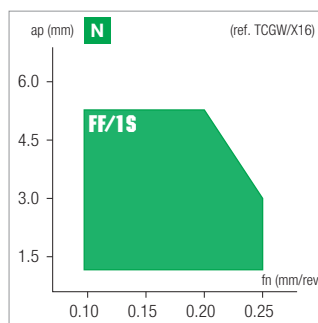
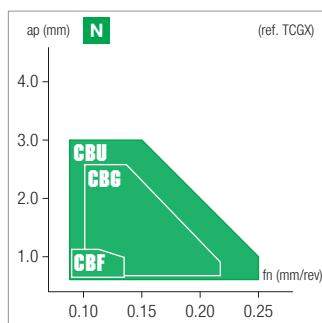
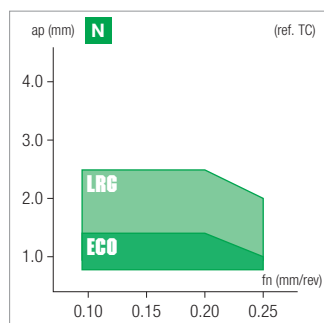
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>TC</h1>	DP: Polycrystalline diamond					DP	DP	DP	DP	DP
	ISO - with hole					<b>ND050</b>	<b>ND100</b>	<b>ND120</b>	<b>ND150</b>	<b>NDP010</b>
<ul style="list-style-type: none"> <li>• Very versatile insert shape</li> <li>• Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>• 3D Chip breaker type enables excellent chip flow and chip control</li> <li>• Full edge and full face type allows maximum ap and special applications</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	●	●	●	●	●		
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	○	●	●		
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊕ suitable	⊕							
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
	<b>P</b>									
	<b>M</b>									
	<b>K</b>									
	<b>N</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>1500</b>	<b>2000</b>	<b>2000</b>	<b>2500</b>
	<b>S</b>	<b>50</b>								
	<b>H</b>	<b>100</b>								

Designation		RE	IC	S	D1	LE	Stock					
3D CHIPBREAKER <b>CBU N</b> universal use	TCGX110204-CBU	0.4	6.35	2.38	2.8	3.4						●
	TCGX16T304-CBU	0.4	9.525	3.97	4.4	4.5						●
	TCGX16T308-CBU	0.8	9.525	3.97	4.4	4.1						●
3D CHIPBREAKER <b>CBF N</b> finishing	TCGX090202-CBF	0.2	5.56	2.38	2.5	3.6				▽		
	TCGX110202-CBF	0.2	6.35	2.38	2.8	4.1				▽		
	TCGX110204-CBF	0.4	6.35	2.38	2.8	4				▽		
	TCGX16T304-CBF	0.4	9.525	3.97	4.4	4				▽		
3D CHIPBREAKER <b>CBG N</b> medium	TCGX090204-CBG	0.4	5.56	2.38	2.5	3.5				▽		
	TCGX110204-CBG	0.4	6.35	2.38	2.8	4				▽		
	TCGX110208-CBG	0.8	6.35	2.38	2.8	3.7				▽		
	TCGX16T304-CBG	0.4	9.525	3.97	4.4	4				▽		
FULL EDGE <b>1S N</b> high depth of cut	TCGX090204-1S	0.4	5.56	2.38	2.5	9						●
	TCGX110204-1S	0.4	6.35	2.38	2.8	10.3						●
	TCGX16T304-1S	0.4	9.525	3.97	4.4	16.1						●
FULL FACE <b>FF N</b> high depth of cut	TCGW110204-FF	0.4	6.35	2.38	2.8	10.3						●
	TCGW16T304-FF	0.4	9.525	3.97	4.4	16.1						●

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

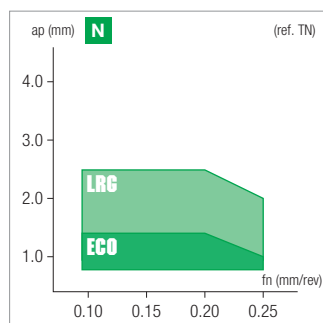
F - ACCESSORIES

G - SPARE PARTS

<h1>TN</h1>	DP: Polycrystalline diamond	DP
	<h2>ISO - with hole</h2>	<b>ND100</b>
<ul style="list-style-type: none"> <li>Very versatile insert shape</li> <li>Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>Slant tip enables better chip flow and chip control</li> <li>Large tip allows much bigger ap, available with both slant and flat style</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	
	<b>Dimensions</b> 	<b>ISO</b> <b>P</b> <b>M</b> <b>K</b> <b>N</b> 500 2000 <b>S</b> <b>H</b>

Designation		RE	IC	S	D1	LE	Stock
<b>SLANT TIP</b>  tip angle 7°	<b>eco N</b> TNGM160404	0.4	9.525	4.76	3.81	2.5	●
	TNGM160408	0.8	9.525	4.76	3.81	2	○
<b>SLANT TIP</b>  large tip tip angle 7°	TNGM160404-LRG	0.4	9.525	4.76	3.81	4	○
	TNGM160408-LRG	0.8	9.525	4.76	3.81	3.7	○
<b>FLAT TIP</b>  eco N	TNGA160404	0.4	9.525	4.76	3.81	2.5	○
	TNGA160408	0.8	9.525	4.76	3.81	2	○
<b>FLAT TIP</b>  large tip	TNGA160404-LRG	0.4	9.525	4.76	3.81	4	○
	TNGA160408-LRG	0.8	9.525	4.76	3.81	3.7	○

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

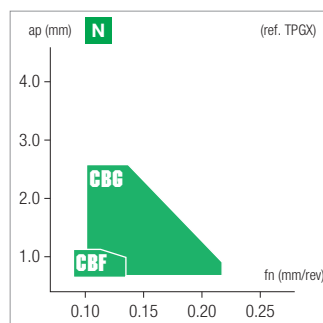
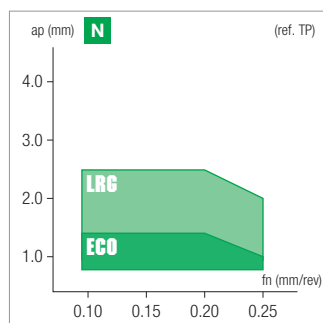




<h1>TP</h1>	DP: Polycrystalline diamond			DP	DP	DP	
	ISO - with hole			<b>ND050</b>	<b>ND100</b>	<b>ND120</b>	
<ul style="list-style-type: none"> <li>Very versatile insert shape</li> <li>Excellent choice for general boring due to very stable seating of the insert in the boring bar pocket</li> <li>Slant tip enables better chip flow and chip control</li> <li>Large tip allows much bigger ap, available with both slant and flat style</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	●	●		
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●		
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable	⊕				
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
	<b>P</b>						
	<b>M</b>						
	<b>K</b>						
	<b>N</b>	500	500	500	1500	2000	2000
	<b>S</b>	50					
	<b>H</b>						

Designation		RE	IC	S	D1	LE	Stock	
SLANT TIP 	<b>eco N</b> TPGT080202	0.2	4.76	2.38	2.3	2.6	○	○
	TPGT080204	0.4	4.76	2.38	2.3	2.5	●	○
	TPGT090202	0.2	4.76	2.38	2.3	2.6	○	○
	TPGT090204	0.4	4.76	2.38	2.3	2.5	○	○
	TPGT110302	0.2	4.76	2.38	2.3	2.6	●	○
	TPGT110304	0.4	4.76	2.38	2.3	2.2	●	○
FLAT TIP 	<b>eco N</b> TPGW080202	0.2	4.76	2.38	2.3	2.6	○	○
	TPGW080204	0.4	4.76	2.38	2.3	2.5	○	○
	TPGW090202	0.2	5.56	2.38	3	2.6	○	○
	TPGW090204	0.4	5.56	2.38	3	2.5	●	○
	TPGW110302	0.2	6.35	3.18	3.3	2.6	○	○
	TPGW110304	0.4	6.35	3.18	3.3	2.2	○	○
3D CHIPBREAKER 	<b>CBF N</b> TPGX090204-CBF	0.4	5.56	2.38	3	3.1		▽
	TPGX110302-CBF	0.2	6.35	3.18	3.3	4.1		▽
	TPGX110304-CBF	0.4	6.35	3.18	3.3	4		▽
3D CHIPBREAKER 	<b>CBG N</b> TPGX090204-CBG	0.4	5.56	2.38	3	3.1		▽
	TPGX110304-CBG	0.4	6.35	3.18	3.3	4		▽

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

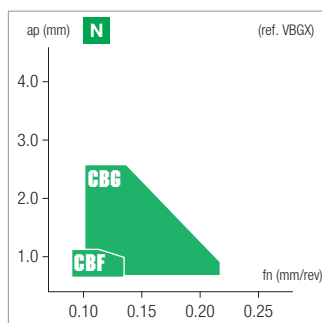
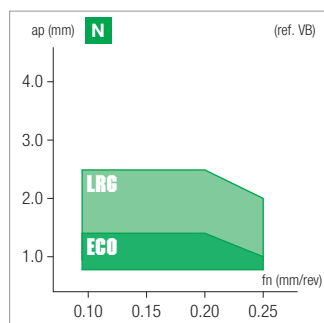
F - ACCESSORIES

G - SPARE PARTS

<h1>VB</h1>	DP: Polycrystalline diamond					DP	DP	DP	DP	DP
	ISO - with hole					ND050	ND100	ND120	ND150	ND190
<ul style="list-style-type: none"> <li>1st choice for intricate shape copy turning</li> <li>Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>Can work extremely close to the tailstock/live center</li> <li>3D Chip breaker type enables excellent chip flow and chip control</li> <li>Large tip allows much bigger ap, available with both slant and flat style</li> </ul>	Stable machining, light cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	<b>Dimensions</b>		<b>ISO</b>							
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>								
		<b>P</b>								
		<b>M</b>								
		<b>K</b>								
		<b>N</b>	500 1500	500 2000	500 2000	500 2500	500 2500			
<b>S</b>	50 100									
<b>H</b>										

Designation		RE	IC	S	D1	LE	Stock			
SLANT TIP  tip angle 7°	eco <b>N</b> VBGT110302	0.2	6.35	3.18	2.8	3	●	●	○	○
	VBGT110304	0.4	6.35	3.18	2.8	2.5	●			
	VBGT160404	0.4	9.525	4.76	4.4	2.5	●	●	○	○
	VBGT160408	0.8	9.525	4.76	4.4	2.2	●	●	●	○
SLANT TIP  large tip tip angle 7°	VBGT160404-LRG	0.4	9.525	4.76	4.4	4.5	●			
	VBGT160408-LRG	0.8	9.525	4.76	4.4	3.7	●			
FLAT TIP 	eco <b>N</b> VBGW110302	0.2	6.35	3.18	2.8	3	●	●	○	
	VBGW110304	0.4	6.35	3.18	2.8	2.5	○	●	○	
	VBGW160404	0.4	9.525	4.76	4.4	2.5	○	●	○	○
	VBGW160408	0.8	9.525	4.76	4.4	2.2	○	○	○	○
FLAT TIP  large tip	VBGW160404-LRG	0.4	9.525	4.76	4.4	4.5	●			
	VBGW160408-LRG	0.8	9.525	4.76	4.4	3.7	●			
3D CHIPBREAKER  finishing	VBGX110302-CBF	0.2	6.35	3.18	2.8	5			▽	
	VBGX110304-CBF	0.4	6.35	3.18	2.8	4.5			▽	
	VBGX160404-CBF	0.4	9.525	4.76	4.4	4.5			▽	

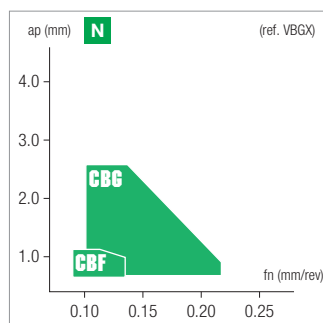
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>VB</h1>	DP: Polycrystalline diamond					DP	DP	DP	DP	DP	
	ISO - with hole					ND050	ND100	ND120	ND150	ND190	
<ul style="list-style-type: none"> <li>• 1st choice for intricate shape copy turning</li> <li>• Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>• Can work extremely close to the tailstock/live center</li> <li>• 3D Chip breaker type enables excellent chip flow and chip control</li> <li>• Large tip allows much bigger ap, available with both slant and flat style</li> </ul>	Stable machining, light cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>		
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	<b>Dimensions</b>	<b>ISO</b>					<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
	<b>P</b>										
	<b>M</b>										
	<b>K</b>										
	<b>N</b>	500	500	500	500	500	1500	2000	2000	2500	2500
	<b>S</b>	50					100				
	<b>H</b>										

3D CHIPBREAKER	CBG <b>N</b>	Designation	RE	IC	S	D1	LE	Stock			
		VBGX110304-CBG	0.4	6.35	3.18	2.8	4.5				▽
		VBGX160404-CBG	0.4	9.525	4.76	4.4	4.5				▽
	medium	VBGX160408-CBG	0.8	9.525	4.76	4.4	3.7				▽

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

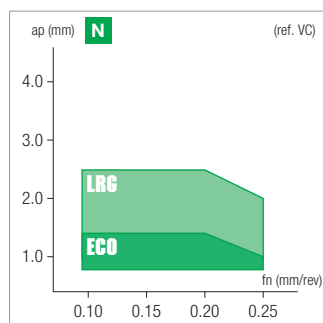
F - ACCESSORIES

G - SPARE PARTS

<h1>VC</h1>	DP: Polycrystalline diamond						DP	DP	DP	DP	DP	DP	
	ISO - with hole						ND050	ND100	ND120	ND150	ND190	NDP010	
<ul style="list-style-type: none"> <li>1st choice for intricate shape copy turning</li> <li>Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>Can work extremely close to the tailstock/live center</li> <li>3D Chip breaker type enables excellent chip flow and chip control</li> <li>Full edge type allows max. ap and special applications</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	●	●	●	●	●	●				
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	○	○	○	○	○	○	○		
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕		
Dimensions		ISO Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)											
		<b>P</b>											
		<b>M</b>											
		<b>K</b>											
		<b>N</b>	500	500	500	500	500	500	1500	2000	2000	2500	2500
		<b>S</b>	50	100									
		<b>H</b>											

Designation		RE	IC	S	D1	LE	Stock					
<b>SLANT TIP</b>  tip angle 7°	<b>eco N</b> VCGT110302	0.2	6.35	3.18	2.8	3	○	●				
	VCGT110304	0.4	6.35	3.18	2.8	2.5		○				
	VCGT160402	0.2	9.525	4.76	4.4	3		●				
	VCGT160404	0.4	9.525	4.76	4.4	2.5	○	●		●	○	
	VCGT160408	0.8	9.525	4.76	4.4	2.2	●	●		●	○	
<b>SLANT TIP</b>  large tip tip angle 7°	VCGT160404-LRG	0.4	9.525	4.76	4.4	4.5		●				
	VCGT160408-LRG	0.8	9.525	4.76	4.4	3.7		●				
<b>FLAT TIP</b> 	<b>eco N</b> VCGW110302	0.2	6.35	3.18	2.8	3	●	●				
	VCGW110304	0.4	6.35	3.18	2.8	2.5		●				
	VCGW160404	0.4	9.525	4.76	4.4	2.5	○	●		○	○	
	VCGW160408	0.8	9.525	4.76	4.4	2.2	●	●		○	○	
<b>FLAT TIP</b>  large tip	VCGW110304-LRG	0.4	6.35	3.18	2.8	4.5		●				
	VCGW160404-LRG	0.4	9.525	4.76	4.4	4.5		●				
	VCGW160408-LRG	0.8	9.525	4.76	4.4	3.7		●				
	VCGW160412-LRG	1.2	9.525	4.76	4.4	3.3		○				

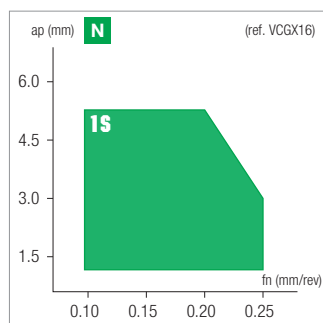
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>VC</h1>	DP: Polycrystalline diamond							
	DP	DP	DP	DP	DP	DP	DP	
ISO - with hole	ND050	ND100	ND120	ND150	ND190	NDP010		
<ul style="list-style-type: none"> <li>1st choice for intricate shape copy turning</li> <li>Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>Can work extremely close to the tailstock/live center</li> <li>3D Chip breaker type enables excellent chip flow and chip control</li> <li>Full edge type allows max. ap and special applications</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	●	●	●	●	
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	○	○	●	
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊕ suitable	⊕					
Dimensions	ISO <b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
	<b>P</b>							
	<b>M</b>							
	<b>K</b>							
	<b>N</b>	500 1500	500 2000	500 2000	500 2500	500 2500	500 2000	
	<b>S</b>	50 100						
	<b>H</b>							

Designation		RE	IC	S	D1	LE	Stock						
3D CHIPBREAKER <b>CBU N</b> <i>universal use</i>	VCGX110302-CBU	0.2	6.35	3.18	2.8	4.5							●
	VCGX110304-CBU	0.4	6.35	3.18	2.8	4							●
	VCGX160404-CBU	0.4	9.525	4.76	4.4	5							●
	VCGX160408-CBU	0.8	9.525	4.76	4.4	4.4							●
3D CHIPBREAKER <b>CBF N</b> <i>finishing</i>	VCGX110302-CBF	0.2	6.35	3.18	2.8	5				▽			
	VCGX110304-CBF	0.4	6.35	3.18	2.8	4.5				▽			
	VCGX160404-CBF	0.4	9.525	4.76	4.4	4.5				▽			
3D CHIPBREAKER <b>CBG N</b> <i>medium</i>	VCGX110304-CBG	0.4	6.35	3.18	2.8	4.5				▽			
FULL EDGE <b>1S N</b> <i>high depth of cut right-hand shown</i>	VCGX110304/r-1S	0.4	6.35	3.18	2.8	10.7							●
	VCGX160404/r-1S	0.4	9.525	4.76	4.4	16.2							●

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

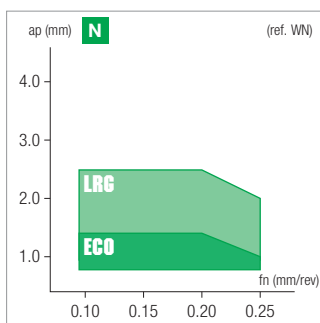


- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<h1>WN</h1>	DP: Polycrystalline diamond		DP
	ISO - with hole		<b>ND100</b>
<ul style="list-style-type: none"> <li>Generally used on more moderate depths of cut and feedrates than 80° C shape inserts</li> <li>Slant tip enables better chip flow and chip control</li> <li>Large tip allows much bigger ap, available with both slant and flat style</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	●
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice ▼ suitable	
<b>Dimensions</b>	<b>ISO Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>		
	<b>P</b>		
	<b>M</b>		
	<b>K</b>		
	<b>N</b>	500 2000	
	<b>S</b>		
	<b>H</b>		

Designation		RE	IC	S	D1	LE	Stock
<b>SLANT TIP</b> 	<b>eco N</b> WNGM080404	0.4	12.7	4.76	5.16	2.8	●
	tip angle 7° WNGM080408	0.8	12.7	4.76	5.16	2.7	●
<b>SLANT TIP</b> 	<b>LRG N</b> WNGM080404-LRG	0.4	12.7	4.76	5.16	4.3	○
	<b>large tip</b> tip angle 7° WNGM080408-LRG	0.8	12.7	4.76	5.16	4.2	○
<b>FLAT TIP</b> 	<b>eco N</b> WNGA080404	0.4	12.7	4.76	5.16	2.8	●
	WNGA080408	0.8	12.7	4.76	5.16	2.7	○
<b>FLAT TIP</b> 	<b>LRG N</b> WNGA080404-LRG	0.4	12.7	4.76	5.16	4.3	○
	<b>large tip</b> WNGA080408-LRG	0.8	12.7	4.76	5.16	4.2	○

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



ISO 513	MATERIAL	ND050 (NDP001)			ND100 (NDP010)			ND150 (NDP302)			ND190 (NDP025)					
		min	start	max	min	start	max	min	start	max	min	start	max			
<b>N1</b>	Aluminium alloys Si ≤ 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)	○	600	1300	2000	●	600	1500	2400							
		●	450	1100	1750	●	450	1300	2150							
		⊕	400	1000	1600											
<b>N2</b>	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)				●	300	500	700	●	400	600	800	●	400	700	1000
					●	250	400	550	○	350	500	650				
<b>N3</b>	Copper alloy (ex. 2.0060/E-Cu57)	○	400	800	1200	●	400	900	1400							
		●	350	700	1050	●	350	800	1250							
		⊕	300	600	900											
<b>S4 - S5</b>	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)	○	50	75	100											
		●	45	60	75											
		⊕	40	50	60											

Catalogue Preview - AMB

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
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DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
CCGT060202	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
CCGT060204	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
CCGT060204-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CCGT060208	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
CCGT09T302	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
CCGT09T304	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
CCGT09T304-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CCGT09T308	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
CCGT09T308-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
CCGT120404	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
CCGT120404-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CCGT120408	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
CCGT120408-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
CCGW060202	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
CCGW060204	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
CCGW060204-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CCGW060208	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
CCGW09T302	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
CCGW09T304	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
CCGW09T304-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CCGW09T308	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
CCGW09T308-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
CCGW09T308-FF	0.50	<b>3.00</b>	5.50	0.15	<b>0.20</b>	0.25
CCGW120404	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
CCGW120404-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CCGW120408	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
CCGW120408-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
CCGX060202-CBF	0.20	<b>0.60</b>	1.00	0.04	<b>0.08</b>	0.12
CCGX060202-CBU	0.20	<b>1.50</b>	2.80	0.04	<b>0.08</b>	0.12
CCGX060204-CBF	0.20	<b>0.60</b>	1.00	0.05	<b>0.10</b>	0.15
CCGX060204-CBG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CCGX060204-CBU	0.20	<b>1.50</b>	2.80	0.04	<b>0.12</b>	0.20
CCGX060204- $\frac{1}{8}$ -1S	0.50	<b>2.00</b>	3.50	0.10	<b>0.15</b>	0.20
CCGX060208-CBU	0.20	<b>1.50</b>	2.80	0.08	<b>0.18</b>	0.26
CCGX09T304-CBG	0.50	<b>1.50</b>	2.50	0.10	<b>0.15</b>	0.20
CCGX09T304-CBU	0.20	<b>1.50</b>	2.80	0.04	<b>0.12</b>	0.20
CCGX09T304- $\frac{1}{8}$ -1S	0.50	<b>3.00</b>	5.50	0.10	<b>0.15</b>	0.20
CCGX09T308-CBG	0.50	<b>1.50</b>	2.50	0.15	<b>0.20</b>	0.25
CCGX09T308-CBU	0.20	<b>1.50</b>	2.80	0.08	<b>0.18</b>	0.26
CNGA120404	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
CNGA120404-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CNGA120408	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
CNGA120408-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
CNGM120404	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
CNGM120404-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
CNGM120408	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
CNGM120408-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
DCGT070202	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
DCGT070204	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
DCGT070204-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
DCGT070208	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
DCGT11T302	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
DCGT11T304	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
DCGT11T304-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
DCGT11T308	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
DCGT11T308-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
DCGW070202	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
DCGW070204	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
DCGW070204-FF	0.50	<b>2.00</b>	3.50	0.10	<b>0.15</b>	0.20
DCGW070204-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
DCGW070208	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
DCGW11T302	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
DCGW11T304	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
DCGW11T304-FF	0.50	<b>3.00</b>	5.50	0.10	<b>0.15</b>	0.20
DCGW11T304-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
DCGW11T308	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
DCGW11T308-FF	0.50	<b>3.00</b>	5.50	0.15	<b>0.20</b>	0.25
DCGW11T308-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
DCGX070202-CBF	0.20	<b>0.60</b>	1.00	0.04	<b>0.08</b>	0.12
DCGX070202-CBU	0.20	<b>1.50</b>	2.80	0.04	<b>0.08</b>	0.12
DCGX070204-CBU	0.20	<b>1.50</b>	2.80	0.04	<b>0.12</b>	0.20
DCGX070204- $\frac{1}{8}$ -1S	0.50	<b>2.00</b>	3.50	0.10	<b>0.15</b>	0.20
DCGX11T302-CBF	0.20	<b>0.60</b>	1.00	0.04	<b>0.08</b>	0.12
DCGX11T302-CBU	0.20	<b>1.50</b>	2.80	0.04	<b>0.08</b>	0.12
DCGX11T304-CBG	0.50	<b>1.50</b>	2.50	0.10	<b>0.15</b>	0.20
DCGX11T304-CBU	0.20	<b>1.50</b>	2.80	0.04	<b>0.12</b>	0.20
DCGX11T304- $\frac{1}{8}$ -1S	0.50	<b>3.00</b>	5.50	0.10	<b>0.15</b>	0.20
DCGX11T308-CBG	0.50	<b>1.50</b>	2.50	0.15	<b>0.20</b>	0.25
DCGX11T308-CBU	0.20	<b>1.50</b>	2.80	0.08	<b>0.18</b>	0.26
DCGX11T308- $\frac{1}{8}$ -1S	0.50	<b>3.00</b>	5.50	0.15	<b>0.20</b>	0.25
DNGA150604	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
DNGA150604-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
DNGA150608	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
DNGA150608-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
DNGM150604	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
DNGM150604-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
DNGM150608	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
DNGM150608-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20
MCC.R02	0.20	<b>0.60</b>	1.00	0.05	<b>0.10</b>	0.15
MCC.R04	0.20	<b>0.60</b>	1.00	0.10	<b>0.15</b>	0.20
MCN.R02G-CBF	0.20	<b>0.60</b>	1.00	0.04	<b>0.08</b>	0.12
MCN.R02G-LRG	0.40	<b>1.20</b>	2.00	0.05	<b>0.10</b>	0.15
MCN.R04G-CBF	0.20	<b>0.60</b>	1.00	0.05	<b>0.10</b>	0.15
MCN.R04G-CBG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
MCN.R04G-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
MCN.R08G-CBG	0.40	<b>1.20</b>	2.00	0.15	<b>0.20</b>	0.25
MCN.R08G-LRG	0.40	<b>1.20</b>	2.00	0.15	<b>0.20</b>	0.25
MDN.R02G-CBF	0.20	<b>0.60</b>	1.00	0.04	<b>0.08</b>	0.12
MDN.R02G-LRG	0.40	<b>1.20</b>	2.00	0.05	<b>0.10</b>	0.15
MDN.R04G-CBF	0.20	<b>0.60</b>	1.00	0.05	<b>0.10</b>	0.15
MDN.R04G-CBG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
MDN.R04G-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
MDN.R08G-CBG	0.40	<b>1.20</b>	2.00	0.15	<b>0.20</b>	0.25
MDN.R08G-LRG	0.40	<b>1.20</b>	2.00	0.15	<b>0.20</b>	0.25
TCGT090202	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
TCGT090204	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
TCGT110202	0.40	<b>1.00</b>	1.60	0.05	<b>0.10</b>	0.15
TCGT110204	0.40	<b>1.00</b>	1.60	0.10	<b>0.15</b>	0.20
TCGT110204-LRG	0.40	<b>1.20</b>	2.00	0.10	<b>0.15</b>	0.20
TCGT110208	0.40	<b>1.00</b>	1.60	0.15	<b>0.20</b>	0.25
TCGT110208-LRG	0.40	<b>1.50</b>	2.60	0.10	<b>0.15</b>	0.20



DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
TCGT16T304	0.40	1.00	1.60	0.10	0.15	0.20
TCGT16T304-LRG	0.40	1.20	2.00	0.10	0.15	0.20
TCGT16T308	0.40	1.00	1.60	0.15	0.20	0.25
TCGT16T308-LRG	0.40	1.50	2.60	0.10	0.15	0.20
TCGW090202	0.40	1.00	1.60	0.05	0.10	0.15
TCGW090204	0.40	1.00	1.60	0.10	0.15	0.20
TCGW110202	0.40	1.00	1.60	0.05	0.10	0.15
TCGW110204	0.40	1.00	1.60	0.10	0.15	0.20
TCGW110204-FF	0.50	2.00	3.50	0.10	0.15	0.20
TCGW110204-LRG	0.40	1.20	2.00	0.10	0.15	0.20
TCGW110208	0.40	1.00	1.60	0.15	0.20	0.25
TCGW110208-LRG	0.40	1.50	2.60	0.10	0.15	0.20
TCGW16T304	0.40	1.00	1.60	0.10	0.15	0.20
TCGW16T304-FF	0.50	3.00	5.50	0.10	0.15	0.20
TCGW16T304-LRG	0.40	1.20	2.00	0.10	0.15	0.20
TCGW16T308	0.40	1.00	1.60	0.15	0.20	0.25
TCGW16T308-LRG	0.40	1.50	2.60	0.10	0.15	0.20
TCGX090202-CBF	0.20	0.60	1.00	0.04	0.08	0.12
TCGX090204-1S	0.50	1.50	2.50	0.10	0.15	0.20
TCGX090204-CBG	0.40	1.20	2.00	0.10	0.15	0.20
TCGX110202-CBF	0.20	0.60	1.00	0.04	0.08	0.12
TCGX110204-1S	0.50	2.00	3.50	0.10	0.15	0.20
TCGX110204-CBF	0.20	0.60	1.00	0.05	0.10	0.15
TCGX110204-CBG	0.50	1.50	2.50	0.10	0.15	0.20
TCGX110204-CBU	0.20	1.50	2.80	0.04	0.12	0.20
TCGX110208-CBG	0.50	1.50	2.50	0.15	0.20	0.25
TCGX16T304-1S	0.50	3.00	5.50	0.10	0.15	0.20
TCGX16T304-CBF	0.20	0.60	1.00	0.05	0.10	0.15
TCGX16T304-CBG	0.50	1.50	2.50	0.10	0.15	0.20
TCGX16T304-CBU	0.20	1.50	2.80	0.04	0.12	0.20
TCGX16T308-CBG	0.50	1.50	2.50	0.15	0.20	0.25
TCGX16T308-CBU	0.20	1.50	2.80	0.08	0.18	0.26
TNGA160404	0.40	1.00	1.60	0.10	0.15	0.20
TNGA160404-LRG	0.40	1.20	2.00	0.10	0.15	0.20
TNGA160408	0.40	1.00	1.60	0.15	0.20	0.25
TNGA160408-LRG	0.40	1.50	2.60	0.10	0.15	0.20
TNGM160404	0.40	1.00	1.60	0.10	0.15	0.20
TNGM160404-LRG	0.40	1.20	2.00	0.10	0.15	0.20
TNGM160408	0.40	1.00	1.60	0.15	0.20	0.25
TNGM160408-LRG	0.40	1.50	2.60	0.10	0.15	0.20
TPGT080202	0.40	1.00	1.60	0.05	0.10	0.15
TPGT080204	0.40	1.00	1.60	0.10	0.15	0.20
TPGT090202	0.40	1.00	1.60	0.05	0.10	0.15
TPGT090204	0.40	1.00	1.60	0.10	0.15	0.20
TPGT110302	0.40	1.00	1.60	0.05	0.10	0.15
TPGT110304	0.40	1.00	1.60	0.10	0.15	0.20
TPGW080202	0.40	1.00	1.60	0.05	0.10	0.15
TPGW080204	0.40	1.00	1.60	0.10	0.15	0.20
TPGW090202	0.40	1.00	1.60	0.05	0.10	0.15
TPGW090204	0.40	1.00	1.60	0.10	0.15	0.20
TPGW110302	0.40	1.00	1.60	0.05	0.10	0.15
TPGW110304	0.40	1.00	1.60	0.10	0.15	0.20
TPGX090202-CBF	0.20	0.60	1.00	0.04	0.08	0.12
TPGX090204-CBF	0.20	0.60	1.00	0.05	0.10	0.15
TPGX090204-CBG	0.50	1.50	2.50	0.10	0.15	0.20
TPGX110302-CBF	0.20	0.60	1.00	0.04	0.08	0.12

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
TPGX110304-CBF	0.20	0.60	1.00	0.05	0.10	0.15
TPGX110304-CBG	0.50	1.50	2.50	0.10	0.15	0.20
TPGX110308-CBF	0.20	0.60	1.00	0.10	0.15	0.20
VBGT110302	0.40	1.00	1.60	0.05	0.10	0.15
VBGT110304	0.40	1.00	1.60	0.10	0.15	0.20
VBGT160404	0.40	1.00	1.60	0.10	0.15	0.20
VBGT160404-LRG	0.40	1.20	2.00	0.10	0.15	0.20
VBGT160408	0.40	1.00	1.60	0.15	0.20	0.25
VBGT160408-LRG	0.40	1.50	2.60	0.10	0.15	0.20
VBGW110302	0.40	1.00	1.60	0.05	0.10	0.15
VBGW110304	0.40	1.00	1.60	0.10	0.15	0.20
VBGW160404	0.40	1.00	1.60	0.10	0.15	0.20
VBGW160404-LRG	0.40	1.20	2.00	0.10	0.15	0.20
VBGW160408	0.40	1.00	1.60	0.15	0.20	0.25
VBGW160408-LRG	0.40	1.50	2.60	0.10	0.15	0.20
VBGX110302-CBF	0.20	0.60	1.00	0.04	0.08	0.12
VBGX110304-CBF	0.20	0.60	1.00	0.05	0.10	0.15
VBGX110304-CBG	0.50	1.50	2.50	0.10	0.15	0.20
VBGX160404-CBF	0.20	0.60	1.00	0.05	0.10	0.15
VBGX160404-CBG	0.50	1.50	2.50	0.10	0.15	0.20
VBGX160408-CBG	0.50	1.50	2.50	0.15	0.20	0.25
VCGT110302	0.40	1.00	1.60	0.05	0.10	0.15
VCGT110304	0.40	1.00	1.60	0.10	0.15	0.20
VCGT160402	0.40	1.00	1.60	0.05	0.10	0.15
VCGT160404	0.40	1.00	1.60	0.10	0.15	0.20
VCGT160404-LRG	0.40	1.20	2.00	0.10	0.15	0.20
VCGT160408	0.40	1.00	1.60	0.15	0.20	0.25
VCGT160408-LRG	0.40	1.50	2.60	0.10	0.15	0.20
VCGW110302	0.40	1.00	1.60	0.05	0.10	0.15
VCGW110304	0.40	1.00	1.60	0.10	0.15	0.20
VCGW110304-LRG	0.40	1.20	2.00	0.10	0.15	0.20
VCGW160404	0.40	1.00	1.60	0.10	0.15	0.20
VCGW160404-LRG	0.40	1.20	2.00	0.10	0.15	0.20
VCGW160408	0.40	1.00	1.60	0.15	0.20	0.25
VCGW160408-LRG	0.40	1.50	2.60	0.10	0.15	0.20
VCGW160412-LRG	0.40	1.50	2.60	0.20	0.25	0.30
VCGX110302-CBF	0.20	0.60	1.00	0.04	0.08	0.12
VCGX110302-CBU	0.20	1.50	2.80	0.04	0.08	0.12
VCGX110304-CBF	0.20	0.60	1.00	0.05	0.10	0.15
VCGX110304-CBG	0.50	1.50	2.50	0.10	0.15	0.20
VCGX110304-CBU	0.20	1.50	2.80	0.04	0.12	0.20
VCGX160404-CBF	0.20	0.60	1.00	0.05	0.10	0.15
VCGX160404-CBG	0.50	1.50	2.50	0.10	0.15	0.20
VCGX160404-CBU	0.20	1.50	2.80	0.04	0.12	0.20
VCGX160404 <sup>1/2</sup> -1S	0.50	3.00	5.50	0.10	0.15	0.20
VCGX160408-CBG	0.50	1.50	2.50	0.15	0.20	0.25
VCGX160408-CBU	0.20	1.50	2.80	0.08	0.18	0.26
WNGA080404	0.40	1.00	1.60	0.10	0.15	0.20
WNGA080404-LRG	0.40	1.20	2.00	0.10	0.15	0.20
WNGA080408	0.40	1.00	1.60	0.15	0.20	0.25
WNGA080408-LRG	0.40	1.50	2.60	0.10	0.15	0.20
WNGM080404	0.40	1.00	1.60	0.10	0.15	0.20
WNGM080404-LRG	0.40	1.20	2.00	0.10	0.15	0.20
WNGM080408	0.40	1.00	1.60	0.15	0.20	0.25
WNGM080408-LRG	0.40	1.50	2.60	0.10	0.15	0.20

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



Catalogue Preview - AMB 2022



## TURNING Ceramic

- Grades table, A172
- Grades details, A173
- Grades cross reference, A174
- Edge preparation overview, A175
- Edge preparation features, A178
- Product selection, A182
- Designation system, A183
- Inserts range, A184
- Parameters, A200

	ISO 513	CERAMIC				
		Si <sub>3</sub> N <sub>4</sub>	Al <sub>2</sub> O <sub>3</sub> MIXED	PVD COATED Al <sub>2</sub> O <sub>3</sub> MIXED	SiAlON	WHISKER
A - TURNING	K	K01		MAC200		
		K10	NSN350			
		K20	NSM400	NSN450		
B - THREADING	Cast iron	K30				
		S01				NWR700
C - GROOVING	S	S10			NSA6000	NWR750
		S20			NSA650	
		S30				
D - MILLING	HRSA	H01		MAC200		
		H10		MAC250	MAC150	
		H20				
		H30				
E - DRILLING	Hardened steel	H01				
		H10				
		H20				
		H30				
F - ACCESSORIES	G - SPARE PARTS					

HRSA: heat resistance super alloy

Catalogue PI

2022

GRADE	COMPOSITION	HARDNESS HV	COATING		APPLICATION	FEATURES
			TECHNOLOGY	COMPOSITION		
<b>NAC150</b>	Al <sub>2</sub> O <sub>3</sub> +TiCN	2.200	PVD	TiN	H H01 H15	Coated ceramic improves tool life and help wear identification thanks to yellow color.
<b>NAC200</b>	Al <sub>2</sub> O <sub>3</sub> +TiCN	2.300	-	-	K K01 K20	First choice for finishing of hardened steel and cast iron in stable conditions.
					H H01 H20	
<b>NAC250</b>	Al <sub>2</sub> O <sub>3</sub> +TiC	2.100	-	-	H H10 H25	Tough ceramic for general purpose applications with high reliability.
<b>NSN350</b>	Si <sub>3</sub> N <sub>4</sub>	1.700	-	-	K K05 K20	High wear resistance for continuous cut applications at very high cutting speed.
<b>NSN400</b>	Si <sub>3</sub> N <sub>4</sub>	1.700	-	-	K K05 K30	First choice for roughing of gray cast iron even with interrupted cut.
<b>NSN450</b>	Si <sub>3</sub> N <sub>4</sub>	1.600	-	-	K K20 K30	Toughest silicon nitride grade for very difficult applications.
<b>NWR700</b>	Al <sub>2</sub> O <sub>3</sub> +SiC	2.100	-	-	S S01 S15	Reinforced alumina ceramic with excellent flank and notch wear, first choice for high speed stable machining of heat resistance super alloys.
<b>NWR750</b>	Al <sub>2</sub> O <sub>3</sub> +SiC	2.100	-	-	S S05 S20	Reinforced alumina ceramic with improved toughness, applicable even on heavy interrupted cut.
<b>NSA6000</b>	SiAlON	1.800	-	-	S S10 S30	First choice for heat resistance super alloys (HRSA) machining with variable cutting conditions. Perfect balance between toughness and wear resistance.
<b>NSA650</b>	SiAlON	1.700	-	-	S S15 S35	Excellent thermal and shock resistance for severe applications on HRSA.

Catalogue Preview

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES







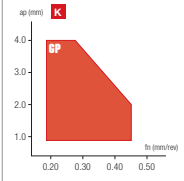




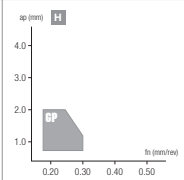


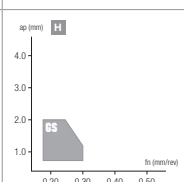






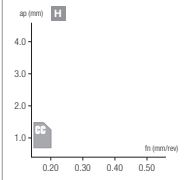

G - SPARE PARTS

ISO 513	nixkoTOOLS	CERAMTEC	ISCA	KENNAMETAL	KYOCERA	NTK	SANDVIK	TAEGUTEK	TUNGALOY	UNION	WALTER	
<b>K</b>	<b>K01 - K10</b>	NSN350 NSN400	SL654C SL658C	IS6 IS8	KYK10	KS6015	CC6190 GC1690	AS500	FX105	SN500 SN600	WCK10	
	<b>K10 - K20</b>	NSN400 NSN450	SL500 SL550C SL506 SL606	IS8 IS80	KY3500 KYK25	CS7050 KS6050	CC6190	AS500	CX710 FX105	NC400 SN300 SN400	WCK10	
	<b>K20 - K30</b>	NSN450	SL508 SL608		KY3500	KS6050	SP9 SX9	AS10	CX710	SN300		
<b>S</b>	<b>HRSA</b>	<b>S01 - S10</b>	NWR700 NWR750	IW7		CF1	WA1 WA5	CC670	TC430	SW400 SW800	WWS20	
		<b>S10 - S20</b>	NSA6000	LST320	IS25 IS9	KY4300 KYS25	KS6030 KS6040	SX7 SX3	CC6060 CC6160	TC3020	TS200	SN800 WIS10
		<b>S20 - S30</b>	NSA6000 NSA650	LST320	IS35	KY1540 KYS30	KS6040	SX3 SX9	CC6065 CC6160	TC3030	TS200 TS300	SN1000
<b>H</b>	<b>H01 - H10</b>	NAC150 NAC200	SH2	IN22 IN420	KY1615 KY4400	A66N PT600M	HC7 ZC7	CC6050	AB20 AB2010	LX11	ST500 ST900 TC300 TM300	
	<b>H10 - H20</b>	NAC200 NAC250	SH2 SH4	IN23	KY1615	A65	HC2	CC650	AB30	LX11 LX21	ST100 ST300 TC100	
	<b>H20 - H30</b>											

BLACK: CVD, UNDERLINED: PVD, RED: uncoated

This table is our own estimation based on information available to the public and is not authorized by the company mentioned on it.

Catalogue Preview - AMP 2022








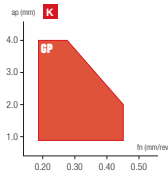

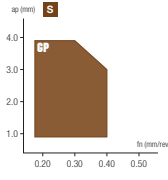

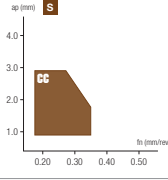


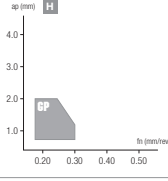

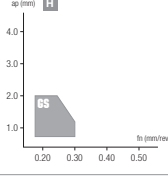

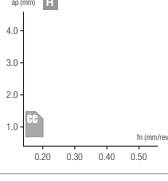

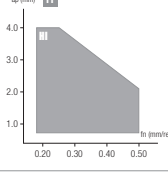
NEGATIVE type with hole			C	D	S	T	V	W	
			80°	55°	90°	60°	35°	80°	
<b>K</b>	UNIVERSAL	<b>GP</b> T02020	 A185 SIZE 12 16	 A187 SIZE 15	 A192 SIZE 12	 A194 SIZE 16	 A197 SIZE 16	 A198 SIZE 08	
									
<b>WIPER</b>	UNIVERSAL	<b>WU</b> T02020	 A185 SIZE 12						
									
<b>S</b>	UNIVERSAL	<b>GP</b> T02020	 A185 SIZE 12						
									
<b>H</b>	UNIVERSAL	<b>GP</b> T02020	 A185 SIZE 12 16	 A187 SIZE 15	 A192 SIZE 12	 A194 SIZE 16	 A197 SIZE 16	 A198 SIZE 08	
									
	SHARP	UNIVERSAL	<b>GS</b> S01525 (NAC150) - S02020 (NAC200)	 A185 SIZE 12	 A187 SIZE 15		 A194 SIZE 16	 A197 SIZE 16	
									
<b>WIPER</b>	SHARP	<b>CC</b> T01020	 A185 SIZE 12	 A187 SIZE 15	 A192 SIZE 12	 A194 SIZE 16	 A197 SIZE 16	 A198 SIZE 08	
									
<b>WIPER</b>	SHARP	<b>WU</b> T02020	 A185 SIZE 12						
									

- A - TURNING
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- D - MILLING
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- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING
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NEGATIVE type without hole			C	D	R	S	T
			80°	55°	-	90°	60°
K	UNIVERSAL	GP T02020	 A186 SIZE 12		 A190 SIZE 12	 A193 SIZE 12	 A195 SIZE 16
		 ap (mm) vs fs (mm/rev)	 A186 SIZE 12			 A193 SIZE 12	
S	UNIVERSAL	GP T02020	 A186 SIZE 12		 A190 SIZE 12 19	 A193 SIZE 12	
		 ap (mm) vs fs (mm/rev)	 A186 SIZE 12			 A193 SIZE 12	
S	SHARP	CC T01020			 A190 SIZE 12	 A193 SIZE 12	
		 ap (mm) vs fs (mm/rev)					
H	UNIVERSAL	GP T02020	 A186 SIZE 12	 A188 SIZE 15	 A190 SIZE 12	 A193 SIZE 12	 000 SIZE 16
		 ap (mm) vs fs (mm/rev)	 A186 SIZE 12			 A193 SIZE 12	
H	REINFORCED	HI P15015	 A186 SIZE 12		 A189 SIZE 12	 A193 SIZE 12 19	
		 ap (mm) vs fs (mm/rev)					



POSITIVE type			C	R	S	T		
								
			80°	-	90°	60°		
<b>K</b>	UNIVERSAL	<b>GP</b> T02020	 A184 SIZE 09 12		 A191 SIZE 09 12	 A196 SIZE 11 16		
								
<b>S</b>	UNIVERSAL	<b>GP</b> T02020		 A189 SIZE 09 12				
								
<b>S</b>	SHARP	<b>CC</b> T01020		 A189 SIZE 06 09 12				
								
<b>H</b>	UNIVERSAL	<b>GP</b> T02020		 A189 SIZE 06 09 12		 A196 SIZE 11 16		
								
	SHARP	<b>GS</b> S01525				 A196 SIZE 11 16		
								
REINFORCED	SHARP	<b>CC</b> T01020			 A196 SIZE 11 16			
								
		<b>HI</b> P15015 - P20015		 A189 SIZE 09 12 15 19				
								

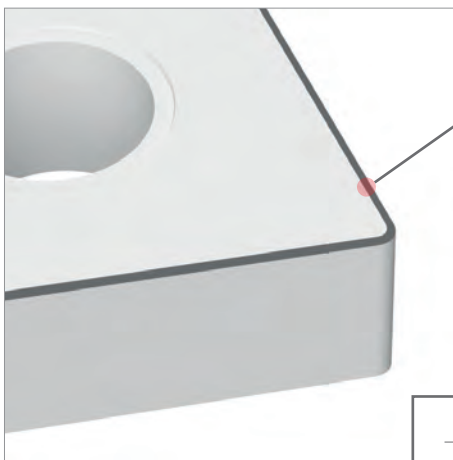
A - TURNING
B - THREADING
C - GROOVING
D - MILLING
E - DRILLING
F - ACCESSORIES
G - SPARE PARTS

# CC

## Edge preparation

- Recommended for continuous cut application and stable conditions
- Sharp edge reduces cutting forces and burrs formation
- CC Continuous Cut edge preparation is generally combined with mixed ceramics for hardened steel and SiAlON (only round inserts) for HRSA machining

### • Features of CC edge preparation

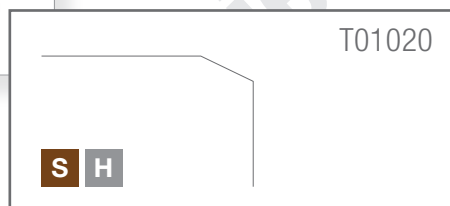


#### LOW CUTTING FORCE

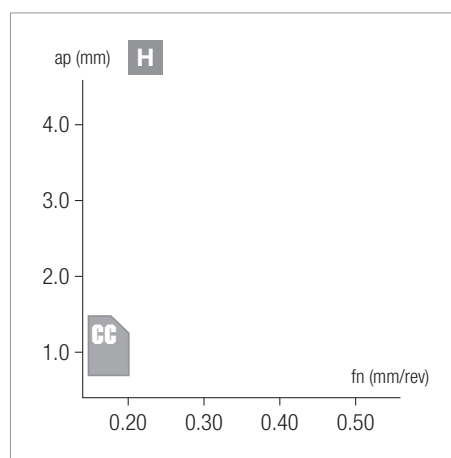
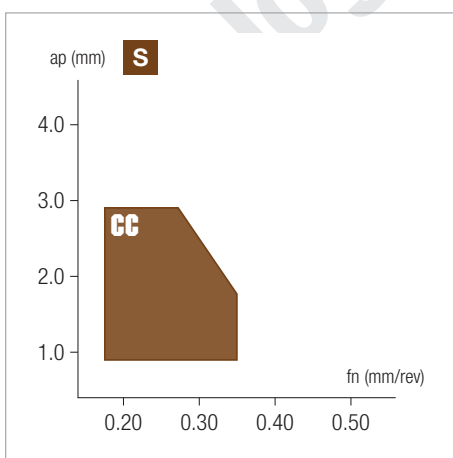
- The edge preparation has been optimized for low cutting forces action
- The chamfer width is 0.10 mm with an angle of 20° without round honing

#### BROAD RANGE

- Available in combination with most common geometries and radii both positive and negative



### • Application range



CC SiAlON

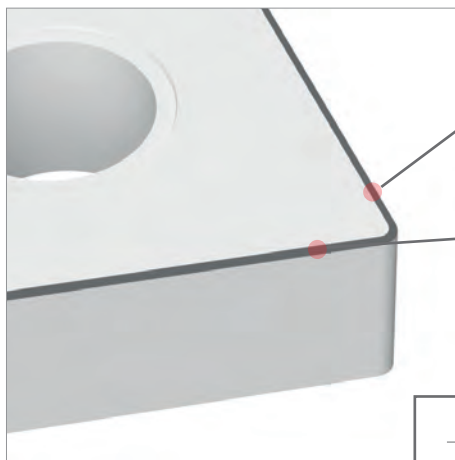
In combination with NSA grades must be considered as first choice for general purpose machining.

# GP/GS

Edge preparation

- First choice for almost every kind of application on cast iron (NSN series) and hardened steel (NAC series)
- Best combination between sharpnesses and robustness
- GP General Purpose is available i combination of 3 ceramic families: Silicon nitride, whisker reinforced and alumina mixed ceramic. GS (general purpose with honing) is only combined with NAC series

## • Features of "G" edge preparation

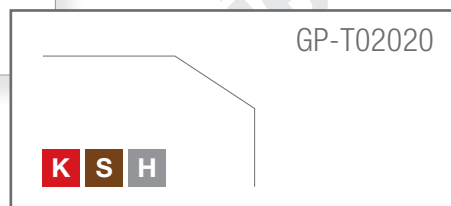


### GP - FIRST CHOICE

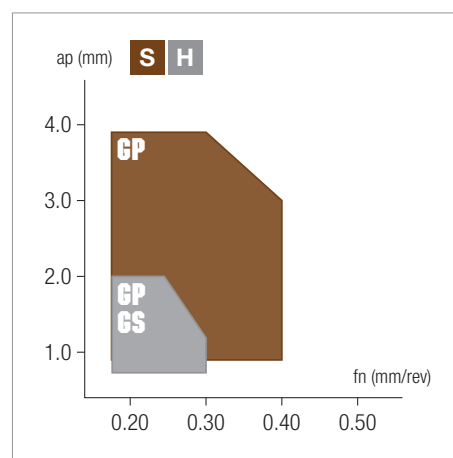
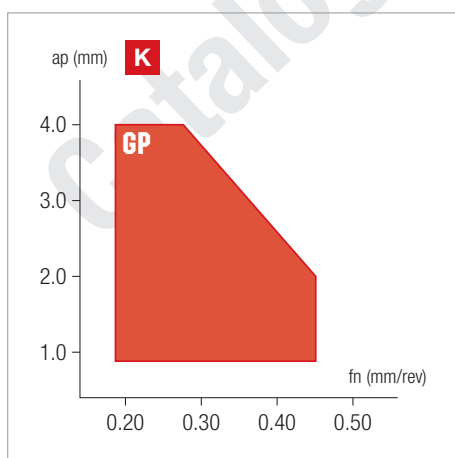
- Applicable from continuous to light interrupted cut. Guarantee reliable performances
- The chamfer width, in most of the cases, is 0.20 mm with an angle of 20°

### GS - STRENGTHEN THE EDGE

- Same features of GP but with an additional reinforced honing



## • Application range



ISO H FIRTS CHOICES

For best performance we suggest to combine the coated grade NAC150 to GS edge preparation and uncoated fine grain NAC200 to GP edge preparation.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

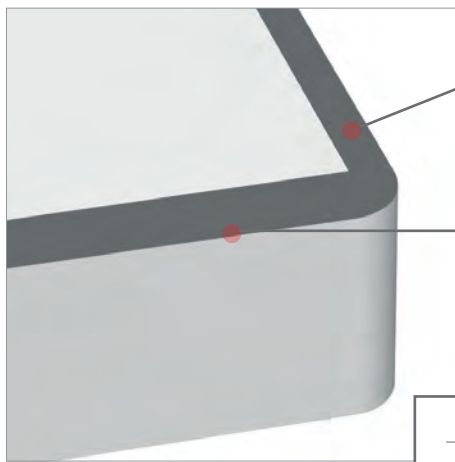
G - SPARE PARTS

## HI

## Edge preparation

- Double chamfered design to support heavy cutting conditions
- Very big “main” chamfer size combined to a second one with standard dimensions
- HI edge preparation is focused on hard material machining and is available mainly in combination with NAC series
- Commonly adopted in machining of rolls for steel industry with variable depth of cut

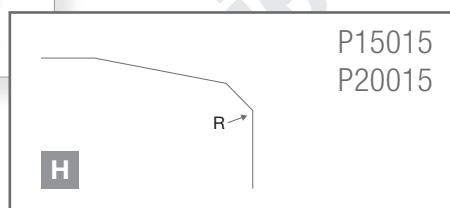
- Features of HI edge preparation

**DOUBLE CHAMFER**

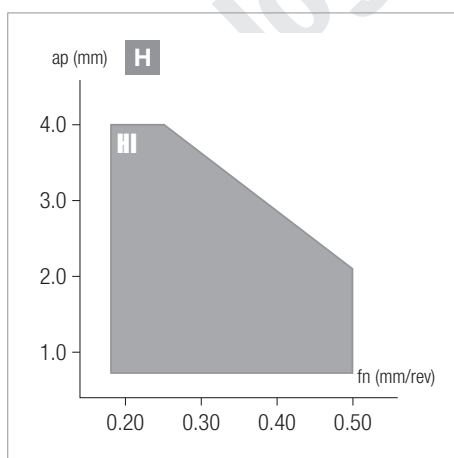
- Main chamfer size starts from 1,5 mm and can reach 2 mm for biggest inserts, with an angle of 15°
- Secondary chamfer width is 0.20 mm with an angle from 25° to 30°

**REINFORCING HONING**

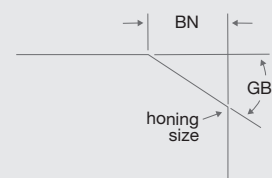
- As further reinforcement, the cutting edge honing has been increased compared to general purpose edge preparation



- Application range



## SPECIAL CHAMFER UPON REQUEST



Big chamfer type is generally combined with round inserts for which we can provide even tailor-made solutions.

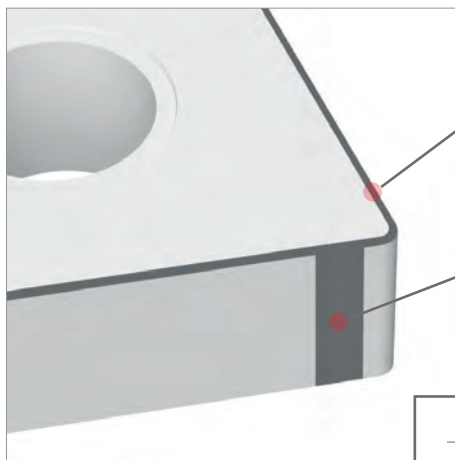
HT type, for example is a round insert with a double chamfered geometry without round honing.

## WU

## Edge preparation

- Improves productivity thanks to high feed machining or produce better surface roughness if used under standard cutting conditions
- WU wiper edge is available in combination of silicon nitride grade (NSN400) for gray cast iron and mixed alumina ceramic (NAC200) for hardened steel
- Combined with standard 80° geometries (CNGA)

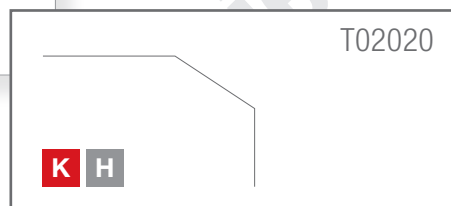
- Features of WU edge preparation

**GENERAL PURPOSE**

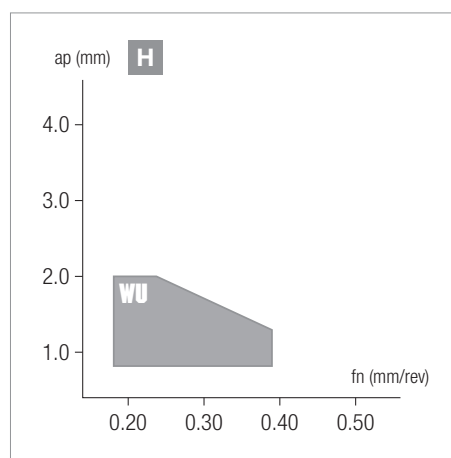
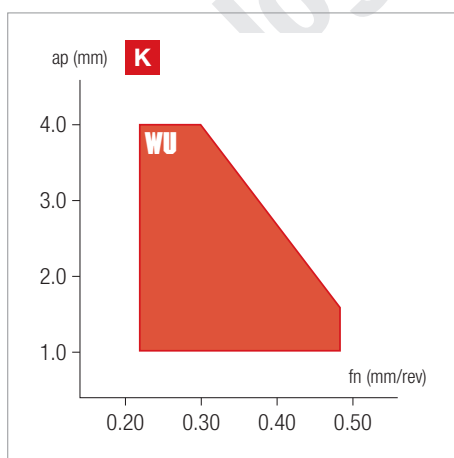
- Small T land chamfer without honing produces low cutting forces and good accuracy
- The chamfer width is 0.2 mm with an inclination of 20°

**ARC WIPER**

- Wiper advantages are granted by a special design of the cutting edge. A big arc has been added in place of conventional shape



- Application range

**NOT ONLY FOR FINISHING**

WU edge preparation is a perfect performance booster even on medium cut applications allowing considerable feed rate increases.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

K		SILICON NITRIDE AND MIXED CERAMICS				
		NEGATIVE	POSITIVE			
●	tool life	NAC200 / CC	NAC200 / CC			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NSN400 / GP</b>	<b>NSN400 / GP</b>			
	toughness	NSN450 / GP	-			
●	tool life	NAC200 / GP	NAC200 / GP			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NSN400 / GP</b>	<b>NSN400 / GP</b>			
	toughness	NSN450 / GP	-			
⊕	tool life	-	-			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NSN400 / GP</b>	<b>NSN400 / GP</b>			
	toughness	NSN450 / GP	-			

S		WHISKER CERAMICS				
		NEGATIVE	POSITIVE			
●	tool life	-	-			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NWR700 / GP</b>	<b>NWR700 / GP</b>			
	toughness	NWR750 / GP	NWR750 / GP			
●	tool life	NWR750 / GP	NWR750 / GP			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NSA6000 / CC</b>	<b>NSA6000 / CC</b>			
	toughness	NSA650 / GP	NSA650 / GP			
⊕	tool life	NWR750 / GP	NWR750 / GP			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NSA6000 / GP</b>	<b>NSA6000 / GP</b>			
	toughness	NSA650 / GP	NSA650 / GP			

H		MIXED CERAMICS				
		NEGATIVE	POSITIVE			
●	tool life	NAC150 / CC	NAC150 / CC			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NAC200 / CC</b>	<b>NAC200 / CC</b>			
	toughness	-	-			
●	tool life	NAC150 / GS	NAC150 / GS			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NAC200 / GP</b>	<b>NAC200 / GP</b>			
	toughness	NAC250 / GP	NAC250 / GP			
⊕	tool life	NAC200 / HI	NAC200 / HI			
	▲ 1 <sup>st</sup> CHOICE ▼	<b>NAC250 / HI</b>	<b>NAC250 / HI</b>			
	toughness	-	-			

<b>C</b>	<b>N</b>	<b>G</b>	<b>A</b>	<b>12</b>	<b>04</b>	<b>08</b>	-	<b>N</b>	-	<b>NAC</b>	<b>200</b>
1	2	3	4	5	6	7		8		9	10

1	SHAPE
C	80° rhombic
D	55° rhombic
K	55° parallelogram
S	90° square
T	60° triangular
V	35° rhombic
W	80° trigon

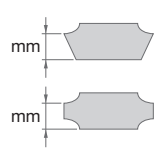
2	RELIEF ANGLE
B	5°
C	7°
D	15°
E	20°
N	0°
P	11°

3 TOLERANCES			
Symbol	I.C.	Thickness	Corner height
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
M	±0.05 ~ ±0.15	±0.13	±0.08 ~ ±0.18
U	±0.08 ~ ±0.25	±0.13	±0.13 ~ ±0.38

4 HOLE/CHIPBREAKER			
Symbol	Hole	Hole countersink	Chipbreaker
A		✓	✗
G		✓	✗
M		✓	✗
N		✗	✗
T		✓	40°÷60°
W		✓	40°÷60°
X	NIKKO norm		

5 EDGE LENGHT							
I.C. (mm)	C shape	D shape	R shape	S shape	T shape	V shape	W shape
3.97	03	04		03	06		
4.76	04	05		04	08	08	
5.00			05				
5.56	05	06		05	09		03
6.00			06				
6.35	06	07		06	11	11	04
7.94	08	09		07	13		05
8.00			08				
9.53	09	11	09	09	16	16	06
10.00		12	10				
12.00							
12.70	12	15	12	12	22	22	08
15.88	16	19	15	15	27	24	10
16.00			16				
19.05	19	23	19	19	33	33	13
20.00			20				
22.23	22	27		22	38		
25.00			25				
25.40	25	31	25	25	44	44	17
31.75	32	38	31	31	54	54	21
32.00			32				

6 THICKNESS	
Symbol	(mm)
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.53



7 RADIUS	
Symbol	(mm)
005	0.05
01	0.10
02	0.20
04	0.40
08	0.80
12	1.20
16	1.60
20	2.00
24	2.40

8 EDGE PREPARATION	
CC	sharp edge
GP, GS	universal edge
HI	reinforced edge
WU	wiper edge

9 GRADE - features	
NAC	Mixed Al <sub>2</sub> O <sub>3</sub> ceramic
NSA	SIAION
NSN	Silicon nitride
NWR	Whisker reinforced

10 GRADE - material	
000÷290	ISO H
300÷590	ISO K
600÷790	ISO S

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

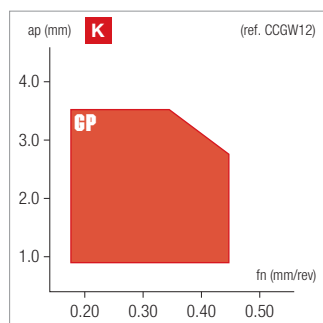
G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<b>CC</b>	CN: Silicon nitride ceramic Si3N4	CN	
ISO - with hole	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▲ suitable	<b>MSN400</b>	
• The most popular insert shape due to high versatility • Clearance angle 7°, bigger than 5°, less likely to have chip jamming when boring • 80° corner can be used for both turning and facing operations		<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
		<b>P</b> <b>M</b> <b>K</b> 400 1000 <b>N</b> <b>S</b> <b>H</b>	

	Designation	RE	IC	S	D1	LE		Stock
UNIVERSAL 	<b>GP K</b> CCGW09T308-GP	0.8	9.525	3.97	4.4	8.9	○	
	CCGW09T312-GP	1.2	9.525	3.97	4.4	8.5	●	
	CCGW120408-GP	0.8	12.7	4.76	5.5	12.1	○	
	CCGW120412-GP	1.2	12.7	4.76	5.5	11.7	●	

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

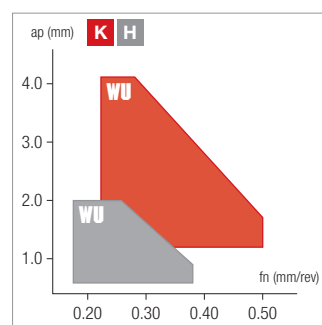
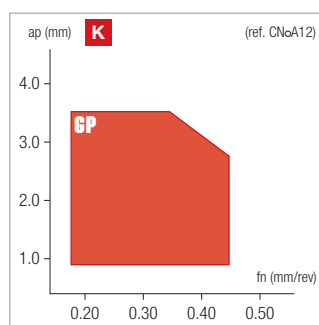
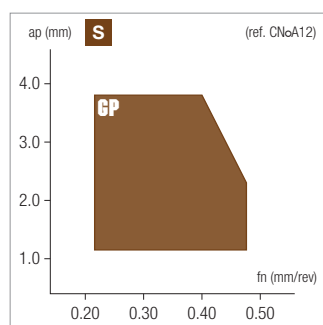
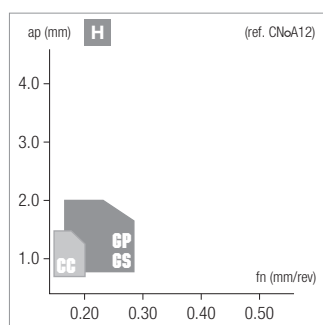




<h1>CN</h1>	CM: Mixed ceramic Al <sub>2</sub> O <sub>3</sub> CN: Silicon nitride ceramic Si <sub>3</sub> N <sub>4</sub> PVD: Physical vapour deposition							
	CM PVD	CM	CM	CM	CN	CN	CN	CN
ISO - with hole	<b>MAC150</b>	<b>MAC200</b>	<b>MAC250</b>	<b>NSA6000</b>	<b>NSN350</b>	<b>NSN400</b>	<b>NSN450</b>	
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Opposite 100° corners can be used for general roughing applications (especially facing), providing maximum economy of 8 total cutting edges</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	●	○	○	●	●	○
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	○	●	●	●	○	●	●
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable				▲			
Dimensions	ISO <b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
	<b>P</b>							
	<b>M</b>							
	<b>K</b>	300 600			500 1000	400 1000	400 800	
	<b>N</b>							
	<b>S</b>				150 400			
	<b>H</b>	80 200	60 180	50 150				

	Designation	RE	IC	S	D1	LE	Stock											
							CM PVD	CM	CM	CN	CN	CN	CN	CN				
UNIVERSAL		CNGA120404-GP	0.4	12.7	4.76	5.16	12.5	●										
		CNGA120408-GP	0.8	12.7	4.76	5.16	12.1	●	●	●								
		CNGA120412-GP	1.2	12.7	4.76	5.16	11.7	●	●	○								
		CNMA120408-GP	0.8	12.7	4.76	5.16	12.1				○	●	○					
		CNMA120412-GP	1.2	12.7	4.76	5.16	11.7				○	●	○					
		CNMA120416-GP	1.6	12.7	4.76	5.16	11.3				○	●	○					
		CNGA160612-GP	1.2	15.87	6.35	6.35	14.9	●										
		CNGA160616-GP	1.6	15.87	6.35	6.35	14.5	○										
		CNMA160612-GP	1.2	15.87	6.35	6.35	14.9					●						
		CNMA160616-GP	1.6	15.87	6.35	6.35	14.5					●						
UNIVERSAL		CNGA120404-GS	0.4	12.7	4.76	5.16	12.5	●										
		CNGA120408-GS	0.8	12.7	4.76	5.16	12.1	●	●									
		CNGA120412-GS	1.2	12.7	4.76	5.16	11.7	●	○									
SHARP		CNGA120404-CC	0.4	12.7	4.76	5.16	12.5	○	●									
		CNGA120408-CC	0.8	12.7	4.76	5.16	12.1	●	●									
		CNGA120412-CC	1.2	12.7	4.76	5.16	11.7	○	○									
WIPER		CNGA120410-WU	1	12.7	4.76	5.16	11.9	○					●					

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

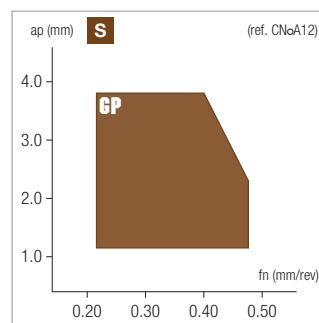
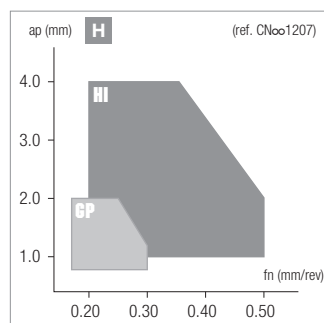
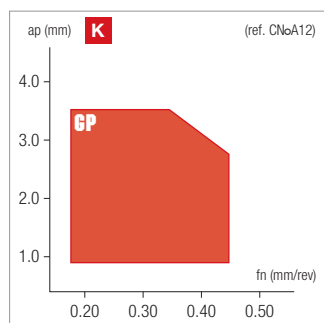
F - ACCESSORIES

G - SPARE PARTS

<h1>CN</h1>	CM: Mixed ceramic Al <sub>2</sub> O <sub>3</sub> CN: Silicon nitride ceramic Si <sub>3</sub> N <sub>4</sub> CR: Whisker reinforced ceramic											
	ISO - without hole	CM	CM	CN	CN	CN	CN	CN	CN	CR	CR	
<ul style="list-style-type: none"> <li>The most popular insert shape due to high versatility</li> <li>80° corner can be used for both turning and facing operations</li> <li>Opposite 100° corners can be used for general roughing applications (especially facing), providing maximum economy of 8 total cutting edges</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable					● 1 <sup>st</sup> choice	● suitable	○	○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	○	○	○	○	○	○	○	○	
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊕ suitable									
	<b>Dimensions</b>	<b>ISO</b>										
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>											
	<b>P</b>											
	<b>M</b>											
	<b>K</b>	300 600						500 1000	400 1000	400 800		
	<b>N</b>											
	<b>S</b>			150 350	150 400	150 250				200 500	200 400	
<b>H</b>	60 180	50 150										

	Designation	RE	IC	S	D1	LE	Stock									
UNIVERSAL 	CNMN120412-GP	1.2	12.7	4.76	-	11.7										○
	CNMN120416-GP	1.6	12.7	4.76	-	11.3										○
	CNGN120708-GP	0.8	12.7	7.94	-	12.1	○	▽								○
	CNGN120712-GP	1.2	12.7	7.94	-	11.7	○	▽	▽							○
	CNGN120716-GP	1.6	12.7	7.94	-	11.3	○									○
UNIVERSAL 	CNGX120708-GP	0.8	12.7	7.94	-	12.1	●									
	CNGX120712-GP	1.2	12.7	7.94	-	11.7	●									
	CNMX120712-GP	1.2	12.7	7.94	-	11.7		▽	▲					●		
	CNMX120716-GP	1.6	12.7	7.94	-	11.3			▲					●	●	●
REINFORCED 	CNGN120712-HI	1.2	12.7	7.94	-	11.7		○								
	CNGN120716-HI	1.6	12.7	7.94	-	11.3		○								

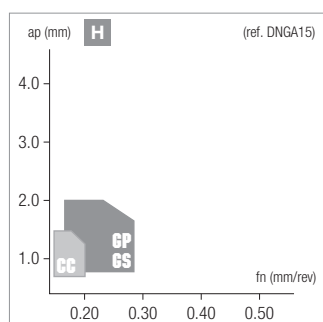
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>DN</h1>	CM: Mixed ceramic Al2O3 CN: Silicon nitride ceramic Si3N4 PVD: Physical vapour deposition	CM PVD	CM	CM		
		<b>MAC150</b>	<b>MAC200</b>	<b>MAC250</b>		
ISO - with hole						
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>7° clearance angle, less risk of chip jamming in boring</li> <li>Somewhat weaker edge strength than a triangle insert</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	●	○		
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	○	●	●		
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable					
<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
	<b>P</b>					
	<b>M</b>					
	<b>K</b>		300 600			
	<b>N</b>					
	<b>S</b>					
	<b>H</b>	80 200	60 180	50 150		

Designation		RE	IC	S	D1	LE	Stock	
UNIVERSAL	<b>GP KH</b>							
	DNGA150604-GP	0.4	12.7	6.35	5.16	15.1	●	
	DNGA150608-GP	0.8	12.7	6.35	5.16	14.7	● ●	
	DNGA150612-GP	1.2	12.7	6.35	5.16	14.3	● ○	
DNGA150616-GP	1.6	12.7	6.35	5.16	13.9	○		
UNIVERSAL	<b>GS H</b>							
	DNGA150604-GS	0.4	12.7	6.35	5.16	15.1	○ ●	
	DNGA150608-GS	0.8	12.7	6.35	5.16	14.7	● ●	
DNGA150612-GS	1.2	12.7	6.35	5.16	14.3	○		
SHARP	<b>CC H</b>							
	DNGA150604-CC	0.4	12.7	6.35	5.16	15.1	○ ●	
	DNGA150608-CC	0.8	12.7	6.35	5.16	14.7	○	
DNGA150612-CC	1.2	12.7	6.35	5.16	14.3	○ ●		

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

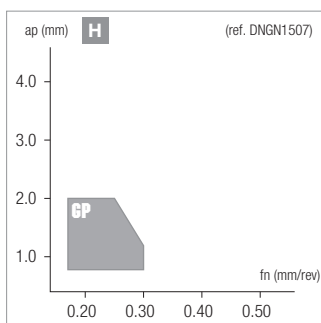
G - SPARE PARTS

<h1>DN</h1>	CM: Mixed ceramic Al203	CM										
		<b>MAC200</b>										
ISO - without hole												
<ul style="list-style-type: none"> <li>Generally the 1st choice for profile/copy turning applications</li> <li>Able to "In-Copy" (plunge turn into a smaller diameter) at an angle of 30°</li> <li>7° clearance angle, less risk of chip jamming in boring</li> <li>Somewhat weaker edge strength than a triangle insert</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚠ suitable											
	<b>Dimensions</b>	<b>ISO</b>										
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>										
		<table border="1"> <tr><td><b>P</b></td><td></td></tr> <tr><td><b>M</b></td><td></td></tr> <tr><td><b>K</b></td><td>300 600</td></tr> <tr><td><b>N</b></td><td></td></tr> <tr><td><b>S</b></td><td></td></tr> <tr><td><b>H</b></td><td>60 180</td></tr> </table>	<b>P</b>		<b>M</b>		<b>K</b>	300 600	<b>N</b>		<b>S</b>	
<b>P</b>												
<b>M</b>												
<b>K</b>	300 600											
<b>N</b>												
<b>S</b>												
<b>H</b>	60 180											

UNIVERSAL	GP H	Designation	RE	IC	S	D1	LE	Stock		
		DNGN150708-GP	0.8	12.7	7.94	-	14.7	○		
		DNGN150712-GP	1.2	12.7	7.94	-	14.3	○		
		DNGN150716-GP	1.6	12.7	7.94	-	13.9	○		

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

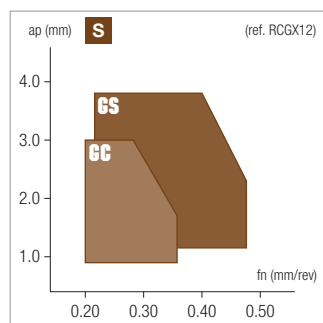
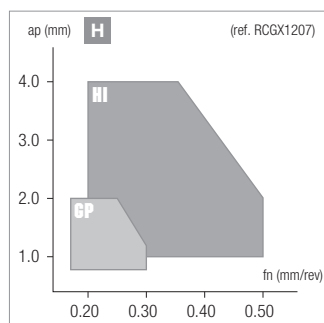
Catalogue Preview - AMB



<h1>RC</h1>	CM: Mixed ceramic Al2O3 CN: Silicon nitride ceramic Si3N4 CR: Whisker reinforced ceramic PVD: Physical vapour deposition									
	ISO - without hole	CM PVD	CM	CM	CN	CN	CN	CR	CR	
<ul style="list-style-type: none"> <li>Very strong and robust shape and style, able to confront diverse challenges during the machining process</li> <li>Cornical tail secures the seating in the insert pocket of the holder</li> <li>Different edge preparation with wide range of grades covering the majority of application area</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	○	○	○	○	○
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	○	●	●	○	○	○	○
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice	⚡ suitable							
	<b>Dimensions</b>	<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>						
	<b>P</b>									
	<b>M</b>									
	<b>K</b>			300 600						
	<b>N</b>									
	<b>S</b>				150 350	150 400	150 250	200 500	200 400	
	<b>H</b>	80 200	60 180	50 150						

Designation		RE	IC	S	D1	LE	Stock											
UNIVERSAL	<b>GP S H</b> 	RCGX060700-GP	3.175	6.35	7.94	-	-	●										
		RCGX090700-GP	4.76	9.525	7.94	-	-	●	●	○				○	○			
		RCGX120700-GP	6.35	12.7	7.94	-	-	○	○	○	▽			▽	○	○		
UNIVERSAL	<b>GS H</b> 	RCGX060600-GS	3.175	6.35	6.35	-	-		○									
SHARP	<b>CC S</b> 	RCGX060600-CC	3.175	6.35	6.35	-	-						○					
		RCGX090700-CC	4.76	9.525	7.94	-	-							○				
		RCGX120700-CC	6.35	12.7	7.94	-	-							●				
REINFORCED	<b>HI H</b> 	RCGX090700-HI	4.76	9.525	7.94	-	-	●	●	○								
		RCGX120700-HI	6.35	12.7	7.94	-	-	●	●	●								
		RCGX151000-HI	7.935	15.87	10	-	-			○	●							
		RCGX191000-HI	9.525	19.05	10	-	-			○	○							

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



A - TURNING

B - THREADING

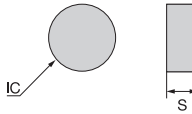
C - GROOVING





D - MILLING

E - DRILLING

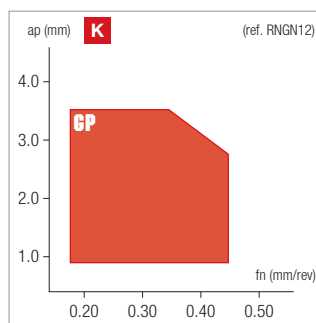
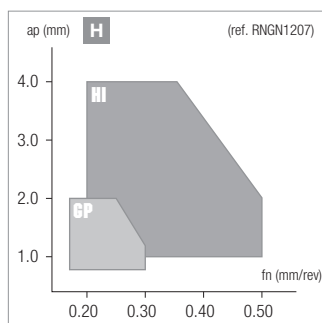
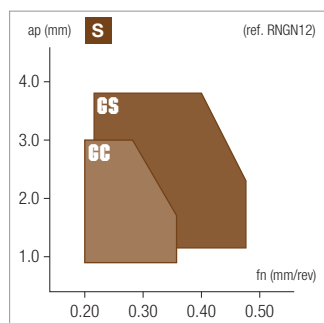
F - ACCESSORIES

G - SPARE PARTS

<h1>RN</h1>	CM: Mixed ceramic Al <sub>2</sub> O <sub>3</sub> CN: Silicon nitride ceramic Si <sub>3</sub> N <sub>4</sub> CR: Whisker reinforced ceramic PVD: Physical vapour deposition										
	ISO - without hole	CM PVD	CM	CM	CN	CN	CN	CN	CR	CR	
<ul style="list-style-type: none"> <li>Very strong and robust shape and style, able to confront diverse challenges during the machining process</li> <li>Different edge preparation with wide range of grades covering the majority of application area</li> <li>Other thicknesses available upon request</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	○	○	○	○	○	○
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	○	○	○	○	○	○	○	○
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice	○ suitable								
	Dimensions	ISO									
	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)										
		P									
	M										
	K	300 600				400 1000					
	N										
	S			150 350	150 400	150 250		200 500	200 400		
	H	80 200	60 180	50 150							

Designation		RE	IC	S	D1	LE	Stock														
UNIVERSAL 	GP <b>K S H</b>																				
	RNGN120400-GP	6.35	12.7	4.76	-	-	●														
	RNGN120700-GP	6.35	12.7	7.94	-	-	○	○	○	▽		▽	○	○							
	RNGN190700-GP	9.525	19.05	7.94	-	-								▽							
SHARP 	CC <b>S</b>																				
	RNGN120400-CC	6.35	12.7	4.76	-	-						●									
	RNGN120700-CC	6.35	12.7	7.94	-	-						●									
REINFORCED 	HI <b>H</b>																				
	RNGN120700-HI	6.35	12.7	7.94	-	-	●	●	●												
REINFORCED 	HT <b>H</b>																				
	RNGN120700-HT	6.35	12.7	7.94	-	-	●		●												

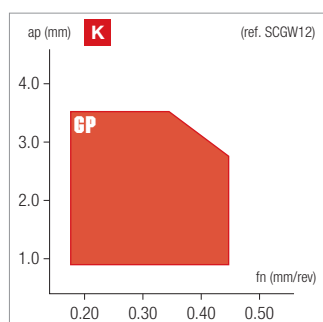
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>SC</h1>	CN: Silicon nitride ceramic Si3N4		CN
	ISO - with hole • Very strong 90° corner with excellent economy (4 edges on positive inserts) • More used on roughing • Unable to turn or face up to a shoulder (must be used in a tool holder with min. 5° lead angle) • High radial forces push against the workpiece when used for turning • Should always be used in a stable set-up		MSN400
Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable ● General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable ● Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ○ suitable			
		Dimensions ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)
		P M <b>K</b> 400 1000 N S H	

UNIVERSAL	GP <b>K</b>	Designation	RE	IC	S	D1	LE	Stock	
								●	○
		SCGW09T308-GP	0.8	9.525	3.97	4.4	8.7	●	
		SCGW120408-GP	0.8	12.7	4.76	5.5	11.9	●	

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

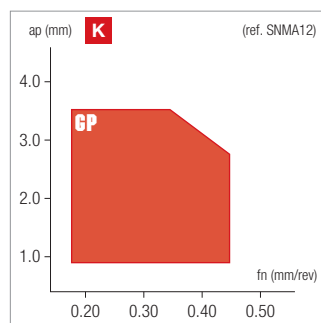
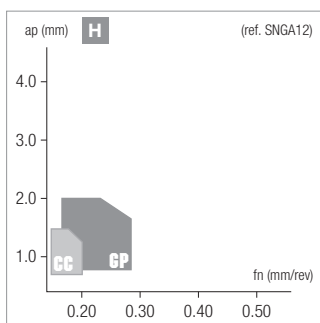
F - ACCESSORIES

G - SPARE PARTS

<h1>SN</h1>	CM: Mixed ceramic Al2O3 CN: Silicon nitride ceramic Si3N4	CM	CN
		<b>MAC200</b>	<b>MSN400</b>
ISO - with hole			
<ul style="list-style-type: none"> <li>Very strong 90° corner with excellent economy (4 edges on positive inserts)</li> <li>More used on roughing</li> <li>Unable to turn or face up to a shoulder (must be used in a tool holder with min. 5° lead angle)</li> <li>High radial forces push against the workpiece when used for turning</li> <li>Should always be used in a stable set-up</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▲ suitable		
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
		<b>P</b>	
		<b>M</b>	
		<b>K</b>	300 400 600 1000
		<b>N</b>	
		<b>S</b>	
		<b>H</b>	60 180

Designation		RE	IC	S	D1	LE	Stock	
<b>UNIVERSAL</b> 	<b>GP K H</b> SNGA120404-GP	0.4	12.7	4.76	5.16	12.3	●	
	SNGA120408-GP	0.8	12.7	4.76	5.16	11.9	●	
	SNGA120412-GP	1.2	12.7	4.76	5.16	11.5	●	
	SNMA120408-GP	0.8	12.7	4.76	5.16	11.9		●
	SNMA120412-GP	1.2	12.7	4.76	5.16	11.5		●
	SNMA120416-GP	1.6	12.7	4.76	5.16	11.1		○
<b>SHARP</b> 	<b>CC H</b> SNGA120404-CC	0.4	12.7	4.76	5.16	12.3	●	
	SNGA120408-CC	0.8	12.7	4.76	5.16	11.9		○
	SNGA120412-CC	1.2	12.7	4.76	5.16	11.5	●	

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

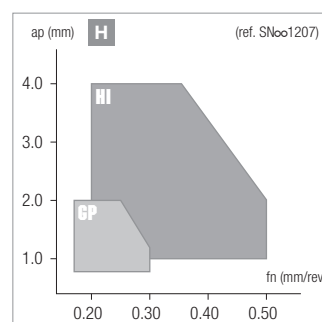
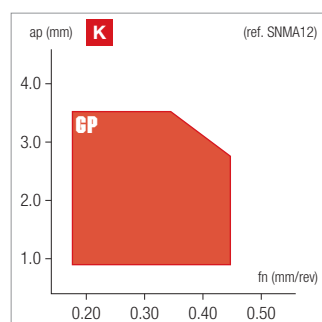
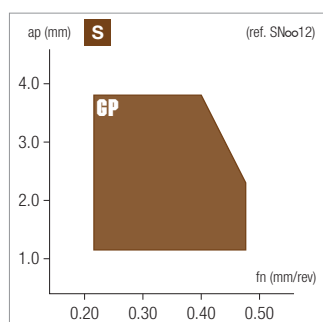




<h1>SN</h1>	CM: Mixed ceramic Al <sub>2</sub> O <sub>3</sub> CN: Silicon nitride ceramic Si <sub>3</sub> N <sub>4</sub> CR: Whisker reinforced ceramic PVD: Physical vapour deposition							
	CM PVD	CM	CM	CN	CN	CN	CN	CR
ISO - without hole	<b>MAC150</b>	<b>MAC200</b>	<b>MAC250</b>	<b>MSA600</b>	<b>MSA6000</b>	<b>NSN400</b>	<b>NSN450</b>	<b>NWR750</b>
<ul style="list-style-type: none"> <li>Very strong 90° corner with excellent economy (4 edges on positive inserts)</li> <li>More used on roughing</li> <li>Unable to turn or face up to a shoulder (must be used in a tool holder with min. 5° lead angle)</li> <li>High radial forces push against the workpiece when used for turning</li> <li>Should always be used in a stable set-up</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	○	○	○
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	○	○	○	○	○
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊕ suitable		⊕			
<b>Dimensions</b>	<b>ISO Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
	<b>P</b>							
	<b>M</b>							
	<b>K</b>		300 600			400 1000	400 800	
	<b>N</b>							
	<b>S</b>				150 350	800 1200		200 400
	<b>H</b>	80 200	60 180	50 150				

	Designation	RE	IC	S	D1	LE	Stock								
UNIVERSAL		<b>GP K S H</b>	SNGM120408-GP	0.8	12.7	4.76	-	11.9					●		
		SNGM120412-GP	1.2	12.7	4.76	-	11.5					○	●	●	▽
		SNGM120416-GP	1.6	12.7	4.76	-	11.1							●	
		SNGM120708-GP	0.8	12.7	7.94	-	11.9	●	●						
		SNGM120712-GP	1.2	12.7	7.94	-	11.5		●						
		SNGM120716-GP	1.6	12.7	7.94	-	11.1		○						
UNIVERSAL	<p>dimpled type</p>	<b>GP K S H</b>	SNGX120708-GP	0.8	12.7	7.94	-	11.9		●					
		SNGX120712-GP	1.2	12.7	7.94	-	11.5		●						
		SNMX120712-GP	1.2	12.7	7.94	-	11.5				▲	●			
		SNMX120716-GP	1.6	12.7	7.94	-	11.1				▽	▲	●		
REINFORCED		<b>HI H</b>	SNGM120716-HI	1.6	12.7	7.94	-	11.1		○					
		SNGM120720-HI	2	12.7	7.94	-	10.7		○						
		SNGM120724-HI	2.4	12.7	7.94	-	10.3		○						

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

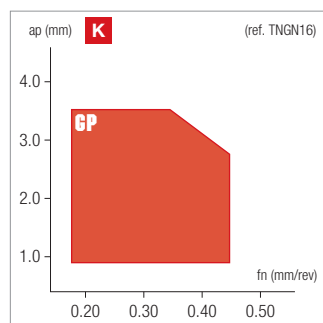
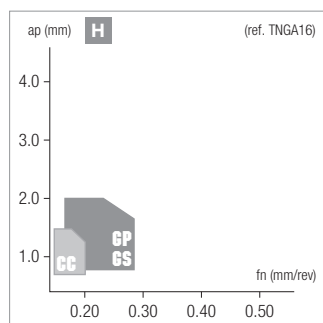
F - ACCESSORIES

G - SPARE PARTS

<h1>TN</h1>	CM: Mixed ceramic Al2O3 CN: Silicon nitride ceramic Si3N4 PVD: Physical vapour deposition				CM	CM	CM	CN
	ISO - with hole	MAC150	MAC200	MAC250	MSN400			
<ul style="list-style-type: none"> <li>Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling, sometimes even threading</li> <li>Good economy with up to 6 cutting edges</li> <li>Very stable seating of the insert in pocket of a holder, especially advantaged in boring operation</li> <li>Edge is measurably weaker than 80° diamond shape inserts</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	●	○	●			
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	○	●	●	●			
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable							
	Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)					
	P							
	M							
	K		300 600		400 1000			
	N							
	S							
	H	80 200	60 180	50 150				

Designation		RE	IC	S	D1	LE	Stock			
UNIVERSAL 	GP <b>K H</b> TNGA160404-GP	0.4	9.525	4.76	3.81	16.1	●			
	TNGA160408-GP	0.8	9.525	4.76	3.81	15.7	●	●	○	
	TNGA160412-GP	1.2	9.525	4.76	3.81	15.3	●	●	●	
UNIVERSAL 	GS <b>H</b> TNGA160404-GS	0.4	9.525	4.76	3.81	16.1	●	●		
	TNGA160408-GS	0.8	9.525	4.76	3.81	15.7	●	●		
	TNGA160412-GS	1.2	9.525	4.76	3.81	15.3	●	○		
SHARP 	CC <b>H</b> TNGA160404-CC	0.4	9.525	4.76	3.81	16.1	●	●		
	TNGA160408-CC	0.8	9.525	4.76	3.81	15.7	●	●		
	TNGA160412-CC	1.2	9.525	4.76	3.81	15.3	●			

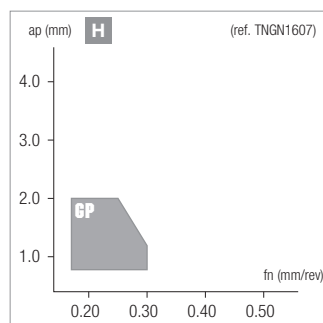
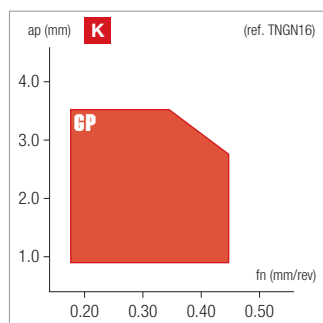
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>TN</h1>	CM: Mixed ceramic Al <sub>2</sub> O <sub>3</sub> CN: Silicon nitride ceramic Si <sub>3</sub> N <sub>4</sub>		CM	CN					
	ISO - without hole		<b>MAC200</b>	<b>MSN400</b>					
<ul style="list-style-type: none"> <li>Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling, sometimes even threading</li> <li>Good economy with up to 6 cutting edges</li> <li>Very stable seating of the insert in pocket of a holder, especially advantaged in boring operation</li> <li>Edge is measurably weaker than 80° diamond shape inserts</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	● ●						
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	● ●						
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice ⚡ suitable							
	<b>Dimensions</b>		<b>ISO Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>						
		<b>P</b>							
		<b>M</b>							
		<b>K</b>	300 600	<b>400</b> <b>1000</b>					
		<b>N</b>							
		<b>S</b>							
	<b>H</b>	60 180							
<b>Designation</b>		<b>RE</b>	<b>IC</b>	<b>S</b>	<b>D1</b>	<b>LE</b>	<b>Stock</b>		
UNIVERSAL		<b>GP</b> <b>K</b> <b>H</b>							
		TNGN160408-GP	0.8	9.525	4.76	-	15.7	●	
		TNGN160708-GP	0.8	9.525	7.94	-	15.7	○ ○	
	TNGN160712-GP	1.2	9.525	7.94	-	15.3	○ ○		

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

Catalogue Preview - AMB



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

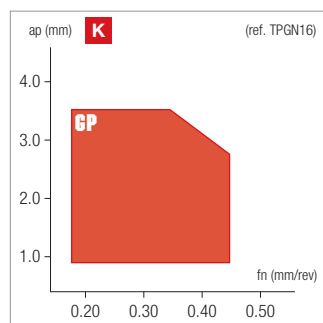
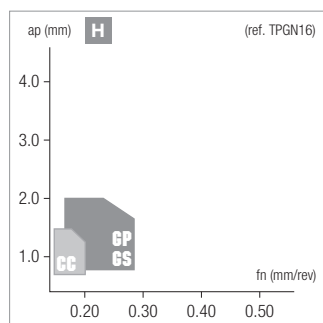
F - ACCESSORIES

G - SPARE PARTS

<h1>TP</h1>	CM: Mixed ceramic Al2O3 CN: Silicon nitride ceramic Si3N4 PVD: Physical vapour deposition			CM	CM	CN	
	ISO - without hole			<b>MAC150</b>	<b>MAC200</b>	<b>MSN400</b>	
<ul style="list-style-type: none"> <li>Very versatile insert shape, can be used for turning, facing, boring, copy turning and basic profiling, sometimes even threading</li> <li>Good economy with up to 3 cutting edges</li> <li>Very stable seating of the insert in pocket of a holder, especially advantaged in boring operation</li> <li>Edge is measurably weaker than 80° diamond shape inserts</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	●	●			
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	●		
	Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚠ suitable	⚠	⚠				
	<b>Dimensions</b>		<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>P</b>					
		<b>M</b>					
		<b>K</b>	300 600	400 1000			
		<b>N</b>					
		<b>S</b>					
		<b>H</b>	80 200	60 180			

Designation		RE	IC	S	D1	LE	Stock	
UNIVERSAL 	TPGN110302-GP	0.2	6.35	3.18	-	10.8	●	
	TPGN110304-GP	0.4	6.35	3.18	-	10.6	●	○
	TPGN110308-GP	0.8	6.35	3.18	-	10.2	●	●
	TPGN160304-GP	0.4	9.525	3.18	-	16.1	●	○
	TPGN160308-GP	0.8	9.525	3.18	-	15.7	●	●
	TPGN160312-GP	1.2	9.525	3.18	-	15.3		●
UNIVERSAL 	TPGN110302-GS	0.2	6.35	3.18	-	10.8	○	
	TPGN110304-GS	0.4	6.35	3.18	-	10.6	●	
	TPGN110308-GS	0.8	6.35	3.18	-	10.2	○	
	TPGN160304-GS	0.4	9.525	3.18	-	16.1	●	
	TPGN160308-GS	0.8	9.525	3.18	-	15.7	●	
SHARP 	TPGN110302-CC	0.2	6.35	3.18	-	10.8	○	●
	TPGN110304-CC	0.4	6.35	3.18	-	10.6	○	●
	TPGN110308-CC	0.8	6.35	3.18	-	10.2	●	○
	TPGN160304-CC	0.4	9.525	3.18	-	16.1	●	●
	TPGN160308-CC	0.8	9.525	3.18	-	15.7	●	●
TPGN160312-CC	1.2	9.525	3.18	-	15.3	●		

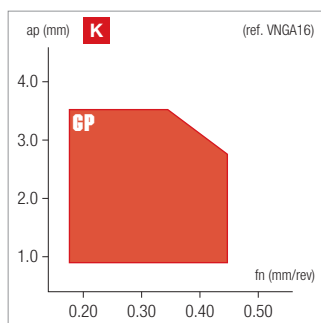
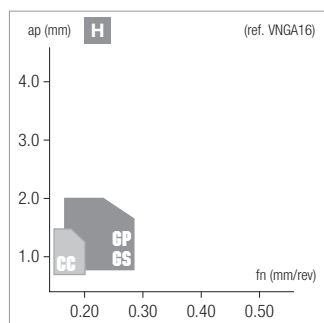
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>VN</h1>	CM: Mixed ceramic Al2O3 CN: Silicon nitride ceramic Si3N4 PVD: Physical vapour deposition				CM	CM	CM	CN					
	ISO - with hole				<b>MAC150</b>	<b>MAC200</b>	<b>MAC250</b>	<b>MSN400</b>					
<ul style="list-style-type: none"> <li>• 1st choice for intricate shape copy turning</li> <li>• Can "In-Copy" (plunge turn into a smaller diameter) at an angle up to 49°</li> <li>• Can work extremely close to the tailstock/live center</li> <li>• The weakest turning insert shape among all, ap and fn should be lighter</li> <li>• Double sided style should mainly be used for external applications</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	●	○	●								
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	○	●	●	●								
	Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚠ suitable												
	<b>Dimensions</b>					<b>ISO</b>				<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
	<b>P</b>												
	<b>M</b>												
	<b>K</b>					300 600		400 1000					
	<b>N</b>												
	<b>S</b>												
	<b>H</b>	80 200	60 180	50 150									

Designation		RE	IC	S	D1	LE	Stock						
UNIVERSAL	<b>GP KH</b>												
	VNGA160404-GP	0.4	9.525	4.76	3.81	16.2	●		○				
	VNGA160408-GP	0.8	9.525	4.76	3.81	15.8	●	○	●				
	VNGA160412-GP	1.2	9.525	4.76	3.81	15.4	○	○	○				
UNIVERSAL	<b>GS H</b>												
	VNGA160404-GS	0.4	9.525	4.76	3.81	16.2	●	●					
	VNGA160408-GS	0.8	9.525	4.76	3.81	15.8	●	●					
	VNGA160412-GS	1.2	9.525	4.76	3.81	15.4	○	○					
SHARP	<b>CC H</b>												
	VNGA160404-CC	0.4	9.525	4.76	3.81	16.2	●						
	VNGA160408-CC	0.8	9.525	4.76	3.81	15.8	●	●					
	VNGA160412-CC	1.2	9.525	4.76	3.81	15.4	○	○					

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

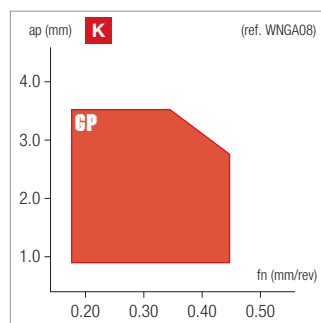
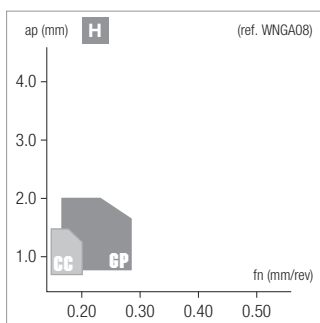
F - ACCESSORIES

G - SPARE PARTS

<h1>WN</h1>	CM: Mixed ceramic Al <sub>2</sub> O <sub>3</sub> CN: Silicon nitride ceramic Si <sub>3</sub> N <sub>4</sub>	CM	CN		
	ISO - with hole	<b>MAC200</b>	<b>MSN400</b>		
<ul style="list-style-type: none"> <li>6-corner 80° diamond shape that can increase economy compared to CNMG-style inserts</li> <li>Generally used on more moderate depths of cut and feedrates than CNMG-style inserts</li> <li>Seating of insert in pocket is less stable as CNMG-style inserts</li> <li>Cannot take as deep a depth of cut as similar sized CNMG-style insert</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	●		
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	●		
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ○ suitable	○	○		
<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
	<b>P</b>				
	<b>M</b>				
	<b>K</b>	300 600	400 1000		
	<b>N</b>				
	<b>S</b>				
	<b>H</b>	60 180			

Designation		RE	IC	S	D1	LE	Stock	
UNIVERSAL 	<b>GP K H</b> WNGA080404-GP	0.4	12.7	4.76	5.16	8.3	●	
	WNGA080408-GP	0.8	12.7	4.76	5.16	7.9	●	●
	WNGA080412-GP	1.2	12.7	4.76	5.16	7.5	●	●
SHARP 	<b>CC H</b> WNGA080404-CC	0.4	12.7	4.76	5.16	8.3	●	
	WNGA080408-CC	0.8	12.7	4.76	5.16	7.9	●	
	WNGA080412-CC	1.2	12.7	4.76	5.16	7.5	○	

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



Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

ISO 513	MATERIAL	HARDNESS HB	NAC200			NSN350			NSN400					
			min	start	max	min	start	max	min	start	max			
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	●	400	500	600	●	600	800	1000	○	500	750	1000
			○				○	500	700	900	●	400	650	900
<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	●	300	400	500					○	450	600	750
											●	400	500	600

B - THREADING

ISO 513	MATERIAL	HARDNESS HB	NAC150			NAC200			NAC250					
			min	start	max	min	start	max	min	start	max			
<b>H1</b>	Case-hardened steel (ex. 1.7131/16 MnCr 5)	50 ÷ 56	●	100	150	200	●	80	130	180	○	70	110	150
							●	70	110	150	●	60	100	140
<b>H2</b>	Bearing steel, quenched and tempered steel (ex. 1.3505/100 Cr 6)	54 ÷ 62	●	80	130	180	●	70	100	130	○	60	90	120
							●	60	80	100	●	50	60	70

C - GROOVING

ISO 513	MATERIAL	HARDNESS HB	NSA6000			NSA650			NWR700					
			min	start	max	min	start	max	min	start	max			
<b>S1 - S2 - S3</b>	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)	50 ÷ 56	○	200	300	400				●	300	400	500	
			●	180	250	320	○	150	200	250	○	250	300	350
			⊕	150	200	250								

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview



<b>NSN450</b>								
	min	start	max					
●	400	600	800					
⊕	400	500	600					
<b>NWR750</b>								
	min	start	max					
○	250	350	450					
●	200	250	300					

Catalogue Preview -

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

	DESIGNATION	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
A - TURNING	CCGW09T308-GP <b>K</b>	1.00	2.00	3.00	0.12	0.23	0.34
	CCGW09T312-GP <b>K</b>	1.00	2.00	3.00	0.13	0.26	0.36
	CCGW120408-GP <b>K</b>	1.00	2.50	4.00	0.14	0.27	0.40
	CCGW120412-GP <b>K</b>	1.00	2.50	4.00	0.16	0.31	0.46
	CNGA120404-CC <b>H</b>	0.20	0.70	1.20	0.04	0.08	0.12
	CNGA120404-GP <b>H</b>	0.40	1.20	2.00	0.06	0.14	0.22
	CNGA120404-GS <b>H</b>	0.40	1.20	2.00	0.06	0.14	0.22
	CNGA120408-CC <b>H</b>	0.20	0.70	1.20	0.05	0.10	0.15
	CNGA120408-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	CNGA120408-GP <b>S</b>	1.00	2.50	4.00	0.14	0.27	0.40
	CNGA120408-GS <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	CNGA120410-WU <b>H</b>	0.40	1.20	2.00	0.12	0.26	0.40
	CNGA120410-WU <b>K</b>	1.00	2.50	4.00	0.20	0.35	0.50
	CNGA120412-CC <b>H</b>	0.20	0.70	1.20	0.06	0.13	0.20
	CNGA120412-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	CNGA120412-GP <b>S</b>	1.00	2.50	4.00	0.16	0.31	0.46
	CNGA120412-GS <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	CNGA160612-GP <b>H</b>	1.00	2.50	4.00	0.14	0.27	0.40
	CNGA160616-GP <b>H</b>	1.00	2.50	4.00	0.15	0.30	0.45
	CNGN120708-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	CNGN120708-GP <b>K</b>	1.00	2.50	4.00	0.14	0.27	0.40
	CNGN120708-GP <b>S</b>	1.00	2.50	4.00	0.14	0.27	0.40
	CNGN120712-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	CNGN120712-GP <b>K</b>	1.00	2.50	4.00	0.16	0.31	0.46
	CNGN120712-GP <b>S</b>	1.00	2.50	4.00	0.16	0.31	0.46
	CNGN120712-HI <b>H</b>	1.00	2.50	4.00	0.16	0.28	0.40
	CNGN120716-GP <b>H</b>	0.40	1.20	2.00	0.14	0.26	0.38
	CNGN120716-GP <b>K</b>	1.00	2.50	4.00	0.18	0.33	0.48
	CNGN120716-GP <b>S</b>	1.00	2.50	4.00	0.18	0.33	0.48
	CNGN120716-HI <b>H</b>	1.00	2.50	4.00	0.20	0.32	0.44
	CNGX120708-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	CNGX120712-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	CNMA120408-GP <b>K</b>	1.00	2.50	4.00	0.14	0.27	0.40
	CNMA120412-GP <b>K</b>	1.00	2.50	4.00	0.16	0.31	0.46
	CNMA120416-GP <b>K</b>	1.00	2.50	4.00	0.18	0.33	0.48
	CNMA160612-GP <b>K</b>	2.00	4.00	6.00	0.20	0.35	0.50
	CNMA160616-GP <b>K</b>	2.00	4.00	6.00	0.22	0.38	0.54
	CNMN120412-GP <b>K</b>	1.00	2.50	4.00	0.16	0.31	0.46
	CNMN120416-GP <b>K</b>	1.00	2.50	4.00	0.18	0.33	0.48
	CNMX120712-GP <b>K</b>	1.00	2.50	4.00	0.16	0.31	0.46
	CNMX120716-GP <b>K</b>	1.00	2.50	4.00	0.18	0.33	0.48
	DNGA150604-CC <b>H</b>	0.20	0.70	1.20	0.04	0.08	0.12
	DNGA150604-GP <b>H</b>	0.40	1.20	2.00	0.06	0.14	0.22
	DNGA150604-GS <b>H</b>	0.40	1.20	2.00	0.06	0.14	0.22
	DNGA150608-CC <b>H</b>	0.20	0.70	1.20	0.05	0.10	0.15
	DNGA150608-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	DNGA150608-GS <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	DNGA150612-CC <b>H</b>	0.20	0.70	1.20	0.06	0.13	0.20
	DNGA150612-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	DNGA150612-GS <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	DNGA150616-GP <b>H</b>	0.40	1.20	2.00	0.14	0.26	0.38
	DNGN150708-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	DNGN150712-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	DNGN150716-GP <b>H</b>	0.40	1.20	2.00	0.14	0.26	0.38
	RCGX060600-CC <b>S</b>	1.00	1.50	2.00	0.18	0.28	0.38
	RCGX060600-GS <b>H</b>	0.40	1.20	2.00	0.10	0.24	0.38

	DESIGNATION	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
	RCGX060700-GP <b>H</b>	0.40	1.20	2.00	0.10	0.24	0.38
	RCGX060700-GP <b>S</b>	1.00	2.00	3.00	0.18	0.32	0.46
	RCGX090700-CC <b>S</b>	1.00	2.00	3.00	0.22	0.32	0.42
	RCGX090700-GP <b>H</b>	0.60	1.80	3.00	0.12	0.26	0.40
	RCGX090700-GP <b>S</b>	1.00	2.50	4.00	0.22	0.38	0.54
	RCGX090700-HI <b>H</b>	0.60	1.80	3.00	0.15	0.30	0.45
	RCGX120700-CC <b>S</b>	1.00	2.00	3.00	0.22	0.32	0.42
	RCGX120700-GP <b>H</b>	0.60	1.80	3.00	0.12	0.26	0.40
	RCGX120700-GP <b>S</b>	1.00	2.50	4.00	0.22	0.38	0.54
	RCGX120700-HI <b>H</b>	0.60	1.80	3.00	0.15	0.30	0.45
	RCGX151000-HI <b>H</b>	1.00	2.50	4.00	0.20	0.40	0.60
	RCGX191000-HI <b>H</b>	1.00	2.50	4.00	0.25	0.45	0.65
	RNGN120400-CC <b>S</b>	1.00	2.00	3.00	0.22	0.32	0.42
	RNGN120400-GP <b>H</b>	0.60	1.80	3.00	0.12	0.26	0.40
	RNGN120400-GP <b>S</b>	1.00	2.50	4.00	0.22	0.38	0.54
	RNGN120700-CC <b>S</b>	1.00	2.00	3.00	0.22	0.36	0.50
	RNGN120700-GP <b>H</b>	0.60	1.80	3.00	0.12	0.26	0.40
	RNGN120700-GP <b>S</b>	1.00	2.50	4.00	0.22	0.32	0.42
	RNGN120700-HI <b>H</b>	0.60	1.80	3.00	0.15	0.30	0.45
	RNGN120700-HT <b>H</b>	0.60	1.80	3.00	0.15	0.30	0.45
	SCGW09T308-GP <b>K</b>	1.00	2.00	3.00	0.12	0.23	0.34
	SCGW120408-GP <b>K</b>	1.00	2.50	4.00	0.14	0.27	0.40
	SNGA120404-CC <b>H</b>	0.20	0.70	1.20	0.04	0.08	0.12
	SNGA120404-GP <b>H</b>	0.40	1.20	2.00	0.06	0.14	0.22
	SNGA120408-CC <b>H</b>	0.20	0.70	1.20	0.05	0.10	0.15
	SNGA120408-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	SNGA120412-CC <b>H</b>	0.20	0.70	1.20	0.06	0.13	0.20
	SNGA120412-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	SNGN120408-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	SNGN120412-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	SNGN120708-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	SNGN120712-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	SNGN120716-GP <b>H</b>	0.40	1.20	2.00	0.14	0.26	0.38
	SNGN120716-HI <b>H</b>	1.00	2.50	4.00	0.20	0.32	0.44
	SNGN120720-HI <b>H</b>	1.00	2.50	4.00	0.22	0.35	0.48
	SNGN120724-HI <b>H</b>	1.00	2.50	4.00	0.24	0.37	0.50
	SNGX120708-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	SNGX120712-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	SNMA120408-GP <b>K</b>	1.00	2.50	4.00	0.14	0.27	0.40
	SNMA120412-GP <b>K</b>	1.00	2.50	4.00	0.16	0.31	0.46
	SNMA120416-GP <b>K</b>	1.00	2.50	4.00	0.18	0.33	0.48
	SNMN120416-GP <b>K</b>	1.00	2.50	4.00	0.18	0.33	0.48
	SNMX120712-GP <b>K</b>	1.00	2.50	4.00	0.16	0.31	0.46
	SNMX120716-GP <b>K</b>	1.00	2.50	4.00	0.18	0.33	0.48
	TNGA160404-CC <b>H</b>	0.20	0.70	1.20	0.04	0.08	0.12
	TNGA160404-GP <b>H</b>	0.40	1.20	2.00	0.06	0.14	0.22
	TNGA160404-GS <b>H</b>	0.40	1.20	2.00	0.06	0.14	0.22
	TNGA160408-CC <b>H</b>	0.20	0.70	1.20	0.05	0.10	0.15
	TNGA160408-GP <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	TNGA160408-GP <b>K</b>	1.00	2.50	4.00	0.14	0.27	0.40
	TNGA160408-GS <b>H</b>	0.40	1.20	2.00	0.10	0.20	0.30
	TNGA160412-CC <b>H</b>	0.20	0.70	1.20	0.06	0.13	0.20
	TNGA160412-GP <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	TNGA160412-GP <b>K</b>	1.00	2.50	4.00	0.16	0.31	0.46
	TNGA160412-GS <b>H</b>	0.40	1.20	2.00	0.12	0.23	0.34
	TNGN160408-GP <b>K</b>	1.00	2.50	4.00	0.14	0.27	0.40

DESIGNATION	DEPTH OF CUT			FEED RATE		
	ap (mm)			fn (mm/rev)		
	min	start	max	min	start	max
TNGN160708-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.10	<b>0.20</b>	0.30
TNGN160708-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.14	<b>0.27</b>	0.40
TNGN160712-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.12	<b>0.23</b>	0.34
TNGN160712-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.16	<b>0.31</b>	0.46
TPGN110302-CC <b>H</b>	0.20	<b>0.60</b>	1.00	0.04	<b>0.06</b>	0.08
TPGN110302-GP <b>H</b>	0.40	<b>0.80</b>	1.20	0.05	<b>0.10</b>	0.15
TPGN110302-GS <b>H</b>	0.40	<b>0.80</b>	1.20	0.05	<b>0.10</b>	0.15
TPGN110304-CC <b>H</b>	0.20	<b>0.60</b>	1.00	0.04	<b>0.07</b>	0.10
TPGN110304-GP <b>H</b>	0.40	<b>0.80</b>	1.20	0.04	<b>0.11</b>	0.18
TPGN110304-GP <b>K</b>	1.00	<b>2.00</b>	3.00	0.10	<b>0.20</b>	0.30
TPGN110304-GS <b>H</b>	0.40	<b>0.80</b>	1.20	0.04	<b>0.11</b>	0.18
TPGN110308-CC <b>H</b>	0.20	<b>0.60</b>	1.00	0.05	<b>0.09</b>	0.13
TPGN110308-GP <b>H</b>	0.40	<b>0.80</b>	1.20	0.06	<b>0.15</b>	0.24
TPGN110308-GP <b>K</b>	1.00	<b>2.00</b>	3.00	0.12	<b>0.23</b>	0.34
TPGN110308-GS <b>H</b>	0.40	<b>0.80</b>	1.20	0.06	<b>0.15</b>	0.24
TPGN160304-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.04	<b>0.08</b>	0.12
TPGN160304-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.06	<b>0.14</b>	0.22
TPGN160304-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.12	<b>0.23</b>	0.34
TPGN160304-GS <b>H</b>	0.40	<b>1.20</b>	2.00	0.06	<b>0.14</b>	0.22
TPGN160308-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.05	<b>0.10</b>	0.15
TPGN160308-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.10	<b>0.20</b>	0.30
TPGN160308-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.14	<b>0.27</b>	0.40
TPGN160308-GS <b>H</b>	0.40	<b>1.20</b>	2.00	0.10	<b>0.20</b>	0.30
TPGN160312-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.06	<b>0.13</b>	0.20
TPGN160312-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.16	<b>0.31</b>	0.46
VNGA160404-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.04	<b>0.08</b>	0.12
VNGA160404-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.06	<b>0.14</b>	0.22
VNGA160404-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.12	<b>0.23</b>	0.34
VNGA160404-GS <b>H</b>	0.40	<b>1.20</b>	2.00	0.06	<b>0.14</b>	0.22
VNGA160408-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.05	<b>0.10</b>	0.15
VNGA160408-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.10	<b>0.20</b>	0.30
VNGA160408-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.14	<b>0.27</b>	0.40
VNGA160408-GS <b>H</b>	0.40	<b>1.20</b>	2.00	0.10	<b>0.20</b>	0.30
VNGA160412-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.06	<b>0.13</b>	0.20
VNGA160412-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.12	<b>0.23</b>	0.34
VNGA160412-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.16	<b>0.31</b>	0.46
VNGA160412-GS <b>H</b>	0.40	<b>1.20</b>	2.00	0.12	<b>0.23</b>	0.34
WNGA080404-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.04	<b>0.08</b>	0.12
WNGA080404-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.06	<b>0.14</b>	0.22
WNGA080408-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.05	<b>0.10</b>	0.15
WNGA080408-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.10	<b>0.20</b>	0.30
WNGA080408-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.14	<b>0.27</b>	0.40
WNGA080412-CC <b>H</b>	0.20	<b>0.70</b>	1.20	0.06	<b>0.13</b>	0.20
WNGA080412-GP <b>H</b>	0.40	<b>1.20</b>	2.00	0.12	<b>0.23</b>	0.34
WNGA080412-GP <b>K</b>	1.00	<b>2.50</b>	4.00	0.16	<b>0.31</b>	0.46

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

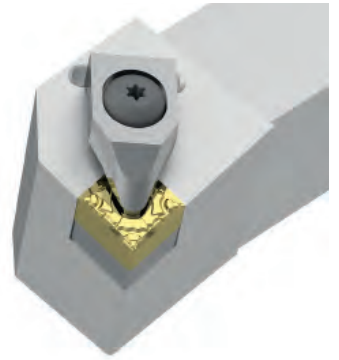
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



Catalogue Preview - AMB 2022



## TURNING Holders

Designation system, A206

Range overview, A208

Clamping system details, A211

Boring bar features, 214

Range, 217

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

NT	-	D	C	L	N	R	20	20	K	-	12	X
		1	2	3	4	5	6	7	8		9	10

1	CLAMPING SYSTEM
C	top clamp
D	double clamp
M	multi-lock
P	lever-lock
S	screw clamp
V	35° rhombic
W	80° trigon

2	INSERT SHAPE
C	80° rhombic
D	55° rhombic
R	round
S	90° square
T	60° triangular
V	35° rhombic
W	80° trigon

3	CUTTING ANGLE (KAPR)	
A	90° without offset	
B	75°	
C	90°	
D	45° neutral	
E	60°	
F	90°	
G	90° without offset	
H	107.5°	
J	93°	
K	75°	
L	95°	
N	63°	
P	117.5°	
Q	45°	
R	75°	
S	45°	
T	60°	
U	93°	
V	72.5°	
W	60°	
Y	85°	

4	INSERT RELIEF ANGLE
B	5°
C	7°
D	15°
E	20°
N	0°
P	11°

5	DIRECTION
Symbol	Shape
L	
N	
R	

6	SHANK HEIGHT (H)
∞	

7	SHANK WIDTH (B)
∞	

8	HOLDER LENGTH (LF)
Symbol	
F	80 mm
G	90 mm
H	100 mm
J	110 mm
K	125 mm
L	140 mm
M	150 mm
N	160 mm
P	170 mm
Q	180 mm
R	200 mm
X	NIKKO norm

9	INSERT SIZE
∞	

10	ACCORDING TO NIKKO NORM (OPTIONAL)
∞	

NT	-	V	12	M	-	S	C	L	C	R/L	06	-	14
		1	2	3		4	5	6	7	8	9		10

1	HOLDER STYLE
A	steel boring bar with coolant hole
C	carbide boring bar without coolant hole
E	carbide boring bar with coolant hole
S	steel boring bar without coolant hole
V	High quality steel boring bar with Vortex design and coolant hole

2	BORING BAR DIAMETER (DCON)
	DCON

3	HOLDER LENGTH (LF)
<b>Symbol</b>	
F	80 mm
G	90 mm
H	100 mm
J	110 mm
K	125 mm
L	140 mm
M	150 mm
N	160 mm
P	170 mm
Q	180 mm
R	200 mm
S	250 mm
T	300 mm
U	350 mm
V	400 mm
W	450 mm
Y	500 mm
X	NIKKO norm

4	CLAMPING SYSTEM
C	top clamp
D	double clamp
M	multi-lock
P	lever-lock
S	screw clamp

5	INSERT SHAPE
C	80° rhombic
D	55° rhombic
R	round
S	90° square
T	60° triangular
V	35° rhombic
W	80° trigon

6	CUTTING ANGLE (KAPR)				
A	90° without offset		N	63°	
B	75°		P	117.5°	
C	90°		Q	45°	
D	45° neutral		R	75°	
E	60°		S	45°	
F	90°		T	60°	
G	90° without offset		U	93°	
H	107.5°		V	72.5°	
J	93°		W	60°	
K	75°		Y	85°	
L	95°				

7	INSERT RELIEF ANGLE
B	5°
C	7°
D	15°
E	20°
N	0°
P	11°

8	DIRECTION
<b>Symbol</b>	<b>Shape</b>
L	
R	



























9	INSERT SIZE
---	-------------

10	MINIMUM BORE DIAMETER (DMIN)
----	------------------------------

A - TURNING	CC <sub>00</sub>	SCAC  000	SCLC  000	SCLC N  000	SCMC  000	
	CN <sub>00</sub>	DCLN  000	MCKN  000	MCLN  000	MCRN  000	PCLN  000
B - THREADING	DC <sub>00</sub>	SDAC  000	SDJC  000	SDJC N  000	SDNC  000	
	DN <sub>00</sub>	DDJN  000	MDJN  000	PDJN  000		
C - GROOVING	SC <sub>00</sub>	SDDC  000				
	SN <sub>00</sub>	MSBN  000	MSDN  000	MSKN  000	MSSN  000	
D - MILLING	TC <sub>00</sub>	STAC  000	STFC  000	STGC  000		
	TN <sub>00</sub>	DTGN  000	DTJN  000	MTJN  000		
E - DRILLING	VB <sub>00</sub>	SVHB  000	SVJB  000	SVJB N  000	SVB  000	
	VC <sub>00</sub>	SVJC  000	SVJC N  000	SVPC  000	SVVC  000	
F - ACCESSORIES	VN <sub>00</sub>	DVJN  000	DVJN  000	MVJN  000	MVJN  000	
	WN <sub>00</sub>	DWLN  000	MWLN  000	PWLN  000		
G - SPARE PARTS	MicroNega	MCN  000	MDN  000			

AMB 2022



CC <sub>00</sub>	SCLC	A <input checked="" type="checkbox"/> 000 E <input checked="" type="checkbox"/> 000 S <input type="checkbox"/> 000 V <input type="checkbox"/> 000	SCZC	A <input checked="" type="checkbox"/> 000 E <input checked="" type="checkbox"/> 000 S <input type="checkbox"/> 000 V <input type="checkbox"/> 000		
	 DMIN: 10 mm		 DMIN: 12 mm			
CN <sub>00</sub>	DCLN	A <input checked="" type="checkbox"/> 000	MCLN	S <input type="checkbox"/> 000	PCLN	A <input checked="" type="checkbox"/> 000
	 DMIN: 32 mm		 DMIN: 25 mm		 DMIN: 32 mm	
DC <sub>00</sub>	SDQC	S <input type="checkbox"/> 000 V <input type="checkbox"/> 000	SDUC	A <input checked="" type="checkbox"/> 000 E <input checked="" type="checkbox"/> 000 S <input type="checkbox"/> 000 V <input type="checkbox"/> 000	SDZC	S <input type="checkbox"/> 000 V <input type="checkbox"/> 000
	 DMIN: 13 mm		 DMIN: 13 mm		 DMIN: 14 mm	
DN <sub>00</sub>	DDUN	A <input checked="" type="checkbox"/> 000	MDUN	S <input type="checkbox"/> 000		
	 DMIN: 32 mm		 DMIN: 40 mm			
MCC	MICRO-CC	E <input checked="" type="checkbox"/> 000 V <input type="checkbox"/> 000				
	 DMIN: 5 mm					
SC <sub>00</sub>	SSKC	S <input type="checkbox"/> 000				
	 DMIN: 16 mm					
SN <sub>00</sub>	MSKN	S <input type="checkbox"/> 000				
	 DMIN: 25 mm					
TB <sub>00</sub>	STLB	V <input type="checkbox"/> 000	STUB	S <input type="checkbox"/> 000		
	 DMIN: 7 mm		 DMIN: 10 mm			
TC <sub>00</sub>	STFC	A <input checked="" type="checkbox"/> 000 E <input checked="" type="checkbox"/> 000 S <input type="checkbox"/> 000 V <input type="checkbox"/> 000	STLC	V <input type="checkbox"/> 000		
	 DMIN: 12 mm		 DMIN: 14 mm			
TN <sub>00</sub>	DTFN	A <input checked="" type="checkbox"/> 000	MTUN	S <input type="checkbox"/> 000		
	 DMIN: 32 mm		 DMIN: 25 mm			
TP <sub>00</sub>	CTUP	S <input type="checkbox"/> 000	STUP	S <input type="checkbox"/> 000		
	 DMIN: 16 mm		 DMIN: 12 mm			
VB <sub>00</sub>	SVJB	V <input type="checkbox"/> 000				
	 DMIN: 25 mm					
VC <sub>00</sub>	SVJC	S <input type="checkbox"/> 000	SVQC	S <input type="checkbox"/> 000	SVUC	S <input type="checkbox"/> 000
	 DMIN: 14 mm		 DMIN: 22 mm		 DMIN: 22 mm	 DMIN: 30 mm

- A** Steel with coolant
- E** Carbide with coolant
- S** Steel without coolant
- V** Vortex with coolant

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

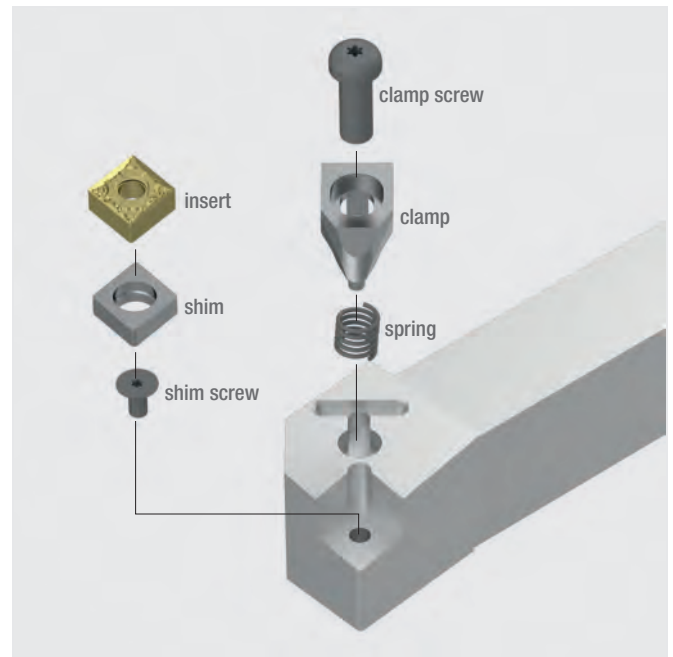
VN <sub>∞</sub>	MVQN  DMIN: 33 mm S <input type="checkbox"/> 000	MVUN  DMIN: 37 mm S <input type="checkbox"/> 000		
	WB <sub>∞</sub>	SWUB  DMIN: 6 mm V <input type="checkbox"/> 000		
WC <sub>∞</sub>	SWUC  DMIN: 14 mm V <input type="checkbox"/> 000			
WN <sub>∞</sub>	DWLN  DMIN: 32 mm A <input type="checkbox"/> 000	MWLN  DMIN: 22 mm S <input type="checkbox"/> 000	PWLN  DMIN: 30 mm A <input type="checkbox"/> 000	
	MicroNega	MCN  DMIN: 10 mm V <input type="checkbox"/> 000	MDN  DMIN: 15 mm V <input type="checkbox"/> 000	

- A** Steel with coolant
- E** Carbide with coolant
- S** Steel without coolant
- V** Vortex with coolant

Catalogue Preview - H

## D CLAMPING

- Fast and reliable double clamping system
- With a single action, the inserts pushed down and against the holder's seat.
- Excellent repeatability and accuracy thanks to the strong clamping forces that assures a perfect contact between shim and insert.
- Optimized design to avoid chip interferences.



### EXTERNAL



DCLN



DDJN



DTGN



DTJN



DVJN



DWLN

### INTERNAL



A DCLN



A DDUN



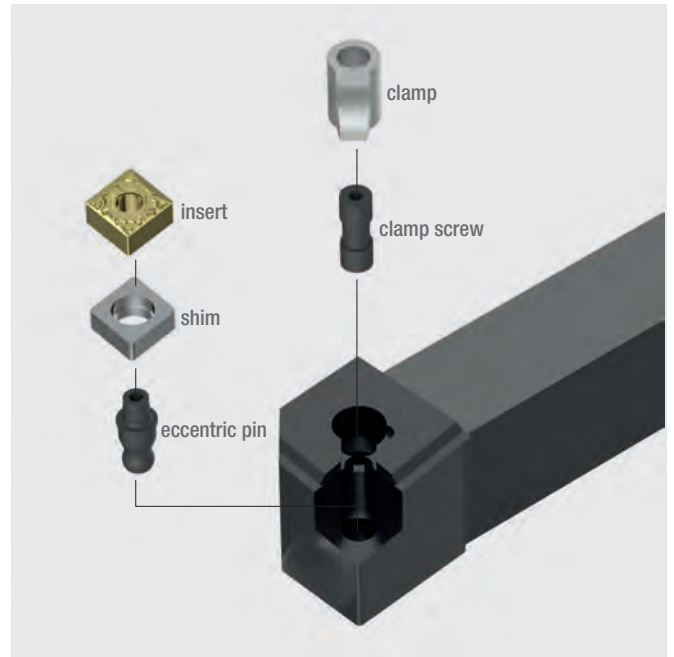
A DTFN



A DWLN

# M CLAMPING

- Combination of top clamping and eccentric pin-lock.
- Rigid clamping, perfect for ceramic and solid PCBN inserts.
- Good solution for heavy machining, double clamping ensure the strenght to support strong stress.
- If necessary, only for light-cut, can be used without top clamp.



## EXTERNAL

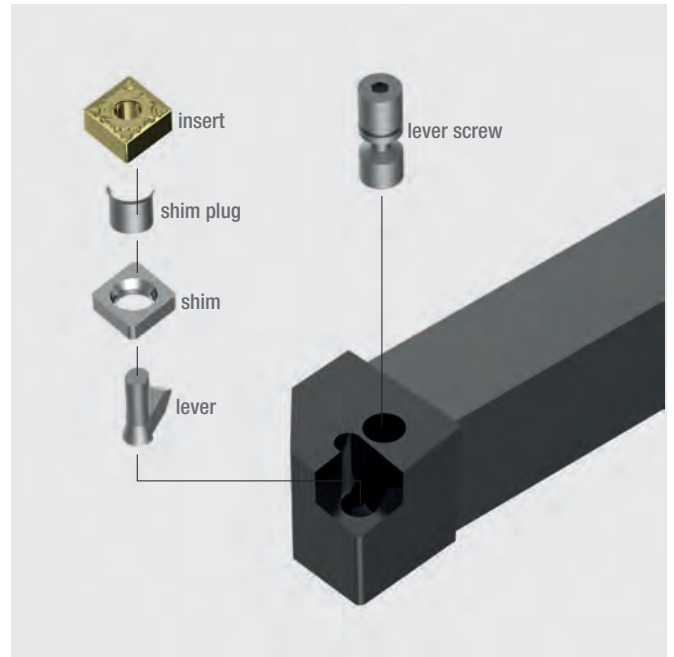


## INTERNAL



## P CLAMPING

- Economical and easy to use solution.
- Recommended for light and medium cut applications.
- No clamp on the top guarantee a free chip flow action.
- Quick insert replacement.



### EXTERNAL



PCLN



PDJN



PWLN

### INTERNAL



A PCLN



A PWLN

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

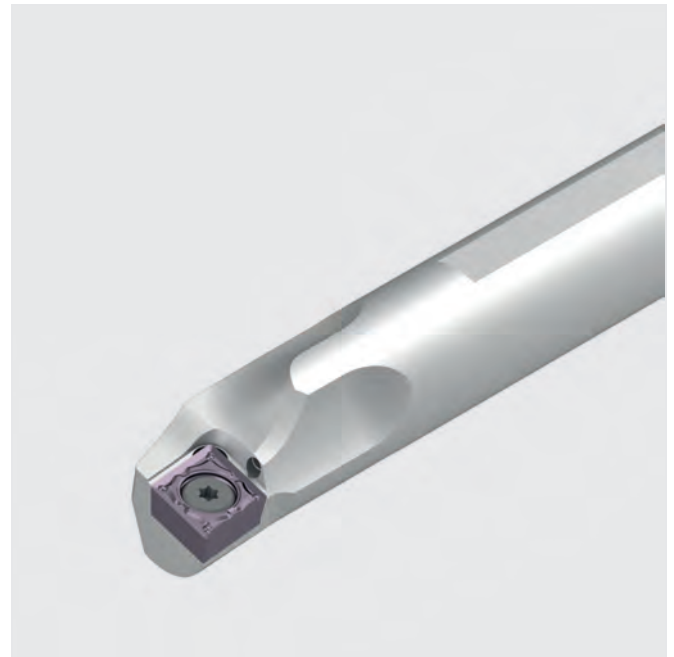
F - ACCESSORIES

G - SPARE PARTS

# VORTEXBAR

Technology for internal machining

- Special edge design for an excellent chip evacuation, prevent clogging even with long chips.
- High quality tool steel reduces vibrations even with significant overhang (max 5xD)
- Broad range of dimensions and geometries, for turning, back turning, profiling and threading.
- Internal coolant channels on the full line-up.



V SCLC



V SDQC



V SDUC



V SDZC



V STLC



V SVJB



V SWUC



V SIR  
Threading



NDB I  
Grooving

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# CARBIDE BAR

Technology for internal machining

- High quality carbide boring bar for precision machining, prevent vibrations even with long overhang (max 7xD).
- Excellent brazing resistance thanks to very stable “V” shape design.
- Suggested for precision machining where highest standards of quality are required (improve roughness, tolerances and tool life).
- Internal coolant channels on the full line-up.



E SCLC



E SDUC



E STFC

Catalogue view

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

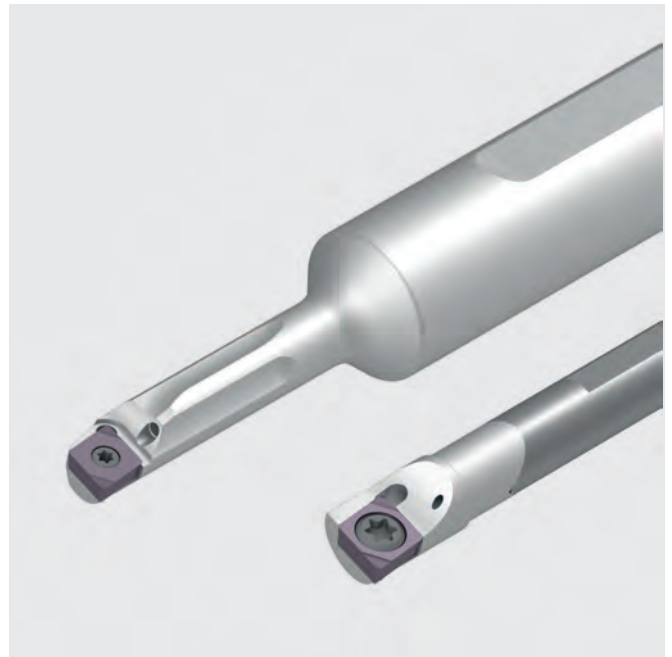
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

## MICROBORING

- Complete line-up for small internal machining, starting from 5 mm hole diameter, with precise indexable inserts (carbide and advanced materials).
- MicroVortex types combine high quality tool steel and advance head design, reducing vibrations and reaching perfect chips evacuation.
- Micro CC holder is available also with high quality carbide boring bar for most demanding applications (higher overhang, hard materials machining).
- Internal coolant channels on the full line-up.



### VORTEX



V MCC



V STLB



V SWUB

V SIR  
Threading

### CARBIDE



E MCC

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



<h1>SCAC</h1>	Right-hand shown 
<h2>ISO - CC</h2>	
<ul style="list-style-type: none"> <li>• External turning (KAPR90°)</li> <li>• Tightened by screws</li> <li>• Available on lathes without offset</li> <li>• Convenient to change inserts</li> </ul>	

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SCAC <sup>1/8</sup> 0808K06	○	○	8	8	8	125	-	-	90°		CC00060200
NT-SCAC <sup>1/8</sup> 1010K06	●	●	10	10	10	125	-	-	90°		CC00060200
NT-SCAC <sup>1/8</sup> 1212K06	●	●	12	12	12	125	-	-	90°		CC00060200
NT-SCAC <sup>1/8</sup> 1212K09	●	●	12	12	12	125	-	-	90°		CC0009T300
NT-SCAC <sup>1/8</sup> 1616K09	●	●	16	16	16	125	-	-	90°		CC0009T300

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

Spare parts	Insert screw	Flag wrench
NT-SCAC <sup>1/8</sup> 06	NT-ST25060T07	NT-FT07
NT-SCAC <sup>1/8</sup> 09	NT-ST35089T15	NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# SCLC

## ISO - CC

- External turning (KAPR95°)
- Tightened by screws
- Convenient to change inserts
- Holds CC-style inserts

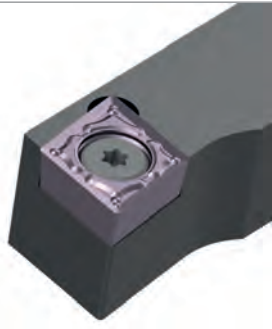
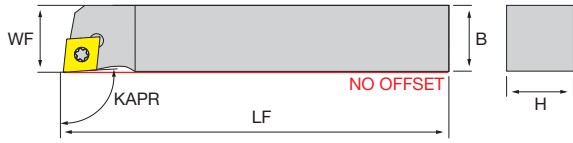
Right-hand shown

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SCLC <sup>1</sup> / <sub>r</sub> 2020K09S	●	●	20	20	25	125	22	-	95°		CC <sup>00</sup> 09T3 <sup>00</sup>
NT-SCLC <sup>1</sup> / <sub>r</sub> 2525M09S	●	●	25	25	32	150	25	-	95°		CC <sup>00</sup> 09T3 <sup>00</sup>
NT-SCLC <sup>1</sup> / <sub>r</sub> 2020K12S	●	●	20	20	25	125	22	-	95°		CC <sup>00</sup> 1204 <sup>00</sup>
NT-SCLC <sup>1</sup> / <sub>r</sub> 2525M12S	●	●	25	25	32	150	25	-	95°		CC <sup>00</sup> 1204 <sup>00</sup>

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SCLC <sup>1</sup> / <sub>r</sub> 0000009S					
NT-SCLC <sup>1</sup> / <sub>r</sub> 0000012S					

Catalogue Preview

<h1>SCLC N</h1>	Right-hand shown	
<h2>ISO - CC</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR95°)</li> <li>• Tightened by screws</li> <li>• Available on lathes without offset</li> <li>• Convenient to change inserts</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SCLC <sup>h</sup> /r0808K06N	○	○	8	8	8	100	-	-	95°		CC∞0602∞
NT-SCLC <sup>h</sup> /r1010K06N	●	●	10	10	10	125	-	-	95°		CC∞0602∞
NT-SCLC <sup>h</sup> /r1212K09N	●	●	12	12	12	125	-	-	95°		CC∞09T3∞
NT-SCLC <sup>h</sup> /r1616K09N	●	●	16	16	16	125	-	-	95°		CC∞09T3∞

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

Spare parts	Insert screw	Flag wrench
NT-SCLC <sup>h</sup> /r∞∞∞∞06N	NT-ST25060T07	NT-FT07
NT-SCLC <sup>h</sup> /r∞∞∞∞09N	NT-ST35089T15	NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# SCMC

ISO - CC

- External turning (KAPR 80°)
- Tightened by screws
- Without shims
- Neutral position

Designation	Stock	H	B	WF	LF	LH	LPR	KAPR		MIID
NT-SCMCN2020K09	○	20	20	10	125	-	-	40°		CC∞09T3∞
NT-SCMCN2525M09	○	25	25	12.5	150	-	-	40°		CC∞09T3∞

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

Spare parts	Insert screw	Flag wrench
SCMCN∞∞∞∞09	 NT-ST35089T15	 NT-FT15

Catalogue Preview - AMB 2022

<h1>A SCLC</h1>	Right-hand shown	
<h2>ISO - CC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 95°)</li> <li>• Steel boring bar with internal coolant</li> <li>• Tightened by screws</li> <li>• Holds CC-style inserts</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A08H-SCLC/φ06	●	●	10	8	5	100	-	-	95°	13°	CC∞0602∞
NT-A10K-SCLC/φ06	●	●	12	10	6	125	-	-	95°	12°	CC∞0602∞
NT-A12M-SCLC/φ06	●	●	14	12	7	150	-	-	95°	9°	CC∞0602∞
NT-A16Q-SCLC/φ06	●	●	18	16	9	180	-	-	95°	7°	CC∞0602∞
NT-A12M-SCLC/φ09	●	●	14	12	7	150	-	-	95°	13°	CC∞09T3∞
NT-A16Q-SCLC/φ09	●	●	18	16	9	180	-	-	95°	9°	CC∞09T3∞
NT-A20R-SCLC/φ09	●	●	22	20	11	200	-	-	95°	5°	CC∞09T3∞

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

Spare parts	Insert screw	Flag wrench
NT-A08H-SCLC/φ06	NT-ST25050T07	NT-FT07
NT-A10K-SCLC/φ06	NT-ST25060T07	NT-FT07
NT-A12M-SCLC/φ06	NT-ST25060T07	NT-FT07
NT-A16Q-SCLC/φ06	NT-ST25060T07	NT-FT07
NT-A12M-SCLC/φ09	NT-ST35073T15	NT-FT15
NT-A16Q-SCLC/φ09	NT-ST35073T15	NT-FT15
NT-A20R-SCLC/φ09	NT-ST35089T15	NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

# A16K SCLC

ISO - CC

- Internal turning (KAPR 95°)
- Small diameter steel boring bar with internal coolant and reduced neck
- Tightened by screws
- Holds CC-style inserts



GAMO  
DMIN



B - THREADING

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A16K-07-SCLC/ø06-L20	●	●	8	16	4	125	20	-	95°	15°	CC∞0602∞
NT-A16K-08-SCLC/ø06-L20	●	●	9	16	4.5	125	20	-	95°	12°	CC∞0602∞
NT-A16K-09-SCLC/ø06-L25	●	●	10	16	5	125	25	-	95°	11°	CC∞0602∞

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

C - GROOVING

Spare parts	Insert screw	Flag wrench
		
NT-A16K-∞-SCLC/ø06-L∞	NT-ST25060T07	NT-FT07

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - AMB 2022

<h1>E SCLC</h1>	Right-hand shown	
<h2>ISO - CC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 95°)</li> <li>• Carbide boring bar with internal coolant</li> <li>• Maximum overhang: 7xDCON</li> <li>• Holds CC-style inserts</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-E08K-SCLC'/#06	●	●	10	8	5	125	-	-	95°	9°	CC∞0602∞
NT-E10K-SCLC'/#06	●	●	12	10	6	125	-	-	95°	7°	CC∞0602∞
NT-E12M-SCLC'/#06	●	●	14	12	7	150	-	-	95°	6°	CC∞0602∞
NT-E12M-SCLC'/#09	●	●	14	12	7	150	-	-	95°	6°	CC∞09T3∞
NT-E16R-SCLC'/#09	●	●	18	16	9	200	-	-	95°	7°	CC∞09T3∞
NT-E20R-SCLC'/#09	●	●	22	20	11	200	-	-	95°	5°	CC∞09T3∞

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

Spare parts	Insert screw	Flag wrench
NT-E08K-SCLC'/#06	NT-ST25050T07	NT-FT07
NT-E10K-SCLC'/#06	NT-ST25060T07	NT-FT07
NT-E12M-SCLC'/#06	NT-ST25060T07	NT-FT07
NT-E12M-SCLC'/#09	NT-ST35073T15	NT-FT15
NT-E16R-SCLC'/#09	NT-ST35073T15	NT-FT15
NT-E20R-SCLC'/#09	NT-ST35089T15	NT-FT15

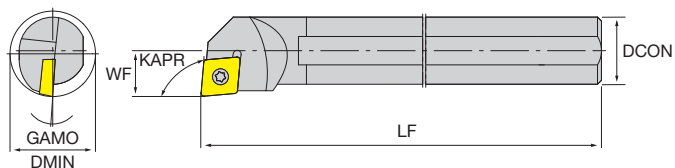
Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# S SCLC

ISO - CC

- Internal turning (KAPR 95°)
- Steel boring bar without coolant through
- Tightened by screws
- Holds CC-style inserts



Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S08H-SCLC <sup>1/2</sup> /r06	●	●	10	8	5	100	-	-	95°	13°	CC∞0602∞
NT-S10K-SCLC <sup>1/2</sup> /r06	●	●	12	10	6	125	-	-	95°	12°	CC∞0602∞
NT-S12M-SCLC <sup>1/2</sup> /r06	●	●	14	12	7	150	-	-	95°	9°	CC∞0602∞
NT-S16Q-SCLC <sup>1/2</sup> /r06	●	●	18	16	9	180	-	-	95°	7°	CC∞0602∞
NT-S12M-SCLC <sup>1/2</sup> /r09	●	●	14	12	7	150	-	-	95°	13°	CC∞09T3∞
NT-S16Q-SCLC <sup>1/2</sup> /r09	●	●	18	16	9	180	-	-	95°	9°	CC∞09T3∞
NT-S20R-SCLC <sup>1/2</sup> /r09	●	●	22	20	11	200	-	-	95°	5°	CC∞09T3∞
NT-S20R-SCLC <sup>1/2</sup> /r12	●	●	25	20	13	200	-	-	95°	8°	CC∞1204∞
NT-S25R-SCLC <sup>1/2</sup> /r12	●	●	32	25	17	200	-	-	95°	8°	CC∞1204∞
WITH SHIM											
NT-S32S-SCLC <sup>1/2</sup> /r12S	●	●	40	32	22	250	-	-	95°	6°	CC∞1204∞
NT-S40T-SCLC <sup>1/2</sup> /r12S	●	●	50	40	27	300	-	-	95°	4°	CC∞1204∞

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-S08H-SCLC <sup>1/2</sup> /r06	-	-	-	NT-ST25050T07	NT-FT07
NT-S10K-SCLC <sup>1/2</sup> /r06	-	-	-	NT-ST25060T07	NT-FT07
NT-S12M-SCLC <sup>1/2</sup> /r06	-	-	-	NT-ST25060T07	NT-FT07
NT-S16Q-SCLC <sup>1/2</sup> /r06	-	-	-	NT-ST25060T07	NT-FT07
NT-S12M-SCLC <sup>1/2</sup> /r09	-	-	-	NT-ST35073T15	NT-FT15
NT-S16Q-SCLC <sup>1/2</sup> /r09	-	-	-	NT-ST35073T15	NT-FT15
NT-S20R-SCLC <sup>1/2</sup> /r09	-	-	-	NT-ST35089T15	NT-FT15
NT-S20R-SCLC <sup>1/2</sup> /r12	-	-	-	NT-ST40115T15	NT-FT15
NT-S25R-SCLC <sup>1/2</sup> /r12	-	-	-	NT-ST40115T15	NT-FT15
NT-S32S-SCLC <sup>1/2</sup> /r12S	NT-SH001	NT-SR001	NT-WR040	NT-ST40140T15	NT-FT15
NT-S40T-SCLC <sup>1/2</sup> /r12S	NT-SH001	NT-SR001	NT-WR040	NT-ST40140T15	NT-FT15



<h1>V SCLC</h1>	Right-hand shown	
<h2>ISO - CC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 95°)</li> <li>• Vortex boring bar (High standard steel)</li> <li>• Special chip evacuation path</li> <li>• Maximum overhang: 5xDCON</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V08H-SCLC <sup>1</sup> /r06-10	●	●	10	8	5	100	-	-	95°	14°	CC∞0602∞
NT-V10K-SCLC <sup>1</sup> /r06-12	●	●	12	10	6	125	-	-	95°	12°	CC∞0602∞
NT-V12M-SCLC <sup>1</sup> /r06-14	●	●	14	12	7	150	-	-	95°	10°	CC∞0602∞
NT-V12M-SCLC <sup>1</sup> /r09-14	●	●	14	12	7	150	-	-	95°	12°	CC∞09T3∞
NT-V16Q-SCLC <sup>1</sup> /r09-18	●	●	18	16	9	180	-	-	95°	10°	CC∞09T3∞
NT-V20R-SCLC <sup>1</sup> /r09-22	●	●	22	20	11	200	-	-	95°	8°	CC∞09T3∞
NT-V25S-SCLC <sup>1</sup> /r09-27	●	●	27	25	13.5	250	-	-	95°	6°	CC∞09T3∞
NT-V20R-SCLC <sup>1</sup> /r12-25	●	●	25	20	13	200	-	-	95°	7°	CC∞1204∞
NT-V25S-SCLC <sup>1</sup> /r12-32	●	●	32	25	17	250	-	-	95°	5°	CC∞1204∞

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

Spare parts	Insert screw	Flag wrench
NT-V08H-SCLC <sup>1</sup> /r06-10	NT-ST25050T07	NT-FT07
NT-V10K-SCLC <sup>1</sup> /r06-12	NT-ST25060T07	NT-FT07
NT-V12M-SCLC <sup>1</sup> /r06-14	NT-ST25060T07	NT-FT07
NT-V12M-SCLC <sup>1</sup> /r09-14	NT-ST35073T15	NT-FT15
NT-V16Q-SCLC <sup>1</sup> /r09-18	NT-ST35073T15	NT-FT15
NT-V20R-SCLC <sup>1</sup> /r09-22	NT-ST35089T15	NT-FT15
NT-V25S-SCLC <sup>1</sup> /r09-27	NT-ST35089T15	NT-FT15
NT-V20R-SCLC <sup>1</sup> /r12-25	NT-ST40115T15	NT-FT15
NT-V25S-SCLC <sup>1</sup> /r12-32	NT-ST40115T15	NT-FT15

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# S SCZC

**ISO - CC**

- Internal back turning (KAPR 93°)
- Steel boring bar without coolant through
- Tightened by screws

Right-hand shown

Designation	Stock		DMIN	DCON	WF	WF2	LF	LH	LPR	KAPR	GAMO	MIID
	L	R										
NT-S08H-SCZC <sup>1</sup> / <sub>8</sub> 06	●	●	12	8	6.5	2.5	100	-	110	93°	13°	CC∞0602∞
NT-S10K-SCZC <sup>1</sup> / <sub>8</sub> 06	●	●	14	10	7.5	2.5	125	-	135	93°	12°	CC∞0602∞
NT-S12M-SCZC <sup>1</sup> / <sub>8</sub> 06	●	●	16	12	8.5	2.5	150	-	160	93°	10°	CC∞0602∞
NT-S16Q-SCZC <sup>1</sup> / <sub>8</sub> 09	●	●	21	16	11.5	3.5	180	-	196	93°	10°	CC∞09T3∞
NT-S20R-SCZC <sup>1</sup> / <sub>8</sub> 09	●	●	25	20	13.5	3.5	200	-	218	93°	8°	CC∞09T3∞
NT-S25R-SCZC <sup>1</sup> / <sub>8</sub> 09	●	●	32	25	16	3.5	200	-	218	93°	8°	CC∞09T3∞

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

Spare parts	Insert screw	Flag wrench
NT-S08H-SCZC <sup>1</sup> / <sub>8</sub> 06	NT-ST25050T07	NT-FT07
NT-S10K-SCZC <sup>1</sup> / <sub>8</sub> 06	NT-ST25060T07	NT-FT07
NT-S12M-SCZC <sup>1</sup> / <sub>8</sub> 06	NT-ST25060T07	NT-FT07
NT-S16Q-SCZC <sup>1</sup> / <sub>8</sub> 09	NT-ST35089T15	NT-FT15
NT-S20R-SCZC <sup>1</sup> / <sub>8</sub> 09	NT-ST35089T15	NT-FT15
NT-S25R-SCZC <sup>1</sup> / <sub>8</sub> 09	NT-ST35089T15	NT-FT15

Catalogue Preview - AMB 2022

<h1>DCLN</h1>	Right-hand shown	
<h2>ISO - CN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 95°)</li> <li>• Quick and safe tightening</li> <li>• Double pushing and pulling action with a single movement</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-DCLN <sup>h</sup> /r1616H09X	●	●	16	16	20	100	33	-	95°	CN∞0903∞
NT-DCLN <sup>h</sup> /r2020K09X	●	●	20	20	25	125	30	-	95°	CN∞0903∞
NT-DCLN <sup>h</sup> /r2525M09X	●	●	25	25	32	150	30	-	95°	CN∞0903∞
NT-DCLN <sup>h</sup> /r2020K12X	●	●	20	20	25	125	40	-	95°	CN∞1204∞
NT-DCLN <sup>h</sup> /r2525M12X	●	●	25	25	32	150	36	-	95°	CN∞1204∞
NT-DCLN <sup>h</sup> /r3225P12X	●	●	32	25	32	170	36	-	95°	CN∞1204∞

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

Spare parts	Shim	Shim screw	L wrench	Clamp	Spring	Clamp screw	L wrench
NT-DCLN <sup>h</sup> /r∞∞∞∞09X							
NT-DCLN <sup>h</sup> /r∞∞∞∞12X							

Catalogue Preview

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

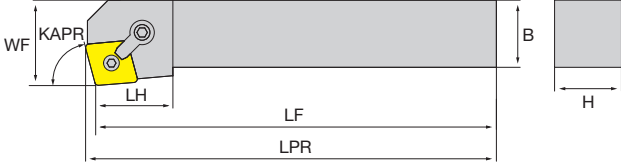
A - TURNING

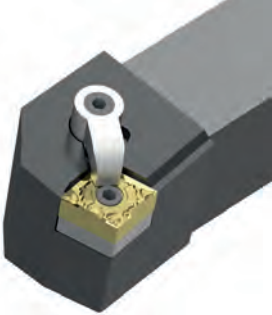
# MCKN

ISO - CN

- External turning (KAPR 75°)
- Double locking with eccentric pin and bracket
- Excellent clamping force

Right-hand shown





B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MCKN/r2020K12	●	●	20	20	25	122	37	125	75°		CN∞1204∞
NT-MCKN/r2525M12	●	●	25	25	32	147	34	150	75°		CN∞1204∞
NT-MCKN/r3232P12	●	●	32	32	40	167	40	170	75°		CN∞1204∞
NT-MCKN/r3232P16	○	○	32	32	40	167	40	170	75°		CN∞1606∞

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

C - GROOVING

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-MCKN/r∞∞∞∞12					
NT-MCKN/r∞∞∞∞16	NT-SH055	NT-SP040	NT-CS010	NT-SC010	NT-WR030

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview

<h1>MCLN</h1>	Right-hand shown	
<h2>ISO - CN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 95°)</li> <li>• Double locking with eccentric pin and bracket</li> <li>• Excellent clamping force</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-MCLN <sup>h</sup> /r2020K12	●	●	20	20	25	125	33	-	95°	CN∞1204∞
NT-MCLN <sup>h</sup> /r2525M12	●	●	25	25	32	150	33	-	95°	CN∞1204∞
NT-MCLN <sup>h</sup> /r3232P12	●	●	32	32	40	170	33	-	95°	CN∞1204∞
NT-MCLN <sup>h</sup> /r2525M16	●	●	25	25	32	150	33	-	95°	CN∞1606∞
NT-MCLN <sup>h</sup> /r3232P16	●	●	32	32	40	170	33	-	95°	CN∞1606∞
NT-MCLN <sup>h</sup> /r3232P19	○	○	32	32	40	170	38	-	95°	CN∞1906∞
NT-MCLN <sup>h</sup> /r4040S19	○	○	40	40	50	250	38	-	95°	CN∞1906∞

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

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-MCLN <sup>h</sup> /r∞∞∞∞12					
NT-MCLN <sup>h</sup> /r∞∞∞∞16					
NT-MCLN <sup>h</sup> /r∞∞∞∞19					

Catalogue Preview - AIMP 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

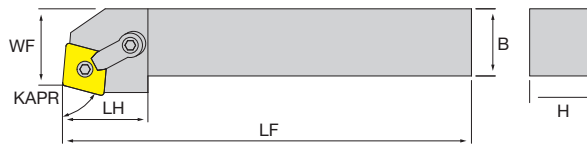
A - TURNING

# MCRN

ISO - CN

- External turning (KAPR 75°)
- Double locking with eccentric pin and bracket
- Excellent clamping force

Right-hand shown



B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MCRN/∅2020K12	●	●	20	20	22	125	37	-	75°		CN∞1204∞
NT-MCRN/∅2525M12	●	●	25	25	27	150	34	-	75°		CN∞1204∞
NT-MCRN/∅3232P12	●	●	32	32	35	170	40	-	75°		CN∞1204∞
NT-MCRN/∅3232P16	○	○	32	32	35	170	40	-	75°		CN∞1606∞

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

C - GROOVING

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-MCRN/∅0000012	NT-SH030	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MCRN/∅0000016	NT-SH055	NT-SP040	NT-CS010	NT-SC010	NT-WR030

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview

<h1>PCLN</h1>	Right-hand shown	
<h2>ISO - CN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 95°)</li> <li>• Easy to use</li> <li>• Suitable for long-chip turning</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-PCLN <sup>1</sup> /r1616H09	●	●	16	16	20	100	20	-	95°	CN∞0903∞
NT-PCLN <sup>1</sup> /r2020K09	●	●	20	20	25	125	20	-	95°	CN∞0903∞
NT-PCLN <sup>1</sup> /r2525M09	●	●	25	25	32	150	23	-	95°	CN∞0903∞
NT-PCLN <sup>1</sup> /r2020K12	●	●	20	20	25	125	26	-	95°	CN∞1204∞
NT-PCLN <sup>1</sup> /r2525M12	●	●	25	25	32	150	26	-	95°	CN∞1204∞

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

Spare parts	Shim	Shim plug	Lever	Lever screw	L wrench
NT-PCLN <sup>1</sup> /r∞∞∞∞09	NT-SH012	NT-SR012	NT-LL012	NT-SC015	NT-WR025
NT-PCLN <sup>1</sup> /r∞∞∞∞12	NT-SH035	NT-SR020	NT-LL020	NT-SC025	NT-WR030

Catalogue Preview

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# A DCLN

**ISO - CN**

- Internal turning (KAPR 95°)
- Steel boring bar with internal coolant through
- Double pushing and pulling action with a single movement

Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A25R-DCLN <sup>1/8</sup> 12	●	●	32	25	17	200	-	-	95°	14°	CN∞1204∞
NT-A32S-DCLN <sup>1/8</sup> 12	●	●	40	32	22	250	-	-	95°	14°	CN∞1204∞
NT-A40T-DCLN <sup>1/8</sup> 12	●	●	50	40	27	300	-	-	95°	12°	CN∞1204∞

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

Spare parts	Shim	Shim screw	L wrench	Clamp	Spring	L wrench
NT-A∞∞-DCLN <sup>1/8</sup> 12	NT-SH035	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-TX20

Catalogue Preview - 2022



# S MCLN

**ISO - CN**

- Internal turning (KAPR 95°)
- S teel boring bar without internal coolant through
- Double locking with eccentric pin and bracket

Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S20R-MCLN <sup>h</sup> /r12	●	●	25	20	13	200	-	-	95°	17°	CN∞1204∞
NT-S25R-MCLN <sup>h</sup> /r12	●	●	32	25	17	200	-	-	95°	14°	CN∞1204∞
NT-S32S-MCLN <sup>h</sup> /r12	●	●	40	32	22	250	-	-	95°	14°	CN∞1204∞
NT-S40T-MCLN <sup>h</sup> /r12	●	●	50	40	27	300	-	-	95°	12°	CN∞1204∞
NT-S50U-MCLN <sup>h</sup> /r12	●	●	63	50	35	350	-	-	95°	12°	CN∞1204∞
NT-S40T-MCLN <sup>h</sup> /r16	●	●	50	40	27	300	-	-	95°	11°	CN∞1606∞
NT-S50U-MCLN <sup>h</sup> /r16	●	●	63	50	35	350	-	-	95°	12°	CN∞1606∞
NT-S50U-MCLN <sup>h</sup> /r19	●	●	63	50	35	350	-	-	95°	12°	CN∞1906∞

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-S20R-MCLN <sup>h</sup> /r12	-	NT-SP035	NT-WR025	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MCLN <sup>h</sup> /r12	-	NT-SP035	NT-WR025	NT-CS010	NT-SC008	NT-WR030
NT-S32S-MCLN <sup>h</sup> /r12	NT-SH030	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S40T-MCLN <sup>h</sup> /r12	NT-SH030	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S50U-MCLN <sup>h</sup> /r12	NT-SH030	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S40T-MCLN <sup>h</sup> /r16	NT-SH055	NT-SP040	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S50U-MCLN <sup>h</sup> /r16	NT-SH055	NT-SP040	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S50U-MCLN <sup>h</sup> /r19	NT-SH080	NT-SP050	NT-WR030	NT-CS015	NT-SC070	NT-WR040

Catalogue Preview

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# A PCLN

## ISO - CN

- Internal turning (KAPR 95°)
- Steel boring bar with internal coolant through
- Suitable for long-chip turning

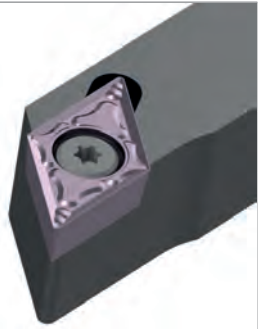
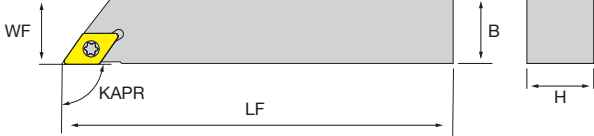
Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A25R-PCLN $\frac{1}{8}$ 12	●	●	32	25	17	200	-	-	95°	11°	CN∞1204∞
NT-A32S-PCLN $\frac{1}{8}$ 12	●	●	40	32	22	250	-	-	95°	11°	CN∞1204∞
NT-A40T-PCLN $\frac{1}{8}$ 12	●	●	50	40	27	300	-	-	95°	10°	CN∞1204∞

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

Spare parts	Shim	Shim plug	Lever	Lever screw	L wrench
NT-A25R-PCLN $\frac{1}{8}$ 12	-	NT-SR015	NT-LL015	NT-SC015	NT-WR025
NT-A32S-PCLN $\frac{1}{8}$ 12	NT-SH035	NT-SR020	NT-LL020	NT-SC025	NT-WR030
NT-A40T-PCLN $\frac{1}{8}$ 12	NT-SH035	NT-SR020	NT-LL020	NT-SC025	NT-WR030

Catalogue Preview

SDAC	Right-hand shown	
ISO - DC		
<ul style="list-style-type: none"> <li>• External turning (KAPR90°)</li> <li>• Tightened by screws</li> <li>• Available on lathes without offset</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SDAC <sup>+</sup> /r0808K07	○	○	8	8	8	125	-	-	90°		DC∞0702∞
NT-SDAC <sup>+</sup> /r1010K07	●	●	10	10	10	125	-	-	90°		DC∞0702∞
NT-SDAC <sup>+</sup> /r1212K07	●	●	12	12	12	125	-	-	90°		DC∞0702∞
NT-SDAC <sup>+</sup> /r1212K11	●	●	12	12	12	125	-	-	90°		DC∞11T3∞
NT-SDAC <sup>+</sup> /r1616K11	●	●	16	16	16	125	-	-	90°		DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-SDAC <sup>+</sup> /r∞∞∞∞07	 NT-ST25060T07	 NT-FT07
NT-SDAC <sup>+</sup> /r∞∞∞∞11	NT-ST35089T15B	NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

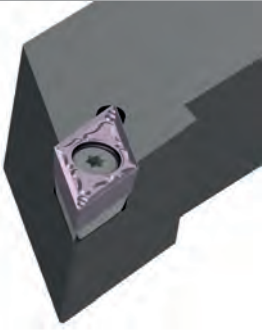
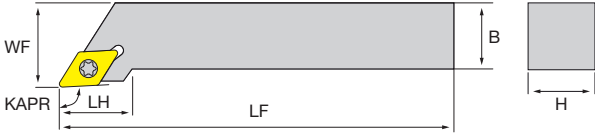
C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

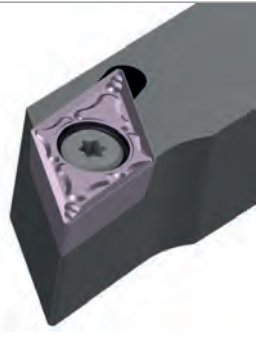
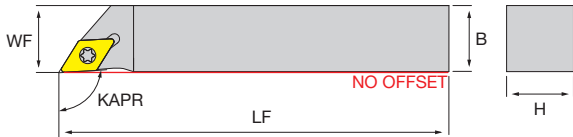
G - SPARE PARTS

<h1>SDJC</h1>	Right-hand shown	
<h2>ISO - DC</h2>		
<ul style="list-style-type: none"> <li>External turning (KAPR93°)</li> <li>Tightened by screws</li> <li>With offset</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
<b>WITHOUT SHIM</b>											
NT-SDJC/r1616H11	●	●	16	16	20	100	18	-	93°		DC∞11T3∞
NT-SDJC/r2020K11	●	●	20	20	25	125	23	-	93°		DC∞11T3∞
NT-SDJC/r2525M11	●	●	25	25	32	150	27	-	93°		DC∞11T3∞
<b>WITH SHIM</b>											
NT-SDJC/r2020K11S	●	●	20	20	25	125	22	-	93°		DC∞11T3∞
NT-SDJC/r2525M11S	●	●	25	25	32	150	25	-	93°		DC∞11T3∞

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SDJC/r∞∞∞∞11	-	-	-	NT-ST35089T15B	NT-FT15
NT-SDJC/r∞∞∞∞11S	NT-SH007	NT-SR010	NT-WR035	NT-ST35115T15	NT-FT15

<h1>SDJC N</h1>	Right-hand shown	
<h2>ISO - DC</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR93°)</li> <li>• Tightened by screws</li> <li>• Available on lathes without offset</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-SDJC <sup>◌</sup> / <sub>r0808</sub> K07N	○	○	8	8	8	125	-	-	93°	DC∞0702∞
NT-SDJC <sup>◌</sup> / <sub>r1010</sub> K07N	●	●	10	10	10	125	-	-	93°	DC∞0702∞
NT-SDJC <sup>◌</sup> / <sub>r1212</sub> K07N	○	○	12	12	12	125	-	-	93°	DC∞0702∞
NT-SDJC <sup>◌</sup> / <sub>r1212</sub> K11N	●	●	12	12	12	125	-	-	93°	DC∞11T3∞
NT-SDJC <sup>◌</sup> / <sub>r1616</sub> K11N	●	●	16	16	16	125	-	-	93°	DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-SDJC <sup>◌</sup> / <sub>r∞∞∞∞</sub> 07N	 NT-ST25060T07	 NT-FT07
NT-SDJC <sup>◌</sup> / <sub>r∞∞∞∞</sub> 11N	NT-ST35089T15B	NT-FT15

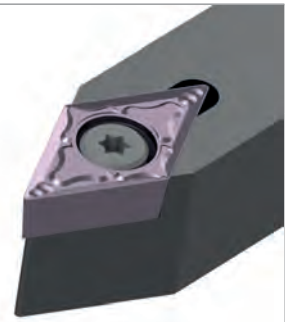
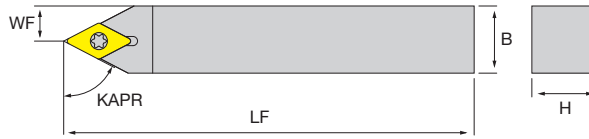
Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# SDNC

ISO - DC

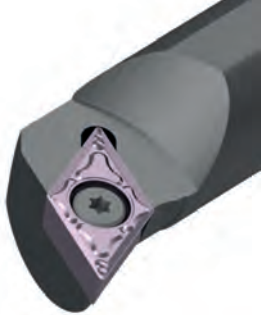
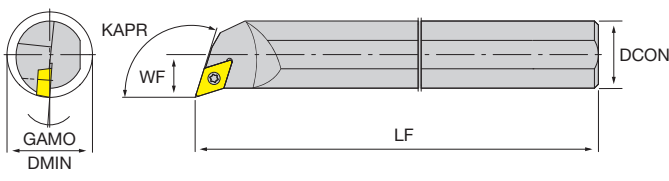
- External turning (KAPR62.5°)
- Tightened by screws
- Neutral position



Designation	Stock	H	B	WF	LF	LH	LPR	KAPR		MIID
<b>WITHOUT SHIM</b>										
NT-SDNCN0808H07	○	8	8	4	100	-	-	62.5°		DC∞∞0702∞∞
NT-SDNCN1010H07	○	10	10	5	100	-	-	62.5°		DC∞∞0702∞∞
NT-SDNCN1212H11	●	12	12	6	100	-	-	62.5°		DC∞∞11T3∞∞
NT-SDNCN1616H11	●	16	16	8	100	-	-	62.5°		DC∞∞11T3∞∞
NT-SDNCN2020K11	●	20	20	10	125	-	-	62.5°		DC∞∞11T3∞∞
NT-SDNCN2525M11	●	25	25	12.5	150	-	-	62.5°		DC∞∞11T3∞∞
<b>WITH SHIM</b>										
NT-SDNCN2020K11S	○	20	20	10	125	-	-	62.5°		DC∞∞11T3∞∞
NT-SDNCN2525M11S	○	25	25	12.5	150	-	-	62.5°		DC∞∞11T3∞∞

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SDNCN∞∞∞∞07	-	-	-	NT-ST25060T07	NT-FT07
NT-SDNCN∞∞∞∞11	-	-	-	NT-ST35089T15B	NT-FT15
NT-SDNCN∞∞∞∞11S	NT-SH007	NT-SR010	NT-WR035	NT-ST35115T15	NT-FT15

<h1 style="margin: 0;">S SDQC</h1>	Right-hand shown	
<h2 style="margin: 0;">ISO - DC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 107.5°)</li> <li>• Steel boring bar without coolant through</li> <li>• Tightened by screws</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S10M-SDQC <sup>1/8</sup> 07	●	●	13	10	7	150	-	-	107.5°	10°	DC∞0702∞
NT-S12M-SDQC <sup>1/8</sup> 07	●	●	16	12	9	150	-	-	107.5°	8°	DC∞0702∞
NT-S16Q-SDQC <sup>1/8</sup> 07	●	●	20	16	11	180	-	-	107.5°	6°	DC∞0702∞
NT-S20R-SDQC <sup>1/8</sup> 07	●	●	25	20	13	200	-	-	107.5°	6°	DC∞0702∞
NT-S16Q-SDQC <sup>1/8</sup> 11	●	●	20	16	11	180	-	-	107.5°	6°	DC∞11T3∞
NT-S20R-SDQC <sup>1/8</sup> 11	●	●	25	20	13	200	-	-	107.5°	8°	DC∞11T3∞
NT-S25R-SDQC <sup>1/8</sup> 11	●	●	32	25	17	200	-	-	107.5°	4°	DC∞11T3∞
NT-S32S-SDQC <sup>1/8</sup> 11	●	●	40	32	22	250	-	-	107.5°	4°	DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-S∞∞-SDQC <sup>1/8</sup> 07	 NT-ST25060T07	 NT-FT07
NT-S∞∞-SDQC <sup>1/8</sup> 11	NT-ST35089T15B	NT-FT15

Catalogue Preview - April 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# V SDQC

ISO - DC

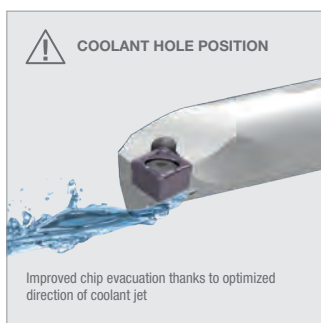
- Internal turning (KAPR 107.5°)
- Vortex boring bar (High standard steel)
- Special chip evacuation path
- Maximum overhang: 5xDCON

Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V10K-SDQC/ø07-13	●	●	13	10	7.7	125	-	-	107.5°	10°	DC∞0702∞
NT-V12M-SDQC/ø07-16	●	●	16	12	9.7	150	-	-	107.5°	8°	DC∞0702∞
NT-V16Q-SDQC/ø07-20	●	●	20	16	11.7	180	-	-	107.5°	6°	DC∞0702∞
NT-V20R-SDQC/ø07-25	●	●	25	20	13.7	200	-	-	107.5°	5°	DC∞0702∞
NT-V16Q-SDQC/ø11-20	●	●	20	16	11.5	180	-	-	107.5°	6°	DC∞11T3∞
NT-V20R-SDQC/ø11-25	●	●	25	20	14.4	200	-	-	107.5°	5°	DC∞11T3∞
NT-V25S-SDQC/ø11-30	●	●	30	25	16.9	250	-	-	107.5°	4°	DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-V∞-SDQC/ø07-∞	NT-ST25060T07	NT-FT07
NT-V∞-SDQC/ø11-∞	NT-ST35089T15B	NT-FT15





<h1>A SDUC</h1>	Right-hand shown	
<h2>ISO - DC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 93°)</li> <li>• Steel boring bar with internal coolant</li> <li>• Tightened by screws</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A10M-SDUC <sup>1</sup> /r07	●	●	13	10	7	150	-	-	93°	10°	DC∞0702∞
NT-A12M-SDUC <sup>1</sup> /r07	●	●	16	12	9	150	-	-	93°	8°	DC∞0702∞
NT-A16Q-SDUC <sup>1</sup> /r07	●	●	20	16	1	180	-	-	93°	6°	DC∞0702∞
NT-A20R-SDUC <sup>1</sup> /r07	●	●	25	20	13	200	-	-	93°	5°	DC∞0702∞
NT-A16Q-SDUC <sup>1</sup> /r11	●	●	20	16	1	180	-	-	93°	7°	DC∞11T3∞
NT-A20R-SDUC <sup>1</sup> /r11	●	●	25	20	13	200	-	-	93°	8°	DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-A∞∞-SDUC <sup>1</sup> /r07	NT-ST25060T07	NT-FT07
NT-A∞∞-SDUC <sup>1</sup> /r11	NT-ST35089T15B	NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

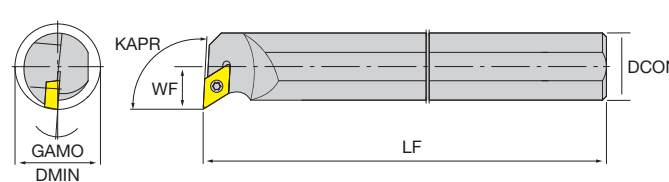
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS


# E SDUC

ISO - DC

- Internal turning (KAPR 93°)
- Carbide boring bar with internal coolant
- Maximum overhang: 7xDCON
- Holds DC-style inserts

Right-hand shown





Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-E10K-SDUC <sup>1/8</sup> 07	●	●	13	10	7	125	-	-	93°	10°	DC∞0702∞
NT-E12M-SDUC <sup>1/8</sup> 07	●	●	16	12	9	150	-	-	93°	8°	DC∞0702∞
NT-E16R-SDUC <sup>1/8</sup> 11	●	●	20	16	11	200	-	-	93°	7°	DC∞11T3∞
NT-E20R-SDUC <sup>1/8</sup> 11	●	●	25	20	13	200	-	-	93°	8°	DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-E∞-SDUC <sup>1/8</sup> 07	 NT-ST25060T07	 NT-FT07
NT-E∞-SDUC <sup>1/8</sup> 11	NT-ST35089T15B	NT-FT15

Catalogue Preview - AMB 2022

<h1>S SDUC</h1>	Right-hand shown	
<h2>ISO - DC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 93°)</li> <li>• Steel boring bar without coolant through</li> <li>• Tightened by screws</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S10M-SDUC <sup>1/8</sup> 07	●	●	13	10	7	150	-	-	93°	10°	DC∞0702∞
NT-S12M-SDUC <sup>1/8</sup> 07	●	●	16	12	9	150	-	-	93°	8°	DC∞0702∞
NT-S16Q-SDUC <sup>1/8</sup> 07	●	●	20	16	11	180	-	-	93°	6°	DC∞0702∞
NT-S20R-SDUC <sup>1/8</sup> 07	●	●	25	20	13	200	-	-	93°	5°	DC∞0702∞
NT-S16Q-SDUC <sup>1/8</sup> 11	●	●	20	16	11	180	-	-	93°	7°	DC∞11T3∞
NT-S20R-SDUC <sup>1/8</sup> 11	●	●	25	20	13	200	-	-	93°	8°	DC∞11T3∞
NT-S25R-SDUC <sup>1/8</sup> 11	●	●	32	25	17	200	-	-	93°	4°	DC∞11T3∞
NT-S32S-SDUC <sup>1/8</sup> 11	●	●	40	32	22	250	-	-	93°	4°	DC∞11T3∞
NT-S40T-SDUC <sup>1/8</sup> 11	○	○	50	40	24	300	-	-	93°	2°	DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-S∞∞-SDUC <sup>1/8</sup> 07	NT-ST25060T07	NT-FT07
NT-S∞∞-SDUC <sup>1/8</sup> 11	NT-ST35089T15B	NT-FT15

Catalogue Preview - AMP 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# V SDUC

ISO - DC

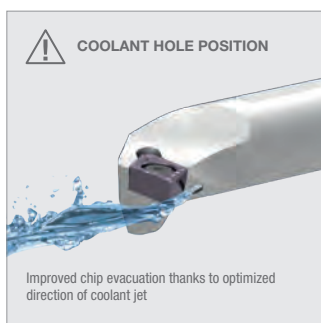
- Internal turning (KAPR 93°)
- Vortex boring bar (High standard steel)
- Special chip evacuation path
- Maximum overhang: 5xDCON

Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V10K-SDUC <sup>1/8</sup> -07-14	●	●	14	10	8.7	125	-	-	93°	5°	DC <sup>∞</sup> 0702 <sup>∞</sup>
NT-V12M-SDUC <sup>1/8</sup> -07-16	●	●	16	12	9.7	150	-	-	93°	5°	DC <sup>∞</sup> 0702 <sup>∞</sup>
NT-V16Q-SDUC <sup>1/8</sup> -07-20	●	●	20	16	11.7	180	-	-	93°	5°	DC <sup>∞</sup> 0702 <sup>∞</sup>
NT-V20R-SDUC <sup>1/8</sup> -07-25	●	●	25	20	13.7	200	-	-	93°	5°	DC <sup>∞</sup> 0702 <sup>∞</sup>
NT-V16Q-SDUC <sup>1/8</sup> -11-23	●	●	23	16	14.5	180	-	-	93°	5°	DC <sup>∞</sup> 11T3 <sup>∞</sup>
NT-V20R-SDUC <sup>1/8</sup> -11-27	●	●	27	20	16.5	200	-	-	93°	5°	DC <sup>∞</sup> 11T3 <sup>∞</sup>
NT-V25S-SDUC <sup>1/8</sup> -11-32	●	●	32	25	19	250	-	-	93°	5°	DC <sup>∞</sup> 11T3 <sup>∞</sup>

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

Spare parts	Insert screw	Flag wrench
NT-V <sup>∞</sup> -SDUC <sup>1/8</sup> -07- <sup>∞</sup>	 NT-ST25060T07	 NT-FT07
NT-V <sup>∞</sup> -SDUC <sup>1/8</sup> -11- <sup>∞</sup>	NT-ST35089T15B	NT-FT15



<h1>S SDZC</h1>	Right-hand shown	
<h2>ISO - DC</h2>		
<ul style="list-style-type: none"> <li>• Internal back turning (KAPR 93°)</li> <li>• Steel boring bar without coolant through</li> <li>• Tightened by screws</li> </ul>		

Designation	Stock		DMIN	DCON	WF	WF2	LF	LH	LPR	KAPR	GAMO	MIID
	L	R										
NT-S10M-SDZC'/h07	●	●	14	10	8.5	3.5	139	11	150	93°	10°	DC∞0702∞
NT-S12M-SDZC'/h07	○	○	17	12	10.5	4.5	139	11	150	93°	9°	DC∞0702∞
NT-S16Q-SDZC'/h07	●	●	21	16	12.5	4.5	169	11	180	93°	8°	DC∞0702∞
NT-S20R-SDZC'/h11	●	●	26	20	15.5	5.5	184	16	200	93°	8°	DC∞11T3∞
NT-S25R-SDZC'/h11	○	○	33	25	18	5.5	180	20	200	93°	6°	DC∞11T3∞
NT-S32S-SDZC'/h11	○	○	38	32	21.5	5.5	230	20	250	93°	4°	DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-S∞∞-SDZC'/h07	NT-ST25060T07	NT-FT07
NT-S∞∞-SDZC'/h11	NT-ST35089T15B	NT-FT15

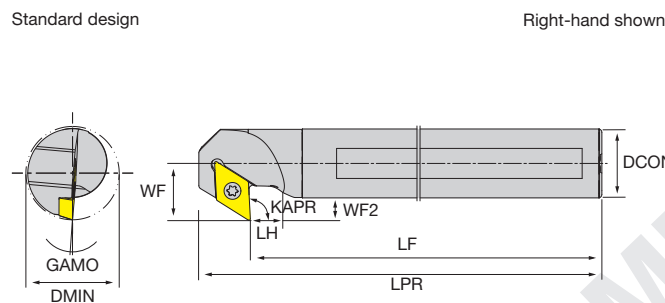
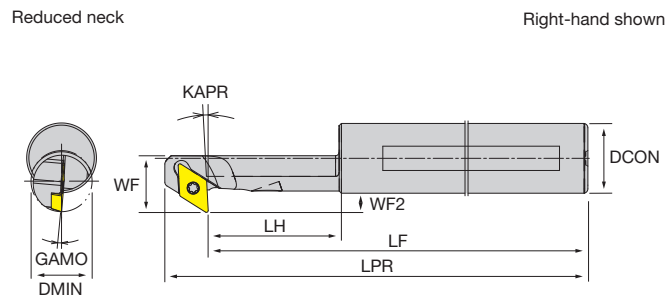
Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# V SDZC

ISO - DC


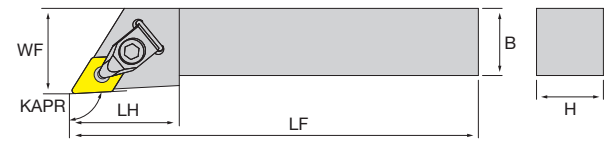
- Internal back turning (KAPR 93°)
- Vortex boring bar (High standard steel)
- Special chip evacuation path
- Maximum overhang: 5xDCON



Designation	Stock		DMIN	DCON	WF	WF2	LF	LH	LPR	KAPR	GAMO	MIID
	L	R										
<b>REDUCED NECK</b>												
NT-V16Q-SDZC <sup>1/8</sup> /#07-14	●	●	14	16	12.4	4.4	170	30	180	93°	5°	DC∞0702∞
NT-V20R-SDZC <sup>1/8</sup> /#11-20	●	●	20	20	16.1	6.1	185	40	200	93°	5°	DC∞11T3∞
<b>STANDARD DESIGN</b>												
NT-V10L-SDZC <sup>1/8</sup> /#07-14	●	●	14	10	8.7	3.7	130.5	14	140	93°	5°	DC∞0702∞
NT-V12M-SDZC <sup>1/8</sup> /#07-16	●	●	16	12	9.7	3.7	139.5	10.5	150	93°	5°	DC∞0702∞
NT-V16Q-SDZC <sup>1/8</sup> /#07-20	●	●	20	16	11.7	3.7	169.5	17.5	180	93°	5°	DC∞0702∞
NT-V16Q-SDZC <sup>1/8</sup> /#11-23	●	●	23	16	14.5	6.5	165	15	180	93°	5°	DC∞11T3∞
NT-V20R-SDZC <sup>1/8</sup> /#11-27	●	●	27	20	16.5	6.5	185	15	200	93°	5°	DC∞11T3∞
NT-V25S-SDZC <sup>1/8</sup> /#11-32	●	●	32	25	19	6.5	235	15	250	93°	5°	DC∞11T3∞

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

Spare parts	Insert screw	Flag wrench
NT-V∞-SDZC <sup>1/8</sup> /#07-∞	NT-ST25060T07	NT-FT07
NT-V∞-SDZC <sup>1/8</sup> /#11-∞	NT-ST35089T15B	NT-FT15

<h1>DDJN</h1>	Right-hand shown	
<h2>ISO - DN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 93°)</li> <li>• Quick and safe tightening</li> <li>• Double pushing and pulling action with a single movement</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-DDJN/1616H11X	●	●	16	16	20	100	36	-	93°	DN∞1104∞
NT-DDJN/2020K11X	●	●	20	20	25	125	36	-	93°	DN∞1104∞
NT-DDJN/2525M11X	●	●	25	25	32	150	36	-	93°	DN∞1104∞
NT-DDJN/2020K1506X	●	●	20	20	25	125	43	-	93°	DN∞1506∞
NT-DDJN/2525M1506X	●	●	25	25	32	150	43	-	93°	DN∞1506∞
NT-DDJN/3225P1506X	●	●	32	25	32	170	43	-	93°	DN∞1506∞

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

Spare parts	Shim	Shim screw	L wrench	Clamp	Spring	Clamp screw	L wrench
NT-DDJN/∞∞∞∞11X							
NT-DDJN/∞∞∞∞1506X							

 DN∞1504∞



**NT-SH025**  
For 04 thickness, please order separately the correct shim

A - TURNING

# MDJN

**ISO - DN**

- External turning (KAPR 93°)
- Double locking with eccentric pin and bracket. Excellent clamping force
- Holds DN-style inserts

Right-hand shown

B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MDJN/2020K1506	●	●	20	20	25	125	36	-	93°		DN∞1506∞
NT-MDJN/2525M1506	●	●	25	25	32	150	36	-	93°		DN∞1506∞
NT-MDJN/3232P1506	●	●	32	32	40	170	43	-	93°		DN∞1506∞

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

C - GROOVING

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-MDJN/∞∞∞∞∞1506	NT-SH045	NT-SP025	NT-CS025	NT-SC010	NT-WR030

D - MILLING

E - DRILLING

F - ACCESSORIES


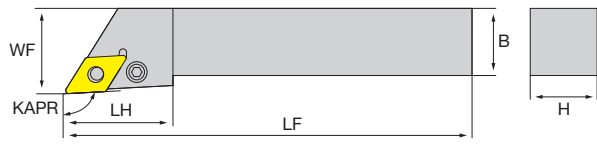
G - SPARE PARTS

DN∞1504∞

**NT-SH025**

For 04 thickness, please order separately the correct shim



<h1>PDJN</h1>	Right-hand shown	
<h2>ISO - DN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 93°)</li> <li>• Easy to use</li> <li>• Suitable for long-chip turning</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-PDJN <sup>▲</sup> /R2525M1506	●	●	25	25	32	150	36	-	93°	DN∞1506∞

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

Spare parts	Shim	Shim plug	Lever	Lever screw	L wrench
NT-PDJN <sup>▲</sup> /R∞∞∞∞1506	 NT-SH020	 NT-SR020	 NT-LL020	 NT-SC020	 NT-WR020

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# A DDUN

**ISO - DN**

- Internal turning (KAPR 93°)
- Steel boring bar with internal coolant through
- Double pushing and pulling action with a single movement

Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A25R-DDUN <sup>1</sup> /r1506	●	●	32	25	17	200	-	-	93°	16°	DN∞1506∞
NT-A32S-DDUN <sup>1</sup> /r1506	●	●	40	32	22	250	-	-	93°	12°	DN∞1506∞
NT-A40T-DDUN <sup>1</sup> /r1506	●	●	50	40	27	300	-	-	93°	10°	DN∞1506∞

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

Spare parts	Shim	Shim screw	L wrench	Clamp	Spring	Clamp screw	L wrench
NT-A∞∞-DDUN <sup>1</sup> /r1506	NT-SH020	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20

DN∞1504∞

**NT-SH045**  
For 04 thickness, please order separately the correct shim

<h1>S MDUN</h1>	Right-hand shown		
ISO - DN			
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 93°)</li> <li>• Steel boring bar without coolant through</li> <li>• Double locking with eccentric pin and bracket</li> </ul>			

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S32S-MDUN <sup>h</sup> /r1506	●	●	40	32	22	250	-	-	93°	17°	DN∞1506∞
NT-S40T-MDUN <sup>h</sup> /r1506	●	●	50	40	27	300	-	-	93°	15°	DN∞1506∞
NT-S50U-MDUN <sup>h</sup> /r1506	●	●	63	50	35	350	-	-	93°	12°	DN∞1506∞

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

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-S32S-MDUN <sup>h</sup> /r1506	NT-SH045	NT-SP025	NT-CS025	NT-SC008	NT-WR030
NT-S40T-MDUN <sup>h</sup> /r1506	NT-SH045	NT-SP025	NT-CS025	NT-SC010	NT-WR030
NT-S50U-MDUN <sup>h</sup> /r1506	NT-SH045	NT-SP025	NT-CS025	NT-SC010	NT-WR030

DN∞1504∞

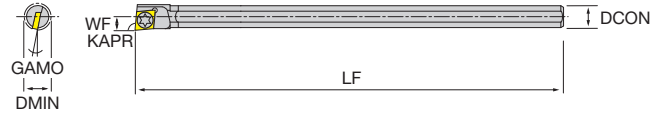
**NT-SH025**  
For 04 thickness, please order separately the correct shim

A - TURNING

# E MICRO-CC

ISO - MCC

- Internal turning (KAPR 95°)
- Carbide boring bar with internal coolant
- Maximum overhang: 7xDCON
- Holds MCC-style inserts





B - THREADING

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
<b>WITHOUT INTERNAL COOLANT</b>											
NT-C05H-MICRO-CC-1/8H	●		6	5	3	100	-	-	95°	13°	MCC.R00
<b>WITH INTERNAL COOLANT</b>											
NT-E04G-MICRO-CC-1/8H	●		5	4	2.5	90	-	-	95°	15°	MCC.R00
NT-E05H-MICRO-CC-1/8H	▲		6	5	3	100	-	-	95°	13°	MCC.R00

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

C - GROOVING

Spare parts	Insert screw	Flag wrench
		
NT-C000-MICRO-CC-RH	NT-ST16031T06	NT-FT06
NT-E000-MICRO-CC-RH	NT-ST16031T06	NT-FT06

D - MILLING

E - DRILLING

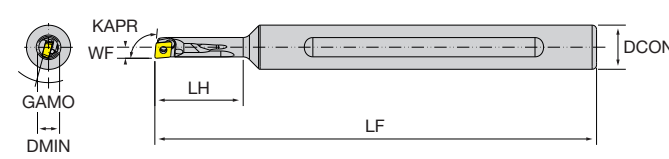

F - ACCESSORIES

G - SPARE PARTS

 SLEEVE AVAILABLE



Please find all the available sleeves at chapter F-ACCESSORIES

<h2 style="margin: 0;">V MICRO-CC</h2> <p style="margin: 10px 0 0 0;"><b>ISO - MCC</b></p> <ul style="list-style-type: none"> <li>Internal turning (KAPR 95°)</li> <li>Vortex boring bar (High standard steel)</li> <li>Special chip evacuation path</li> <li>Maximum overhang: 5xDCON</li> </ul>	<p style="text-align: right; font-size: small;">Right-hand shown</p> 	
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Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V10H-MICRO-CC-1/RH-05		●	5	10	2.5	100	20	-	95°	15°	MCC.R∞
NT-V10H-MICRO-CC-1/RH-06		●	6	10	3	100	25	-	95°	13°	MCC.R∞

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

Spare parts	Insert screw	Flag wrench
NT-V10H-MICRO-CC-RH-∞	 NT-ST16031T06	 NT-FT06

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

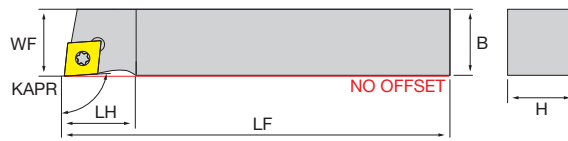
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# EX MICRO-CN

## MicroNega - MCN

- External turning (KAPR93°) for the MicroNega family
- Tightened by screws
- Available on lathes without offset

Right-hand shown



Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-EX10H-MICRO-CN-1/8H	●	●	10	10	10	100	15	-	95°		MCN-Roo
NT-EX12H-MICRO-CN-1/8H	●	●	12	12	12	100	15	-	95°		MCN-Roo
NT-EX16K-MICRO-CN-1/8H	●	●	16	16	16	125	15	-	95°		MCN-Roo
NT-EX20K-MICRO-CN-1/8H	▽	▽	20	20	20	120	15	-	95°		MCN-Roo
NT-EX25M-MICRO-CN-1/8H	▽	▽	25	25	25	150	15	-	95°		MCN-Roo

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

Spare parts	Insert screw	Flag wrench
NT-EX∞-MICRO-CN-1/8H	 NT-ST30070T10	 NT-FT10

Catalogue Preview - AMB 2022

 **EXCELLENT STABILITY**



The design of MCN inserts was done with great attention to the connection surfaces, to achieve a great stability and reliability

## V MICRO-CN

### MicroNega - MCN


- Internal turning (KAPR 95°)
- Vortex boring bar (High standard steel) for the MicroNega family
- Special chip evacuation path

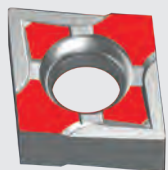
Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V08H-MICRO-CN-1/8H-10	●	●	10	8	5.5	100	20	-	95°	24°	MCN-Roo
NT-V10K-MICRO-CN-1/8H-12	●	●	12	10	6	125	21	-	95°	21°	MCN-Roo
NT-V12M-MICRO-CN-1/8H-14	●	●	14	12	7	150	25	-	95°	20°	MCN-Roo
NT-V16Q-MICRO-CN-1/8H-18	●	●	18	16	9	180	31	-	95°	17°	MCN-Roo
NT-V20R-MICRO-CN-1/8H-22	●	●	22	20	11	200	37	-	95°	17°	MCN-Roo

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

Spare parts	Insert screw	Flag wrench
NT-V $\infty$ -MICRO-CN-1/8H- $\infty$	 NT-ST30070T10	 NT-FT10

 EXCELLENT STABILITY



The design of MCN inserts was done with great attention to the connection surfaces, to achieve a great stability and reliability

A - TURNING

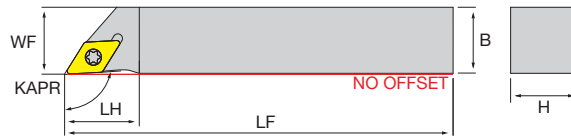
# EX MICRO-DN

Right-hand shown



## MicroNega - MDN

- External turning (KAPR93°) for the MicroNega family
- Tightened by screws
- Available on lathes without offset



B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-EX10H-MICRO-DN-1/8H	●	●	10	10	10	100	18	-	95°		MDN-Roo
NT-EX12H-MICRO-DN-1/8H	●	●	12	12	12	100	18	-	95°		MDN-Roo
NT-EX16K-MICRO-DN-1/8H	●	●	16	16	16	125	18	-	95°		MDN-Roo
NT-EX20K-MICRO-DN-1/8H	▽	▽	20	20	20	120	15	-	95°		MDN-Roo
NT-EX25M-MICRO-DN-1/8H	▽	▽	25	25	25	150	15	-	95°		MDN-Roo

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

C - GROOVING

Spare parts	Insert screw	Flag wrench
NT-EX∞-MICRO-DN-1/8H	 NT-ST30070T10	 NT-FT10

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS





## V MICRO-DN

### MicroNega - MDN

- Internal turning (KAPR 95°)
- Vortex boring bar (High standard steel) for the MicroNega family
- Special chip evacuation path

Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V10K-MICRO-DN-1/8H-15	●	●	15	10	9.8	125	19	-	95°	19°	MDN-Roo
NT-V12M-MICRO-DN-1/8H-16	●	●	16	12	9	150	22	-	95°	17°	MDN-Roo
NT-V16Q-MICRO-DN-1/8H-20	●	●	20	16	11	180	22	-	95°	15°	MDN-Roo
NT-V20R-MICRO-DN-1/8H-25	●	●	25	20	13	200	23	-	95°	13°	MDN-Roo

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

Spare parts	Insert screw	Flag wrench
NT-V $\infty$ -MICRO-DN-1/8H $\infty$	 NT-ST30070T10	 NT-FT10

Catalogue Preview - AMB 2022

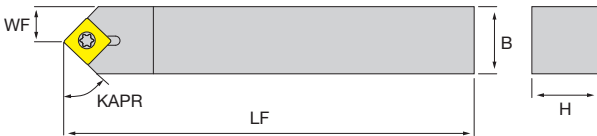


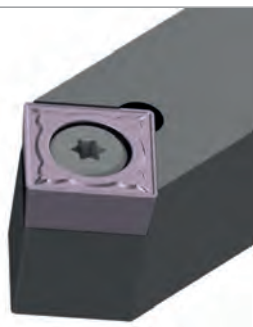
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# SSDC

## ISO - SC

- External turning (KAPR 45°)
- Tightened by screws
- Without shims





Designation	Stock	H	B	WF	LF	LH	LPR	KAPR		MIID
NT-SSDCN2020K09	●	20	20	10	125	-	-	45°		SC009T300
NT-SSDCN2525M09	●	25	25	12.5	150	-	-	45°		SC009T300
NT-SSDCN2020K12	●	20	20	10	125	-	-	45°		SC00120400
NT-SSDCN2525M12	●	25	25	12.5	150	-	-	45°		SC00120400

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

Spare parts	Insert screw	Flag wrench
NT-SSDCN0000009	 NT-ST40090T15	 NT-FT15
NT-SSDCN0000012	NT-ST40115T15	NT-FT15

Catalogue Preview - AMB 2022

<h1>S SSKC</h1>	Right-hand shown	
<h2>ISO - SC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 75°)</li> <li>• Steel boring bar without coolant through</li> <li>• Tightened by screws</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S12M-SSKC <sup>1</sup> / <sub>h</sub> 09	●	●	16	12	8.5	147	-	150	75°	12°	SC <sup>00</sup> 09T3 <sup>00</sup>
NT-S16Q-SSKC <sup>1</sup> / <sub>h</sub> 09	●	●	20	16	11	177	-	180	75°	11°	SC <sup>00</sup> 09T3 <sup>00</sup>
NT-S20R-SSKC <sup>1</sup> / <sub>h</sub> 09	●	●	25	20	13	196	-	200	75°	6°	SC <sup>00</sup> 09T3 <sup>00</sup>
NT-S25R-SSKC <sup>1</sup> / <sub>h</sub> 09	●	●	31	25	15	198	-	200	75°	6°	SC <sup>00</sup> 09T3 <sup>00</sup>
NT-S25R-SSKC <sup>1</sup> / <sub>h</sub> 12	●	●	32	25	17	196	-	200	75°	7°	SC <sup>00</sup> 1204 <sup>00</sup>
NT-S32S-SSKC <sup>1</sup> / <sub>h</sub> 12	●	●	40	32	22	246	-	250	75°	7°	SC <sup>00</sup> 1204 <sup>00</sup>

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

Spare parts	Insert screw	Flag wrench
NT-S <sup>000</sup> -SSKC <sup>1</sup> / <sub>h</sub> 09	NT-ST40090T15	NT-FT15
NT-S <sup>000</sup> -SSKC <sup>1</sup> / <sub>h</sub> 12	NT-ST40115T15	NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

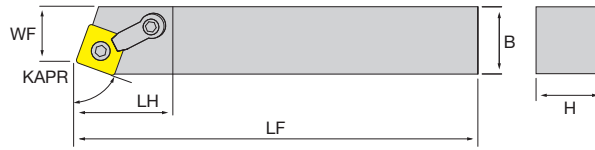
A - TURNING

# MSBN

ISO - SN

- External turning (KAPR 75°)
- Double locking with eccentric pin and bracket
- Excellent clamping force

Right-hand shown



B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MSBN/r2020K12	●	●	20	20	17	125	37	-	75°		SN∞1204∞
NT-MSBN/r2525M12	●	●	25	25	22	150	37	-	75°		SN∞1204∞
NT-MSBN/r3232P12	○	○	32	32	27	170	42	-	75°		SN∞1204∞
NT-MSBN/r3232P19	○	○	32	32	27	170	42	-	75°		SN∞1906∞
NT-MSBN/r4040S19	○	○	40	40	35	250	42	-	75°		SN∞1906∞

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

C - GROOVING

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-MSBN/r∞∞∞∞12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSBN/r∞∞∞∞19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>MSDN</h1>		
<h2>ISO - SN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 45°)</li> <li>• Double locking with eccentric pin and bracket</li> <li>• Excellent clamping force</li> </ul>		

Designation	Stock	H	B	WF	LF	LH	LPR	KAPR		MIID
NT-MSDNN2020K12	●	20	20	10	125	35	-	45°		SN∞1204∞
NT-MSDNN2525M12	●	25	25	12.5	150	37	-	45°		SN∞1204∞
NT-MSDNN3232P12	○	32	32	16	170	43	-	45°		SN∞1204∞

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

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-MSDNN∞∞∞∞12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030

Catalogue Preview - FMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

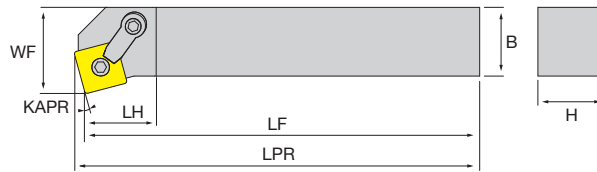
A - TURNING

# MSKN

## ISO - SN

- External turning (KAPR 75°)
- Double locking with eccentric pin and bracket
- Excellent clamping force

Right-hand shown



B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MSKN/r2020K12	●	●	20	20	25	122	37	125	75°		SN∞1204∞
NT-MSKN/r2525M12	●	●	25	25	32	147	37	150	75°		SN∞1204∞
NT-MSKN/r3232P12	○	○	32	32	40	167	42	170	75°		SN∞1204∞
NT-MSKN/r4040S19	○	○	40	40	50	247	42	250	75°		SN∞1906∞

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

C - GROOVING

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-MSKN/r∞∞∞∞12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSKN/r∞∞∞∞19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview

<h1>MSSN</h1>	Right-hand shown	
<h2>ISO - SN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 45°)</li> <li>• Double locking with eccentric pin and bracket</li> <li>• Excellent clamping force</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MSSN/r2020K12	●	●	20	20	25	125	35	-	45°		SN∞1204∞
NT-MSSN/r2525M12	●	●	25	25	32	150	35	-	45°		SN∞1204∞
NT-MSSN/r3232P12	○	○	32	32	40	170	42	-	45°		SN∞1204∞
NT-MSSN/r3232P19	○	○	32	32	40	170	42	-	45°		SN∞1906∞
NT-MSSN/r4040S19	○	○	40	40	40	250	42	-	45°		SN∞1906∞

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

Spare parts	Shim	Eccentric pin	Clamp	Clamp screw	L wrench
NT-MSSN/r∞∞∞∞12	NT-SH070	NT-SP010	NT-CS010	NT-SC010	NT-WR030
NT-MSSN/r∞∞∞∞19	NT-SH090	NT-SP050	NT-CS015	NT-SC070	NT-WR040

Catalogue Preview

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# S MSKN

ISO - SN

- Internal turning (KAPR 75°)
- Steel boring bar with internal coolant through
- Double locking with eccentric pin and bracket

Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S20R-MSKN <sup>▲</sup> /r12	●	●	25	20	13	200	-		75°	17°	SN∞1204∞
NT-S25R-MSKN <sup>▲</sup> /r12	●	●	32	25	17	200	-		75°	14°	SN∞1204∞
NT-S32S-MSKN <sup>▲</sup> /r12	●	●	40	32	22	250	-		75°	14°	SN∞1204∞
NT-S40T-MSKN <sup>▲</sup> /r12	●	●	50	40	27	300	-		75°	15°	SN∞1204∞
NT-S50U-MSKN <sup>▲</sup> /r12	●	●	63	50	35	350	-		75°	12°	SN∞1204∞
NT-S50U-MSKN <sup>▲</sup> /r19	○	○	63	50	35	350	-		75°	8°	SN∞1906∞

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-S20R-MSKN <sup>▲</sup> /r12	-	NT-SP035	NT-WR025	NT-CS030	NT-SC030	NT-WR025
NT-S25R-MSKN <sup>▲</sup> /r12	-	NT-SP035	NT-WR025	NT-CS010	NT-SC008	NT-WR030
NT-S32S-MSKN <sup>▲</sup> /r12	NT-SH070	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S40T-MSKN <sup>▲</sup> /r12	NT-SH070	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S50U-MSKN <sup>▲</sup> /r12	NT-SH070	NT-SP010	NT-WR030	NT-CS010	NT-SC010	NT-WR030
NT-S50U-MSKN <sup>▲</sup> /r19	NT-SH090	NT-SP050	NT-WR030	NT-CS015	NT-SC070	NT-WR040



<h1>V STLB</h1>	Right-hand shown	
<h2>ISO - TB</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 95°)</li> <li>• Vortex boring bar (High standard steel)</li> <li>• Special chip evacuation path</li> <li>• Maximum overhang: 5xDCON</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V10H-STLB/ø06-07		●	7	10	3.5	100	30	-	93°	12°	TB∞0601∞
NT-V10H-STLB/ø06-08		●	8	10	4	100	35	-	93°	12°	TB∞0601∞

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

Spare parts	Insert screw	Flag wrench
NT-V10H-STLB/ø06-∞	 NT-ST20038T06	 NT-FT06

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

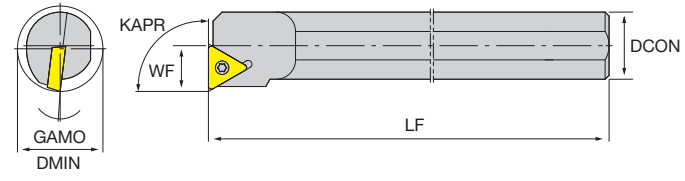
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS


# S STUB

## ISO - TB

- Internal turning (KAPR 93°)
- Steel boring bar without coolant through
- Tightened by screws

Right-hand shown




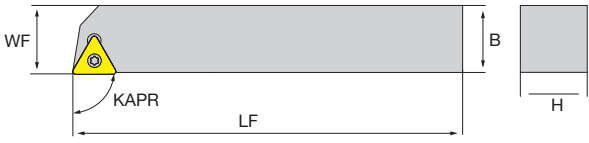


Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S08H-STUB $\frac{1}{2}$ 06	●	●	10	8	4	100	-	-	93°	12°	TB∞0601∞

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

Spare parts	Insert screw	Flag wrench
	NT-S08H-STUB $\frac{1}{2}$ 06	 NT-ST20038T06

Catalogue Preview - AMB 2022

<h1>STAC</h1>	Right-hand shown	
<h2>ISO - TC</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR90°)</li> <li>• Tightened by screws</li> <li>• Available without shim, convenient to change inserts</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-STAC <sup>h</sup> /r0808H09	○	○	8	8	8.5	100	-	-	90°	TC∞0902∞
NT-STAC <sup>h</sup> /r1010H09	○	○	10	10	10.5	100	-	-	90°	TC∞0902∞
NT-STAC <sup>h</sup> /r1212H11	●	●	12	12	12.5	100	-	-	90°	TC∞1102∞
NT-STAC <sup>h</sup> /r1616H11	●	●	16	16	16.5	100	-	-	90°	TC∞1102∞

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

Spare parts	Insert screw	Flag wrench
NT-STAC <sup>h</sup> /r∞∞∞∞09	 NT-ST22049T07	 NT-FT07
NT-STAC <sup>h</sup> /r∞∞∞∞11	NT-ST25060T07	NT-FT07

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

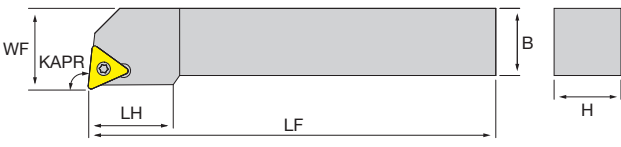
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

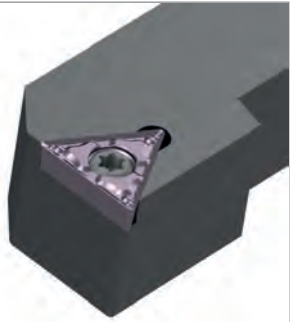
# STFC

## ISO - TC

- External turning (KAPR91°)
- Tightened by screws
- Available without shim, convenient to change inserts

Right-hand shown





Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-STFC/r0808H09	○	○	8	8	10	100	12	-	91°		TC∞0902∞
NT-STFC/r1010H09	○	○	10	10	12	100	12	-	91°		TC∞0902∞
NT-STFC/r1212H11	●	●	12	12	16	100	17	-	91°		TC∞1102∞
NT-STFC/r1616H11	○	○	16	16	20	100	18	-	91°		TC∞1102∞
NT-STFC/r2020K16	●	●	20	20	25	125	22	-	91°		TC∞16T3∞
NT-STFC/r2525M16	●	●	25	25	32	150	25	-	91°		TC∞16T3∞

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

Spare parts	Insert screw	Flag wrench
NT-STFC/r∞∞∞∞09	 NT-ST22049T07	 NT-FT07
NT-STFC/r∞∞∞∞11	NT-ST25060T07	NT-FT07
NT-STFC/r∞∞∞∞16	NT-ST40090T15	NT-FT15

Catalogue Preview - AMB 2022

<h1>STGC</h1>	Right-hand shown 	
<h2>ISO - TC</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR91°)</li> <li>• Tightened by screws</li> <li>• Available without shim, convenient to change inserts</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-STGC <sup>▲</sup> /R1212H11	○	○	12	12	16	100	17	-	91°		TC∞1102∞
NT-STGC <sup>▲</sup> /R1616H11	○	○	16	16	20	100	18	-	91°		TC∞1102∞
NT-STGC <sup>▲</sup> /R2020K16	●	●	20	20	25	125	22	-	91°		TC∞16T3∞
NT-STGC <sup>▲</sup> /R2525M16	●	●	25	25	32	150	25	-	91°		TC∞16T3∞

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

Spare parts	Insert screw	Flag wrench
NT-STGC <sup>▲</sup> /R∞∞∞∞11	NT-ST25060T07	NT-FT07
NT-STGC <sup>▲</sup> /R∞∞∞∞16	NT-ST40090T15	NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

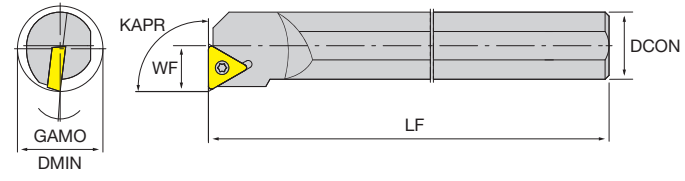
G - SPARE PARTS


# A STFC

## ISO - TC

- Internal turning (KAPR 91°)
- Steel boring bar with internal coolant
- Tightened by screws

Right-hand shown





Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A10K-STFC <sup>1</sup> /h11	●	●	14	10	7	125	-	-	91°	12°	TC∞1102∞
NT-A12M-STFC <sup>1</sup> /h11	●	●	14	12	7	150	-	-	91°	10°	TC∞1102∞
NT-A16Q-STFC <sup>1</sup> /h11	●	●	18	16	9	180	-	-	91°	8°	TC∞1102∞
NT-A20R-STFC <sup>1</sup> /h11	●	●	25	20	13	200	-	-	91°	3°	TC∞1102∞

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

Spare parts	Insert screw	Flag wrench
		
NT-A∞∞-STFC <sup>1</sup> /h11	NT-ST25060T07	NT-FT07

Catalogue Preview - AMB 2022

<h1>E STFC</h1>	Right-hand shown	
<h2>ISO - TC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 91°)</li> <li>• Carbide boring bar with internal coolant</li> <li>• Maximum overhang: 7xDCON</li> <li>• Holds TC-style inserts</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-E10K-STFC <sup>1</sup> / <sub>R</sub> 11	●	●	12	10	6	125	-	-	91°	12°	TC <sub>∞</sub> 1102 <sub>∞</sub>
NT-E12M-STFC <sup>1</sup> / <sub>R</sub> 11	●	●	14	12	7	150	-	-	91°	10°	TC <sub>∞</sub> 1102 <sub>∞</sub>
NT-E16R-STFC <sup>1</sup> / <sub>R</sub> 11	●	●	18	16	9	200	-	-	91°	8°	TC <sub>∞</sub> 1102 <sub>∞</sub>
NT-E20R-STFC <sup>1</sup> / <sub>R</sub> 11	●	●	25	20	11	200	-	-	91°	6°	TC <sub>∞</sub> 1102 <sub>∞</sub>

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

Spare parts	Insert screw	Flag wrench
NT-E <sub>∞</sub> -STFC <sup>1</sup> / <sub>R</sub> 11	 NT-ST25060T07	 NT-FT07

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

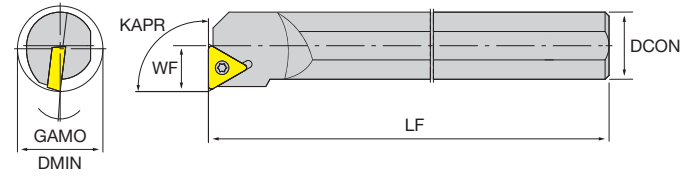
G - SPARE PARTS


# S STFC

**ISO - TC**

- Internal turning (KAPR 91°)
- Steel boring bar without coolant through
- Tightened by screws

Right-hand shown





Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S08H-STFC/r09	○	○	12	8	6	100	-	-	91°	15°	TC∞0902∞
NT-S10K-STFC/r09	●	●	14	10	7	125	-	-	91°	15°	TC∞0902∞
NT-S12M-STFC/r09	●	●	16	12	9	150	-	-	91°	10°	TC∞0902∞
NT-S10K-STFC/r11	●	●	14	10	7	125	-	-	91°	12°	TC∞1102∞
NT-S12M-STFC/r11	●	●	14	12	7	150	-	-	91°	10°	TC∞1102∞
NT-S16Q-STFC/r11	●	●	18	16	9	180	-	-	91°	8°	TC∞1102∞
NT-S20R-STFC/r11	●	●	25	20	13	200	-	-	91°	3°	TC∞1102∞
NT-S20R-STFC/r16	●	●	25	20	13	200	-	-	91°	8°	TC∞16T3∞
NT-S25R-STFC/r16	●	●	32	25	17	200	-	-	91°	6°	TC∞16T3∞
NT-S32S-STFC/r16	○	○	39	32	22	250	-	-	91°	4°	TC∞16T3∞

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

Spare parts	Insert screw	Flag wrench
	NT-S∞∞-STFC/r09	 NT-ST22049T07

Catalogue Preview - AIMP 2022



<h1>V STLC</h1>	Right-hand shown	
<h2>ISO - TC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 95°)</li> <li>• Vortex boring bar (High standard steel)</li> <li>• Special chip evacuation path</li> <li>• Maximum overhang: 5xDCON</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V08H-STLC <sup>1</sup> /r09-10	●	●	10	8	5	100	-	-	95°	14°	TC <sub>∞</sub> 0902 <sub>∞</sub>
NT-V10K-STLC <sup>1</sup> /r09-12	●	●	12	10	6	125	-	-	95°	12°	TC <sub>∞</sub> 0902 <sub>∞</sub>
NT-V12M-STLC <sup>1</sup> /r09-14	●	●	14	12	7	150	-	-	95°	10°	TC <sub>∞</sub> 0902 <sub>∞</sub>
NT-V10K-STLC <sup>1</sup> /r11-12	●	●	12	10	6	125	-	-	95°	12°	TC <sub>∞</sub> 1102 <sub>∞</sub>
NT-V12M-STLC <sup>1</sup> /r11-14	●	●	14	12	7	150	-	-	95°	10°	TC <sub>∞</sub> 1102 <sub>∞</sub>
NT-V16Q-STLC <sup>1</sup> /r11-18	●	●	18	16	9	180	-	-	95°	8°	TC <sub>∞</sub> 1102 <sub>∞</sub>
NT-V20R-STLC <sup>1</sup> /r11-22	●	●	22	20	11	200	-	-	95°	6°	TC <sub>∞</sub> 1102 <sub>∞</sub>
NT-V20R-STLC <sup>1</sup> /r16-25	●	●	25	20	12.5	200	-	-	95°	8°	TC <sub>∞</sub> 16T3 <sub>∞</sub>
NT-V25S-STLC <sup>1</sup> /r16-32	●	●	32	25	16	250	-	-	95°	6°	TC <sub>∞</sub> 16T3 <sub>∞</sub>


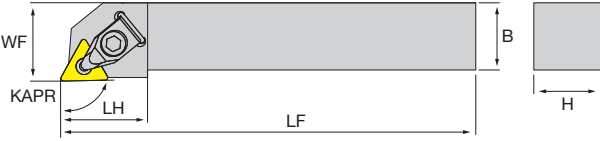
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Insert screw	Flag wrench
NT-V <sub>∞</sub> -STLC <sup>1</sup> /r09-∞	 NT-ST22049T07	 NT-FT07

Catalogue Preview - AMP 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

<h1>DTGN</h1>	Right-hand shown	
<h2>ISO - TN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 91°)</li> <li>• Quick and safe tightening</li> <li>• Double pushing and pulling action with a single movement</li> </ul>		

B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-DTGN <sup>▲</sup> /R2020K16X	●	●	20	20	25	125	33	-	91°		TN∞1604∞
NT-DTGN <sup>▲</sup> /R2525M16X	●	●	25	25	32	150	33	-	91°		TN∞1604∞

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

C - GROOVING

Spare parts	Shim	Shim screw	Clamp	Spring	Clamp screw	L wrench
NT-DTGN <sup>▲</sup> /R∞∞∞∞16X	 NT-SH006	 NT-ST250	 NT-CS250	 NT-SG250	 NT-SC250	 NT-TX15


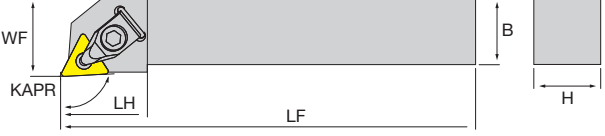
D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - April 2022

<h1>DTJN</h1>	Right-hand shown	
<h2>ISO - TN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 93°)</li> <li>• Quick and safe tightening</li> <li>• Double pushing and pulling action with a single movement</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-DTJN <sup>1</sup> /r2020K16X	●	●	20	20	25	125	33	-	93°	TN∞1604∞
NT-DTJN <sup>1</sup> /r2525M16X	●	●	25	25	32	150	33	-	93°	TN∞1604∞

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

Spare parts	Shim	Shim screw	Clamp	Spring	Clamp screw	L wrench
NT-DTJN <sup>1</sup> /R∞∞∞16X	 NT-SH006	 NT-ST250	 NT-CS250	 NT-SG250	 NT-SC250	 NT-TX15

Catalogue Preview - April 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING


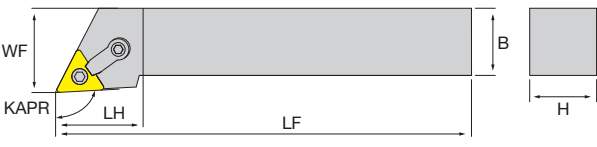
C - GROOVING

D - MILLING

E - DRILLING




F - ACCESSORIES

G - SPARE PARTS

<h1>MTJN</h1>	Right-hand shown	
<h2>ISO - TN</h2>		
<ul style="list-style-type: none"> <li>External turning (KAPR 93°)</li> <li>Double locking with eccentric pin and bracket</li> <li>Excellent clamping force.</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MTJN/∅2020K16	●	●	20	20	25	125	33	-	93°		TN∞1604∞
NT-MTJN/∅2525M16	●	●	25	25	32	150	35	-	93°		TN∞1604∞
NT-MTJN/∅3232P16	●	●	32	32	40	170	43	-	93°		TN∞1604∞
NT-MTJN/∅2525M22	●	●	25	25	32	150	43	-	93°		TN∞2204∞
NT-MTJN/∅3225P22	●	●	32	25	32	170	43	-	93°		TN∞2204∞

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-MTJN/∅2020K16	 NT-SH005	 NT-SP020	 NT-WR020	 NT-CS010	 NT-SC008	 NT-WR030

Catalogue Preview

<h1>A DTFN</h1>	Right-hand shown		
<h2>ISO - TN</h2>			
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 91°)</li> <li>• Steel boring bar with internal coolant through</li> <li>• Double pushing and pulling action with a single movement</li> </ul>			

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A25R-DTFN $\frac{1}{8}$ 16	●	●	32	25	17	200	-	-	91°	13°	TN $\infty$ 1604 $\infty$
NT-A32S-DTFN $\frac{1}{8}$ 16	●	●	40	32	22	250	-	-	91°	13°	TN $\infty$ 1604 $\infty$

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

Spare parts	Shim	Shim screw	Clamp	Spring	Clamp screw	L wrench
NT-A $\infty$ -DTFN $\frac{1}{8}$ 16	 NT-SH006	 NT-ST250	 NT-CS250	 NT-SG250	 NT-SC250	 NT-TX15

Catalogue Preview - A166 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

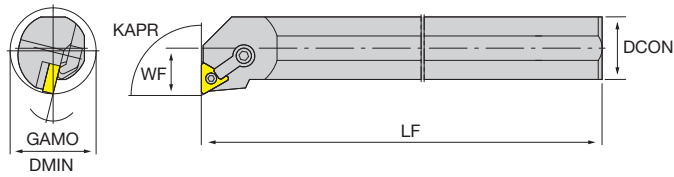
F - ACCESSORIES

G - SPARE PARTS

# S MTUN

## ISO - TN

- Internal turning (KAPR 93°)
- Steel boring bar without internal coolant through
- Double locking with eccentric pin and bracket



Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S20R-MTUN <sup>h</sup> /r16	●	●	25	20	13	200	-	-	93°	17°	TN∞1604∞
NT-S25R-MTUN <sup>h</sup> /r16	●	●	32	25	17	200	-	-	93°	12°	TN∞1604∞
NT-S32S-MTUN <sup>h</sup> /r16	●	●	40	32	22	250	-	-	93°	10°	TN∞1604∞
NT-S40T-MTUN <sup>h</sup> /r16	●	●	50	40	27	300	-	-	93°	10°	TN∞1604∞
NT-S50U-MTUN <sup>h</sup> /r16	●	●	63	50	35	350	-	-	93°	8°	TN∞1604∞
NT-S40T-MTUN <sup>h</sup> /r22	○	○	50	40	27	300	-	-	93°	15°	TN∞2204∞
NT-S50U-MTUN <sup>h</sup> /r22	○	○	63	50	35	350	-	-	93°	12°	TN∞2204∞

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-S20R-MTUN <sup>h</sup> /r16	-	NT-SP030	NT-WR020	NT-CS030	NT-SC030	NT-WR025

Catalogue Preview

<h1>S CTUP</h1>	Right-hand shown	
<h2>ISO - TP</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 93°)</li> <li>• Steel boring bar without internal coolant through for ceramic inserts</li> <li>• Reliable clamping</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S12M-CTUP <sup>▲</sup> / <sub>r</sub> 11	●	●	16	12	9	150	-	-	93°	6°	TP∞1103∞
NT-S16Q-CTUP <sup>▲</sup> / <sub>r</sub> 11	●	●	20	16	11	180	-	-	93°	3°	TP∞1103∞
NT-S20R-CTUP <sup>▲</sup> / <sub>r</sub> 11	●	●	25	20	13	200	-	-	93°	3°	TP∞1103∞
NT-S25R-CTUP <sup>▲</sup> / <sub>r</sub> 16	●	●	32	25	17	200	-	-	93°	3°	TP∞1603∞
NT-S32S-CTUP <sup>▲</sup> / <sub>r</sub> 16	●	●	40	32	22	250	-	-	93°	3°	TP∞1603∞

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

Spare parts	Shim	Shim screw	Flag wrench	Clamping set	Clamp	Clamp screw	L wrench
NT-S12M-CTUP <sup>▲</sup> / <sub>r</sub> 11	-	-	-	NT-CS003	-	-	NT-WR025

Catalogue Preview

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

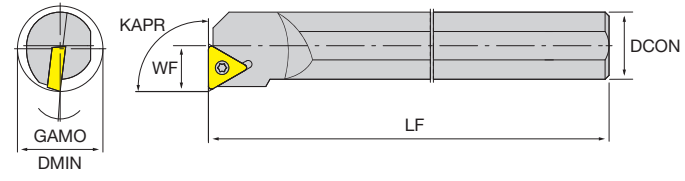
G - SPARE PARTS


# S STUP

## ISO - TP

- Internal turning (KAPR 93°)
- Steel boring bar without coolant through
- Tightened by screws

Right-hand shown





Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S10K-STUP <sup>▲</sup> /h09	●	●	12	10	6	125	-	-	93°	8°	TP∞0902∞
NT-S12M-STUP <sup>▲</sup> /h09	●	●	14	12	7	150	-	-	93°	5°	TP∞0902∞
NT-S10K-STUP <sup>▲</sup> /h11	●	●	12	10	6	125	-	-	93°	8°	TP∞1103∞
NT-S12M-STUP <sup>▲</sup> /h11	●	●	14	12	7	150	-	-	93°	7°	TP∞1103∞
NT-S16Q-STUP <sup>▲</sup> /h11	●	●	18	16	9	180	-	-	93°	4°	TP∞1103∞
NT-S20R-STUP <sup>▲</sup> /h11		○	22	20	11	200	-	-	93°	2°	TP∞1103∞

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

Spare parts	Insert screw	Flag wrench
		
NT-S10K-STUP <sup>▲</sup> /h09	NT-ST25065T08	NT-FT08

Catalogue Preview - AMB 2022



<h1>SVHB</h1>	Right-hand shown	
<h2>ISO - VB</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 107.5°)</li> <li>• Tightened by screws</li> <li>• Available with shim, convenient to change inserts</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-SVHB <sup>1</sup> / <sub>r</sub> 2525M16	○	○	25	25	32	150	23	-	107.5°	VB∞1604∞

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SVHB <sup>1</sup> / <sub>r</sub> 2525M16	 NT-SH050	 NT-SR010	 NT-WR035	 NT-ST35115T15	 NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

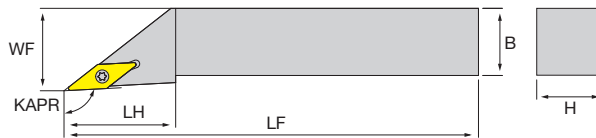
A - TURNING

# SVJB

ISO - VB

- External turning (KAPR 93°)
- Tightened by screws
- Available with shim, convenient to change inserts

Right-hand shown



B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SVJB <sup>1/2</sup> /r2020K11	●	●	20	20	25	125	22	-	93°		VB∞1103∞
NT-SVJB <sup>1/2</sup> /r2020K16	●	●	20	20	25	125	33	-	93°		VB∞1604∞
NT-SVJB <sup>1/2</sup> /r2525M16	●	●	25	25	32	150	38	-	93°		VB∞1604∞

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

C - GROOVING

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SVJB <sup>1/2</sup> /r∞∞∞∞11	-	-	-	NT-ST25060T07	NT-FT07

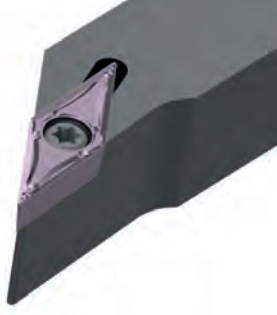
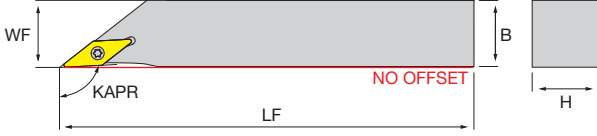
D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - AMB 2022

<h1>SVJB N</h1>	Right-hand shown	
<h2>ISO - VB</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR93°)</li> <li>• Tightened by screws</li> <li>• Available on lathes without offset, convenient to change inserts, with shims</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SVJB <sup>1/8</sup> 1212K11N	●	●	12	12	12	125	-	-	93°		VB∞1103∞
NT-SVJB <sup>1/8</sup> 1616K11N	●	●	16	16	16	125	-	-	93°		VB∞1103∞
NT-SVJB <sup>1/8</sup> 1616H16N	●	●	16	16	16	100	-	-	93°		VB∞1604∞

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SVJB <sup>1/8</sup> R∞∞∞11N	-	-	-	NT-ST25060T07	NT-FT07

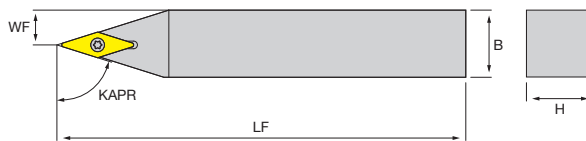
Catalogue Preview - A-M-B 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# SVVB

## ISO - VB

- External turning (KAPR 72.5°)
- Tightened by screws
- With shims



Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-SVVB2020K11			20	20	10	125	-	-	72.5°	VB∞1103∞
NT-SVVB2525M11			25	25	12.5	150	-	-	72.5°	VB∞1103∞
NT-SVVB2020K16			20	20	10	125	-	-	72.5°	VB∞1604∞
NT-SVVB2525M16			25	25	12.5	150	-	-	72.5°	VB∞1604∞

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SVVB∞∞∞∞11				NT-ST25060T07	NT-FT07

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<h1>V SVJB</h1>	Right-hand shown		
<p><b>ISO - VB</b></p> <ul style="list-style-type: none"> <li>• Internal turning (KAPR 93°)</li> <li>• Vortex boring bar (High standard steel)</li> <li>• Special chip evacuation path</li> <li>• Maximum overhang: 5xDCON</li> </ul>			

Designation	Stock		DMIN	DCON	WF	LF	LH	LU	KAPR	GAMO	MIID
	L	R									
NT-V20R-SVJB <sup>1/8</sup> 11-25	●	●	25	20	2	200	48	37.5	93°	5°	VB∞1103∞
NT-V25S-SVJB <sup>1/8</sup> 11-30	●	●	30	25	3.5	250	58	46	93°	5°	VB∞1103∞

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

Spare parts	Insert screw	Flag wrench
NT-V∞∞-SVJB <sup>1/8</sup> 11-∞	 NT-ST25060T07	 NT-FT07

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# SVJC

## ISO - VC

- External turning (KAPR 93°)
- Tightened by screws
- Available with shim, convenient to change inserts

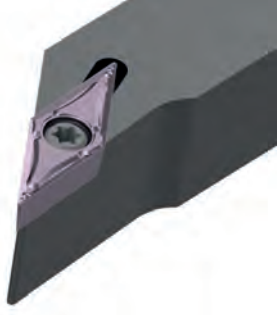
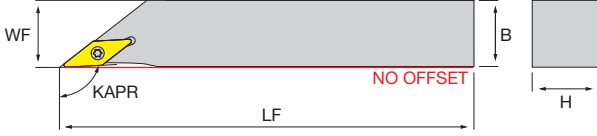
Right-hand shown

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SVJC/r2020K11	●	●	20	20	25	125	22	-	93°		VC∞1103∞
NT-SVJC/r2020K16	●	●	20	20	25	125	33	-	93°		VC∞1604∞
NT-SVJC/r2525M16	●	●	25	25	32	150	38	-	93°		VC∞1604∞

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SVJC/r∞∞∞∞11					
	-	-	-	NT-ST25060T07	NT-FT07

Catalogue Preview - AMB 2022

<h1>SVJC N</h1>	Right-hand shown	
<h2>ISO - VC</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR93°)</li> <li>• Tightened by screws</li> <li>• Available on lathes without offset, convenient to change inserts, with shims</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SVJC/r1010K11N	○	○	10	10	10	125	-	-	93°		VC∞1103∞
NT-SVJC/r1212K11N	●	●	12	12	12	125	-	-	93°		VC∞1103∞
NT-SVJC/r1616K11N	●	●	16	16	16	125	-	-	93°		VC∞1103∞
NT-SVJC/r1616H16N	●	●	16	16	16	100	-	-	93°		VC∞1604∞


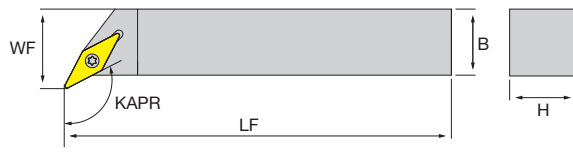
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SVJC/r∞∞∞∞11N					
	-	-	-	NT-ST25060T07	NT-FT07

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

<h1>SVPC</h1>	Right-hand shown	
<h2>ISO - VC</h2>		
<ul style="list-style-type: none"> <li>External turning (KAPR 117.5°)</li> <li>Tightened by screws</li> <li>Available with shim, convenient to change inserts</li> </ul>		

B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-SVPC <sup>1</sup> / <sub>R</sub> 1010H11	○	○	10	10	14.5	100	-	-	117.5°		VC∞1103∞
NT-SVPC <sup>1</sup> / <sub>R</sub> 1212H11	●	●	12	12	16.5	100	-	-	117.5°		VC∞1103∞
NT-SVPC <sup>1</sup> / <sub>R</sub> 1616H11	●	●	16	16	20.5	100	-	-	117.5°		VC∞1103∞
NT-SVPC <sup>1</sup> / <sub>R</sub> 2020K16	●	●	20	20	25	125	-	-	117.5°		VC∞1604∞
NT-SVPC <sup>1</sup> / <sub>R</sub> 2525M16	●	●	25	25	32	150	-	-	117.5°		VC∞1604∞

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

C - GROOVING

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
NT-SVPC <sup>1</sup> / <sub>R</sub> ∞∞∞11					
	-	-	-	NT-ST25060T07	NT-FT07

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview



<h1>SVVC</h1>		
<h2>ISO - VC</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 72.5°)</li> <li>• Tightened by screws</li> <li>• With shims</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR	MIID
	L	R								
NT-SVVCN1010H11			10	10	5	100	-	-	72.5°	VC∞1103∞
NT-SVVCN1212H11			12	12	6	100	-	-	72.5°	VC∞1103∞
NT-SVVCN1616H11			16	16	8	100	-	-	72.5°	VC∞1103∞
NT-SVVCN2020K16			20	20	10	125	-	-	72.5°	VC∞1604∞
NT-SVVCN2525M16			25	25	12.5	150	-	-	72.5°	VC∞1604∞

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

Spare parts	Shim	Shim screw	L wrench	Insert screw	Flag wrench
	NT-SVVCN∞∞∞∞11				NT-ST25060T07

Catalogue Preview

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

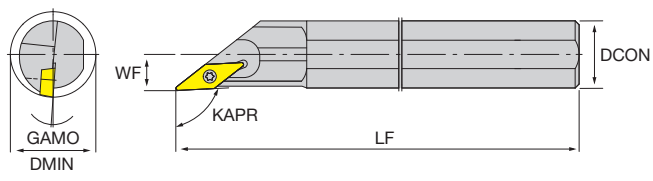
G - SPARE PARTS


# S SVJC

**ISO - VC**

- Internal turning (KAPR 93°)
- Steel boring bar without coolant through
- Tightened by screws

Right-hand shown



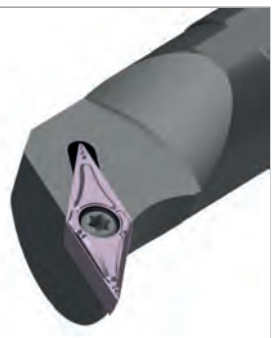
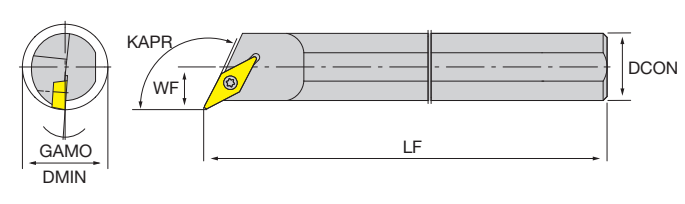


Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S12M-SVJC/r11	○	○	14	12	7	150	-	-	93°	7°	VC∞1103∞
NT-S16Q-SVJC/r11	●	●	18	16	9	180	-	-	93°	7°	VC∞1103∞
NT-S16Q-SVJC/r16	●	●	18	16	9	180	-	-	93°	7°	VC∞1604∞
NT-S20R-SVJC/r16	●	●	21	20	10.5	200	-	-	93°	6°	VC∞1604∞
NT-S25R-SVJC/r16	○	○	27	25	13.5	200	-	-	93°	6°	VC∞1604∞
NT-S32S-SVJC/r16	●	●	34	32	17	250	-	-	93°	4°	VC∞1604∞
NT-S40T-SVJC/r16	○	○	44	40	22	300	-	-	93°	4°	VC∞1604∞

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

Spare parts	Insert screw	Flag wrench
		
NT-S∞∞-SVJC/r11	NT-ST25060T07	NT-FT07

Catalogue Preview - AMB 2022

<h1>S SVQC</h1>	Right-hand shown	
<h2>ISO - VC</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 107.5°)</li> <li>• Steel boring bar without coolant through</li> <li>• Tightened by screws</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S16Q-SVQC <sup>1/8</sup> 11	●	●	22	16	13	180	-	-	107.5°	7°	VC∞1103∞
NT-S20R-SVQC <sup>1/8</sup> 11	●	●	27	20	15	200	-	-	107.5°	6°	VC∞1103∞
NT-S20R-SVQC <sup>1/8</sup> 16	○	○	30	20	19	200	-	-	107.5°	8°	VC∞1604∞
NT-S25R-SVQC <sup>1/8</sup> 16	●	●	34	25	20.5	200	-	-	107.5°	4°	VC∞1604∞
NT-S32S-SVQC <sup>1/8</sup> 16	●	●	41	32	22.5	250	-	-	107.5°	8°	VC∞1604∞
NT-S40T-SVQC <sup>1/8</sup> 16	○	○	50	40	27	300	-	-	107.5°	6°	VC∞1604∞

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

Spare parts	Insert screw	Flag wrench
		
NT-S∞-SVQC <sup>1/8</sup> 11	NT-ST25060T07	NT-FT07

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# S SVUC

## ISO - VC

- Internal turning (KAPR 93°)
- Steel boring bar without coolant through
- Tightened by screws


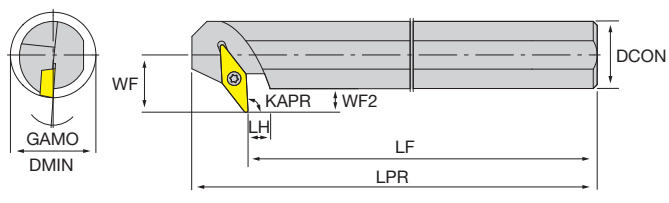
Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S16Q-SVUC <sup>1</sup> / <sub>R</sub> 11	●	●	22	16	13	180	-	-	93°	7°	VC∞1103∞
NT-S20R-SVUC <sup>1</sup> / <sub>R</sub> 11	●	●	27	20	15	200	-	-	93°	6°	VC∞1103∞
NT-S20R-SVUC <sup>1</sup> / <sub>R</sub> 16	●	●	31	20	19	200	-	-	93°	8°	VC∞1604∞
NT-S25R-SVUC <sup>1</sup> / <sub>R</sub> 16	○	○	33	25	20.5	200	-	-	93°	7°	VC∞1604∞
NT-S32S-SVUC <sup>1</sup> / <sub>R</sub> 16	●	●	42	32	22.5	250	-	-	93°	5°	VC∞1604∞
NT-S40T-SVUC <sup>1</sup> / <sub>R</sub> 16	○	○	51	40	27	300	-	-	93°	4°	VC∞1604∞

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

Spare parts	Insert screw	Flag wrench
NT-S∞∞-SVUC <sup>1</sup> / <sub>R</sub> 11	NT-ST25060T07	NT-FT07

Catalogue Preview - AMB 2022

<h1>S SVZC</h1>	Right-hand shown	
<h2>ISO - VC</h2>		
<ul style="list-style-type: none"> <li>• Internal back turning (KAPR 93°)</li> <li>• Steel boring bar without coolant through</li> <li>• Tightened by screws</li> </ul>		

Designation	Stock		DMIN	DCON	WF	WF2	LF	LH	LPR	KAPR	GAMO	MIID
	L	R										
NT-S20R-SVZC <sup>1</sup> / <sub>16</sub>	●	●	30	20	17	7			217	93°	7.5°	VC∞1604∞
NT-S25R-SVZC <sup>1</sup> / <sub>16</sub>	●	●	35	25	19.5	7			220	93°	7.5°	VC∞1604∞
NT-S32S-SVZC <sup>1</sup> / <sub>16</sub>	○	○	40	32	23	7			270	93°	7.5°	VC∞1604∞

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

Spare parts	Insert screw	Flag wrench
		
NT-S∞∞-SVZC <sup>1</sup> / <sub>16</sub>	NT-ST35089T15	NT-FT15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

<h1>DVJN</h1>	Right-hand shown	
<h2>ISO - VN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 93°)</li> <li>• Quick and safe tightening</li> <li>• Double pushing and pulling action with a single movement</li> </ul>		

B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-DVJN <sup>1</sup> /R2020K16X	●	●	20	20	25	125	50	-	93°		VN∞1604∞
NT-DVJN <sup>1</sup> /R2525M16X	●	●	25	25	32	150	46	-	93°		VN∞1604∞

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

C - GROOVING

Spare parts	Shim	Shim screw	L wrench	Clamp	Spring	Clamp screw	L wrench
NT-DVJN <sup>1</sup> /R∞∞∞∞16X	NT-SH075	NT-ST250	NT-TX15	NT-CS210	NT-SG200	NT-SC200	NT-TX20

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

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DVVN		
ISO - VN		
<ul style="list-style-type: none"> <li>• External turning (KAPR 72.5°)</li> <li>• Quick and safe tightening</li> <li>• Double pushing and pulling action with a single movement</li> </ul>		

Designation	Stock	H	B	WF	LF	LH	LPR	KAPR		MIID
NT-DVVNN2020K16X	●	20	20	10	125	47	-	72.5		VN <sup>∞</sup> 1604 <sup>∞</sup>
NT-DVVNN2525M16X	●	25	25	12.5	150	47	-	72.5		VN <sup>∞</sup> 1604 <sup>∞</sup>

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

Spare parts	Shim	Shim screw	L wrench	Clamp	Spring	Clamp screw	L wrench
NT-DVVNN <sup>∞</sup> 16X	NT-SH075	NT-ST250	NT-TX15	NT-CS210	NT-SG200	NT-SC200	NT-TX20

Catalogue Preview - All 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

# MVJN

## ISO - VN

- External turning (KAPR 93°)
- Double locking with eccentric pin and bracket
- Excellent clamping force

Right-hand shown

B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MVJN/2020K16	●	●	20	20	25	125	39	-	93°		VN∞1604∞
NT-MVJN/2525M16	●	●	25	25	32	150	44	-	93°		VN∞1604∞
NT-MVJN/3232P16	○	○	32	32	40	170	45	-	93°		VN∞1604∞

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

C - GROOVING

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-MVJN/∞∞∞∞16	 NT-SH075	 NT-SP020	 NT-WR020	 NT-CS075	 NT-SC010	 NT-WR030

D - MILLING

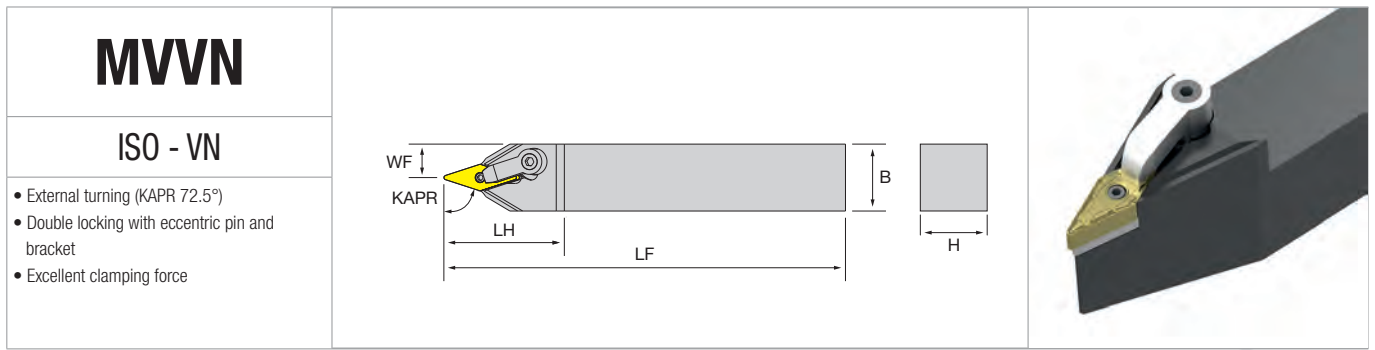
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - 2022





Designation	Stock	H	B	WF	LF	LH	LPR	KAPR		MIID
NT-MVVNN2020K16	●	20	20	10	125	45	-	72.5		VN∞1604∞
NT-MVVNN2525M16	●	25	25	12.5	150	45	-	72.5		VN∞1604∞
NT-MVVNN3232P16	○	32	32	16	170	45	-	72.5		VN∞1604∞

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-MVVNN∞∞∞∞16	NT-SH075	NT-SP020	NT-WR020	NT-CS075	NT-SC010	NT-WR030

Catalogue Preview - April 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>S MVQN</h1>	Right-hand shown		
<h2>ISO - VN</h2>			

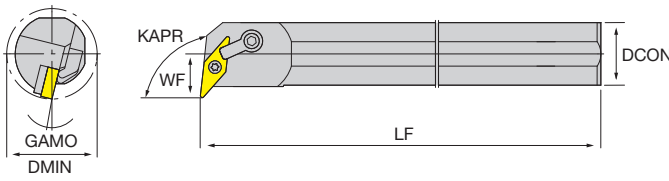

- Internal turning (KAPR 107.5°)
- Steel boring bar without internal coolant through
- Double locking with eccentric pin and bracket

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S25R-MVQN <sup>1</sup> /r16	●	●	33	25	20	200	-	-	107.5°	12°	VN∞1604∞
NT-S32S-MVQN <sup>1</sup> /r16	●	●	40	32	23	250	-	-	107.5°	17°	VN∞1604∞
NT-S40T-MVQN <sup>1</sup> /r16	○	○	50	40	27	300	-	-	107.5°	15°	VN∞1604∞
NT-S50U-MVQN <sup>1</sup> /r16	●	●	63	50	33	350	-	-	107.5°	12°	VN∞1604∞

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-S25R-MVQN <sup>1</sup> /r16						





Catalogue Preview - 2022

<h1>S MVUN</h1>	Right-hand shown		
<h2>ISO - VN</h2>			

- Internal turning (KAPR 93°)
- Steel boring bar without internal coolant through
- Double locking with eccentric pin and bracket

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S25R-MVUN <sup>1</sup> /r16	●	●	37	25	20	200	-	-	93°	12°	VN∞1604∞
NT-S32S-MVUN <sup>1</sup> /r16	●	●	40	32	22	250	-	-	93°	12°	VN∞1604∞
NT-S40T-MVUN <sup>1</sup> /r16	●	●	50	40	27	300	-	-	93°	15°	VN∞1604∞
NT-S50U-MVUN <sup>1</sup> /r16	○	○	63	50	32	350	-	-	93°	12°	VN∞1604∞

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-S25R-MVUN <sup>1</sup> /r16	 NT-SH075	 NT-SP020	 NT-WR020	 NT-CS010	 NT-SC008	 NT-WR030

Catalogue Preview - 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

<h1>V SWUB</h1>	Right-hand shown		
<h2>ISO - WB</h2>			
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 93°)</li> <li>• Vortex boring bar (High standard steel)</li> <li>• Special chip evacuation path</li> <li>• Maximum overhang: 5xDCON</li> </ul>			

B - THREADING

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V10H-SWUB <sup>+</sup> / <sub>R</sub> 06-06		●	6	10	3	100	25	-	93°	15°	WB <sub>∞</sub> 0601 <sub>∞</sub>
NT-V10H-SWUB <sup>+</sup> / <sub>R</sub> 06-07		●	7	10	3.5	100	30	-	93°	13°	WB <sub>∞</sub> 0601 <sub>∞</sub>

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

C - GROOVING

Spare parts	Insert screw	Flag wrench
NT-V10H-SWUB <sup>+</sup> / <sub>R</sub> 06-∞	NT-ST20038T06	NT-FT06

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - AMB 2022

<h1>V SWUC</h1>	Right-hand shown		
<h2>ISO - WC</h2>			

- Internal turning (KAPR 93°)
- Vortex boring bar (High standard steel)
- Special chip evacuation path
- Maximum overhang: 5xDCON

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-V12M-SWUC/12-14	●	●	14	12	7	150	-	-	93°	13°	WC <sub>00</sub> 12T3 <sub>00</sub>
NT-V16Q-SWUC/12-18	●	●	18	16	9	180	-	-	93°	10°	WC <sub>00</sub> 12T3 <sub>00</sub>
NT-V20R-SWUC/12-22	●	●	22	20	11	200	-	-	93°	8°	WC <sub>00</sub> 12T3 <sub>00</sub>
NT-V25S-SWUC/12-27	●	●	27	25	13.5	250	-	-	93°	8°	WC <sub>00</sub> 12T3 <sub>00</sub>

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

Spare parts	Insert screw	Flag wrench
NT-V <sub>000</sub> -SWUC/12- <sub>00</sub>	 NT-ST40090T15	 NT-FT15

Catalogue Preview - AMB 2022

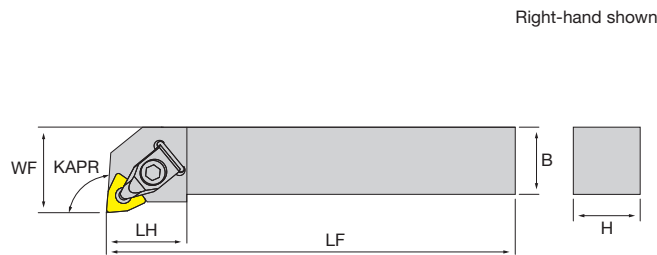
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

# DWLN

## ISO - WN

- External turning (KAPR 95°)
- Quick and safe tightening
- Double pushing and pulling action with a single movement
- Holds WN-style inserts



B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-DWLN/r1616H06X	●	●	16	16	20	100	33	-	95°		WN00060400
NT-DWLN/r2020K06X	●	●	20	20	25	125	33	-	95°		WN00060400
NT-DWLN/r2525M06X	●	●	25	25	32	150	33	-	95°		WN00060400
NT-DWLN/r2020K08X	●	●	20	20	25	125	40	-	95°		WN00080400
NT-DWLN/r2525M08X	●	●	25	25	32	150	40	-	95°		WN00080400
NT-DWLN/r3225P08X	●	●	32	25	32	170	40	-	95°		WN00080400

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

C - GROOVING

Spare parts	Shim	Shim screw	L wrench	Clamp	Spring	Clamp screw	L wrench
NT-DWLN/r0000006X	NT-SH003	NT-ST250	NT-TX15	NT-CS250	NT-SG250	NT-SC250	NT-TX15

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview

<h1>MWLN</h1>	Right-hand shown 	
<h2>ISO - WN</h2>		
<ul style="list-style-type: none"> <li>• External turning (KAPR 95°)</li> <li>• Double locking with eccentric pin and bracket</li> <li>• Excellent clamping force</li> <li>• Holds WN-style inserts</li> </ul>		

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-MWLN <sup>+</sup> /r2020K06	○	○	20	20	25	125	33	-	95°		WN <sup>oo</sup> 0604 <sup>oo</sup>
NT-MWLN <sup>+</sup> /r2525M06	○	○	25	25	32	150	26	-	95°		WN <sup>oo</sup> 0604 <sup>oo</sup>
NT-MWLN <sup>+</sup> /r2020K08	●	●	20	20	25	125	33	-	95°		WN <sup>oo</sup> 0804 <sup>oo</sup>
NT-MWLN <sup>+</sup> /r2525M08	●	●	25	25	32	150	26	-	95°		WN <sup>oo</sup> 0804 <sup>oo</sup>
NT-MWLN <sup>+</sup> /r3232P08	●	●	32	32	40	170	26	-	95°		WN <sup>oo</sup> 0804 <sup>oo</sup>

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-MWLN <sup>+</sup> /r <sup>oooo</sup> 06	NT-SH003	NT-SP020	NT-WR020	NT-CS009	NT-SC030	NT-WR025

Catalogue Preview

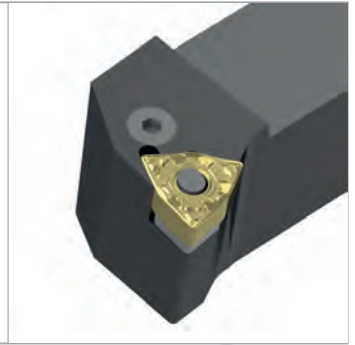
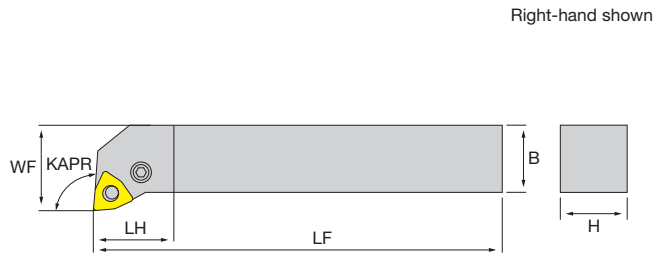
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

# PWLN

ISO - WN

- External turning (KAPR 95°)
- Easy to use
- Suitable for long-chip turning
- Less reliable than D and M type clamping



B - THREADING

Designation	Stock		H	B	WF	LF	LH	LPR	KAPR		MIID
	L	R									
NT-PWLN <sup>▲</sup> /r2020K08	●	●	20	20	25	125	20	-	95°		WN <sup>○</sup> 0804 <sup>○</sup>
NT-PWLN <sup>▲</sup> /r2525M08	●	●	25	25	32	150	26	-	95°		WN <sup>○</sup> 0804 <sup>○</sup>

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

C - GROOVING

Spare parts	Shim	Shim plug	Lever	Lever screw	L wrench
NT-PWLN <sup>▲</sup> /r <sup>○</sup> 0000c08	NT-SH015	NT-SR020	NT-LL020	NT-SC025	NT-WR030

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - AMB 2022



<h1>A DWLN</h1>	Right-hand shown		
<h2>ISO - WN</h2>			
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 95°)</li> <li>• Steel boring bar with internal coolant through</li> <li>• Double pushing and pulling action with a single movement</li> <li>• Holds WN-style inserts</li> </ul>			

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A25R-DWLN <sup>1</sup> /r08	●	●	32	25	17	200	-	-	95°	14°	WN <sup>00</sup> 0804 <sup>00</sup>
NT-A32S-DWLN <sup>1</sup> /r08	●	●	40	32	22	250	-	-	95°	14°	WN <sup>00</sup> 0804 <sup>00</sup>
NT-A40T-DWLN <sup>1</sup> /r08	●	●	50	40	27	300	-	-	95°	12°	WN <sup>00</sup> 0804 <sup>00</sup>

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

Spare parts	Shim	Shim screw	L wrench	Clamp	Spring	Clamp screw	L wrench
NT-A <sup>000</sup> -DWLN <sup>1</sup> /r08	NT-SH015	NT-ST200	NT-WR025	NT-CS200	NT-SG200	NT-SC200	NT-TX20

Catalogue Preview - 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>S MWLN</h1>	Right-hand shown		
<h2>ISO - WN</h2>			
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 95°)</li> <li>• Steel boring bar without internal coolant through</li> <li>• Double locking with eccentric pin and bracket</li> <li>• Reliable clamping</li> </ul>			

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-S16Q-MWLN/r06	○	○	22	16	11	180	-	-	95°	18°	WN00060400
NT-S20R-MWLN/r08	●	●	25	20	13	200	-	-	95°	17°	WN00080400
NT-S25R-MWLN/r08	●	●	32	25	17	200	-	-	95°	14°	WN00080400
NT-S32S-MWLN/r08	●	●	40	32	22	250	-	-	95°	14°	WN00080400
NT-S40T-MWLN/r08	●	●	50	40	27	300	-	-	95°	12°	WN00080400
NT-S50U-MWLN/r08	●	●	63	50	35	350	-	-	95°	12°	WN00080400

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

Spare parts	Shim	Eccentric pin	L wrench	Clamp	Clamp screw	L wrench
NT-S16Q-MWLN/r06	-	NT-SP030	NT-WR020	NT-CS030	NT-SC030	NT-WR025

Catalogue Preview

<h1>A PWLN</h1>	Right-hand shown	
<h2>ISO - WN</h2>		
<ul style="list-style-type: none"> <li>• Internal turning (KAPR 95°)</li> <li>• Steel boring bar without coolant</li> <li>• Easy to use</li> <li>• Suitable for long-chip boring</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	LPR	KAPR	GAMO	MIID
	L	R									
NT-A25R-PWLN <sup>▲</sup> /r08	●	●	30	25	17	200	-	-	95°	12°	WN <sup>∞</sup> 0804 <sup>∞</sup>
NT-A32S-PWLN <sup>▲</sup> /r08	●	●	40	32	22	250	-	-	95°	10°	WN <sup>∞</sup> 0804 <sup>∞</sup>
NT-A40T-PWLN <sup>▲</sup> /r08	●	●	48	40	27	300	-	-	95°	8°	WN <sup>∞</sup> 0804 <sup>∞</sup>

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

Spare parts	Shim	Shim plug	Lever	Lever screw	L wrench
NT-A25R-PWLN <sup>▲</sup> /r08	-	NT-SR015	NT-LL015	NT-SC015	NT-WR025

Catalogue Preview - AAMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS





AMB 2022

## THREADING

Grade table	.B2
Grade details	.B3
Quick guide	.B4
External threads	.B7
Internal threads	.B15
Parameters	.B27

# THREADING Grades table

	ISO 513	CARBIDE	PCBN	DIAMOND
		PVD COATED	PVD COATED	PCD
A - TURNING	P	P01		
		P10	JPS120	
		P20	JPS125	
		P30		
		P40		
B - THREADING	Steel			
		M01		
		M10	JPS120	
		M20	JPS125	
		M30		
C - GROOVING	Stainless steel	M40		
		K01		
		K10	JPS120	
		K20	JPS125	
		K30		
D - MILLING	Cast iron	N01		
		N10		
		N20		NDO50
		N30		
		H01		
E - DRILLING	Non ferrous materials	H10		
		H20	NBL350C	
		H30		
F - ACCESSORIES	H			
G - SPARE PARTS	Hardened steel			










Review - AMB 2022

GRADE	SUBSTRATE	HARDNESS HV	COATING		APPLICATION	FEATURES	
			TECHNOLOGY	COMPOSITION			
<b>JPS120</b>	micrograin carbide	1.830	PVD	TiAlN	P	P10 P20	Special coating technology balances wear resistance and toughness. The post-coating surface treatment effectively inhibit built-up edge.
					M	M10 M20	
					K	K10 K20	
<b>JPS125</b>	micrograin carbide	1.830	PVD	TiAlN	P	P20 P30	High Co micrograin carbide substrate with high toughness and latest coating technology. Universal use with great reliability and long tool life.
					M	M20 M30	
					K	K20 K30	
<b>NBL350C</b>	Low volume CBN 75%	3.400	PVD	AlTiN	H	H20 H35	Hardened steel machining with a perfect combination between toughness and wear resistance.
<b>ND050</b> new name: <b>NDP001</b>	diamond 85%	5.000	-	-	N	N10 N35	High productivity threading of non ferrous materials. Excellent surface finishing and very good toughness.

Catalogue Preview - Nixko

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

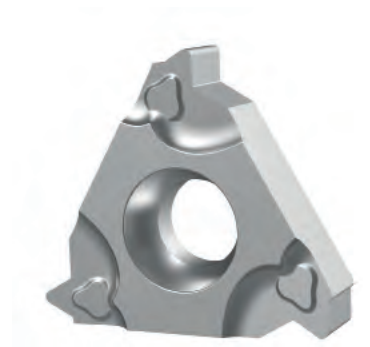
- A - TURNING
- B - THREADING**
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

	<b>EXTERNAL</b>	<b>INTERNAL</b>
	☐ B7	☐ B15
	 <b>SQUARE SHANK</b>	 <b>BORING BAR</b>
Pressed type inserts	✓	✓
Ground type inserts*	✓	✓
Advanced material inserts	✓	✓
Available sizes	16 - 22	07 - 11 - 16 - 22
Right and left thread	✓	✓
Workpiece material	<b>P M K N S H</b>	<b>P M K N S H</b>
Full profile	M - UN - W - NPT - BSPT	M - UN - W - NPT - BSPT
Partial profile	55° - 60°	55° - 60°
<b>M</b> ISO Metric 	0.50 - 0.70 - 0.75 - 0.80 - 1.00 - 1.25 - 1.50 - 1.75 - 2.00 - 2.50 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 (mm)	0.50 - 0.75 - 1.00 - 1.25 - 1.50 - 1.75 - 2.00 - 2.50 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 (mm)
<b>W</b> Whitworth 	19 - 14 - 11 (TPI)	19 - 14 - 11 (TPI)
<b>UN</b> American unified 	24 - 20 - 18 - 16 - 14 - 12 - 08 (TPI)	24 - 20 - 18 - 16 - 14 - 12 - 08 (TPI)
<b>NPT</b> American tapered pipe 	18 - 11.5 - 14 (TPI)	18 - 11.5 - 14 (TPI)
<b>BSPT</b> British tapered pipe 	28 - 19 - 14 - 11 (TPI)	28 - 19 - 14 - 11 (TPI)
<b>60° partial profile</b> 	<b>A</b> 0.50 ÷ 1.50 (mm) / 48 ÷ 16 (TPI) <b>G</b> 1.75 ÷ 3.00 (mm) / 14 ÷ 8 (TPI) <b>AG</b> 0.50 ÷ 3.00 (mm) / 48 ÷ 8 (TPI) <b>N</b> 3.50 ÷ 5.00 (mm) / 7 ÷ 5 (TPI)	<b>A</b> 0.50 ÷ 1.50 (mm) / 48 ÷ 16 (TPI) <b>G</b> 1.75 ÷ 3.00 (mm) / 14 ÷ 8 (TPI) <b>AG</b> 0.50 ÷ 3.00 (mm) / 48 ÷ 8 (TPI) <b>N</b> 3.50 ÷ 5.00 (mm) / 7 ÷ 5 (TPI)
<b>55° partial profile</b> 	<b>A</b> 48 ÷ 16 (TPI) <b>G</b> 14 ÷ 8 (TPI) <b>AG</b> 48 ÷ 8 (TPI) <b>N</b> 7 ÷ 5 (TPI)	<b>A</b> 48 ÷ 16 (TPI) <b>G</b> 14 ÷ 8 (TPI) <b>AG</b> 48 ÷ 8 (TPI) <b>N</b> 7 ÷ 5 (TPI)
Holder sizes	square: 12 - 16 - 20 - 25	cylindrical: 10 - 12 - 16 - 20 - 25 - 32
Minimum entering hole	-	8
Special features	holders without off-set for swiss type machining	boring bar with VORTEX technology and internal coolant

\*we can supply almost every kind of thread type and pitch using our ground insert's solutions



Catalogue Preview - AMB 2022



## THREADING External threads

Inserts .B8

Holders .B12

Table "Number of passes" .B13

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

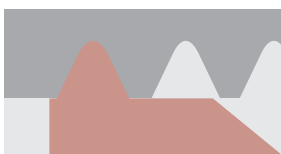
G - SPARE PARTS

<h1>External</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP							
	<h2>ISO 16-22</h2>					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>						
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable	<b>Dimensions</b>				<b>ISO</b>				<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
		<b>P</b> 60 200 60 180		<b>M</b> 60 140 80 170		<b>K</b> 80 170 80 150		<b>N</b> 500 1500		<b>S</b> 30 70 30 60 50 100		<b>H</b> 60 160			

FULL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▽
<p>TPM pressed type chip control oriented</p>	<b>M P M K S</b> 16ER100ISO-TPM	0.14	1	0.7	0.8	9.525	●	●		
	16ER125ISO-TPM	0.18	1.25	0.9	0.8	9.525	●	●		
	16ER150ISO-TPM	0.22	1.5	1	0.8	9.525	●	●		
	16ER175ISO-TPM	0.25	1.75	1.2	1.2	9.525	●	●		
	16ER200ISO-TPM	0.29	2	1.3	1.2	9.525	●	●		
	16ER250ISO-TPM	0.36	2.5	1.5	1.2	9.525	●	●		
	16ER300ISO-TPM	0.43	3	1.5	1.2	9.525	●	●		
	22ER350ISO-TPM	0.45	3.5	2.3	1.6	12.7	●			
	22ER400ISO-TPM	0.52	4	2.3	1.6	12.7	●			
	22ER450ISO-TPM	0.58	4.5	2.4	1.7	12.7	●			
22ER500ISO-TPM	0.63	5	2.5	1.7	12.7	●				
<p>precision ground sharpness oriented</p>	<b>M P M K S</b> 16ER050ISO	0.07	0.5	0.6	0.6	9.525	●			
	16ER070ISO	0.1	0.7	0.6	0.6	9.525	●			
	16ER075ISO	0.11	0.75	0.6	0.6	9.525	●			
	16ER080ISO	0.12	0.8	0.6	0.6	9.525	●			
	16ER100ISO	0.15	1	0.7	0.7	9.525	●			
	16ER125ISO	0.18	1.25	0.9	0.8	9.525	●			
	16ER150ISO	0.22	1.5	1	0.8	9.525	●			
	16ER175ISO	0.25	1.75	1.2	0.9	9.525	●			
	16ER200ISO	0.29	2	1.3	1	9.525	●			
	16ER250ISO	0.36	2.5	1.5	1	9.525	●			
16ER300ISO	0.43	3	1.6	1.2	9.525	●				

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

FULL PROFILE



- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

PRESSED VS GROUND

TPM pressed

- Improve the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

Precision ground

- Reach the highest precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

<h1>External</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition	HF	HF	BL	DP				
		PVD	PVD	PVD					
<b>ISO 16-22</b>		<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>				
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable								
	<b>Dimensions</b>	<b>ISO</b>							
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
		<b>P</b>	60 200	60 180					
		<b>M</b>	60 140	60 120					
		<b>K</b>	80 170	80 150					
		<b>N</b>					500 1500		
		<b>S</b>	30 70	30 60			50 100		
		<b>H</b>					60 160		

FULL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▽
<b>M P M K S</b> <p>precision ground left-hand</p>	16EL050ISO	0.07	0.5	0.6	0.6	9.525	●			
	16EL075ISO	0.11	0.75	0.6	0.6	9.525	●			
	16EL100ISO	0.15	1	0.7	0.7	9.525	●			
	16EL125ISO	0.18	1.25	0.9	0.8	9.525	●			
	16EL150ISO	0.22	1.5	1	0.8	9.525	●			
	16EL175ISO	0.25	1.75	1.2	0.9	9.525	●			
	16EL200ISO	0.29	2	1.3	1	9.525	●			
	16EL250ISO	0.36	2.5	1.5	1	9.525	●			
	16EL300ISO	0.43	3	1.6	1.2	9.525	●			
<b>M N</b> <p>PCD carbide backed single edge</p>	16ER100ISO-1C	0.15	1	0.7		9.525			●	
	16ER125ISO-1C	0.16	1.25	0.9		9.525			●	
	16ER150ISO-1C	0.22	1.5	1		9.525			●	
	16ER175ISO-1C	0.26	1.75	1.2		9.525			●	
	16ER200ISO-1C	0.29	2	1.3		9.525			●	
	16ER250ISO-1C	0.37	2.5	1.5		9.525			●	
	16ER300ISO-1C	0.43	3	1.5		9.525			●	
<b>M H</b> <p>PCBN solid brazing single edge</p>	16ER100ISO-1S	0.15	1	0.7		9.525		●		
	16ER125ISO-1S	0.16	1.25	0.9		9.525		●		
	16ER150ISO-1S	0.22	1.5	1		9.525		●		
	16ER175ISO-1S	0.26	1.75	1.2		9.525		●		
	16ER200ISO-1S	0.29	2	1.3		9.525		●		
	16ER250ISO-1S	0.37	2.5	1.5		9.525		●		
	16ER300ISO-1S	0.43	3	1.5		9.525		●		
<b>W P M K S</b> <p>TPM pressed type chip control oriented</p>	16ER11W-TPM	0.3	11	1.5	1.2	9.525	●	●		
	16ER14W-TPM	0.24	14	1.5	1.2	9.525	●	●		
	16ER19W-TPM	0.17	19	1	0.8	9.525		●		

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

### FULL PROFILE

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

### PRESSED VS GROUND

**TPM pressed**

- Improve the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

**Precision ground**

- Reach the highest precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

### ADVANCED THREADING

**PCBN for ISO H**

Please increase the number of passes when machining hardened steel with PCBN inserts. Keep the maximum infeed value lower than 0.10 mm

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>External</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP	
	ISO 16-22				<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>	
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable						
	<b>Dimensions</b>	<b>ISO</b>			<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
		<b>P</b>	60 200	60 180					
	<b>M</b>	60 140	60 120						
	<b>K</b>	80 170	80 150						
	<b>N</b>						500 1500		
	<b>S</b>	30 70	30 60				50 100		
	<b>H</b>					60 160			

Designation		RE	TP	PDX	PDY	IC	Stock		
<b>FULL PROFILE</b>  TPM pressed type chip control oriented	<b>UN P M K S</b> 16ER08UN-TPM	0.46	8	1.7	1.3	9.525	●		
	16ER12UN-TPM	0.31	12	1.5	1.2	9.525	●		
	16ER14UN-TPM	0.26	14	1.5	1.2	9.525	●		
	16ER16UN-TPM	0.23	16	1.1	0.9	9.525	●		
	16ER18UN-TPM	0.2	18	1	0.8	9.525	●		
	16ER20UN-TPM	0.18	20	0.9	0.8	9.525	●		
	16ER24UN-TPM	0.15	24	0.8	0.8	9.525	●		
	<b>FULL PROFILE</b>  TPM pressed type chip control oriented	<b>NPT P M K S</b> 16ER11.5NPT-TPM	0.25	11.5	1.5	1.2	9.525	●	
16ER14NPT-TPM		0.22	14	1.5	1.2	9.525	●		
16ER18NPT-TPM		0.2	18	1	0.8	9.525	●		
<b>FULL PROFILE</b>  precision ground sharpness oriented	<b>NPT P M K S</b> 16ER11.5NPT	0.07	11.5	1.5	1.1	9.525	●		
	16ER14NPT	0.06	14	1	0.8	9.525	●		
<b>FULL PROFILE</b>  TPM pressed type chip control oriented	<b>BSPT P M K S</b> 16ER11BSPT-TPM	0.3	11	1.5	1.2	9.525	●		
	16ER14BSPT-TPM	0.24	14	1.5	1.2	9.525	●		
	16ER19BSPT-TPM	0.17	19	1	0.8	9.525	●		
	16ER28BSPT-TPM	0.11	28	0.8	0.7	9.525	●		

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

**FULL PROFILE**



- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

**PRESSED VS GROUND**

**TPM pressed**

- Improve the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

**Precision ground**

- Reach the highest precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

<h1>External</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF	HF	BL	DP
					PVD	PVD	PVD	
ISO 16-22					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	○	○	○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	●	○	●	
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice	▽ suitable	▲	▲	▽	▽	
<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
		<b>P</b>	60 200	60 180				
		<b>M</b>	60 140	60 120				
		<b>K</b>	80 170	80 150				
		<b>N</b>			500 1500			
		<b>S</b>	30 70	30 60		50 100		
		<b>H</b>			60 160			

PARTIAL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▽
<b>60° P M K S</b>  TPM pressed type chip control oriented	16ERA60-TPM	0.08	A60	0.9	0.8	9.525	●			
	16ERAG60-TPM	0.08	AG60	1.5	1.1	9.525	●			
	16ERG60-TPM	0.25	G60	1.7	1.2	9.525	●			
	22ERN60-TPM	0.51	N60	2.5	1.7	12.7	●			
<b>55° P M K S</b>  TPM pressed type chip control oriented	16ERA55-TPM	0.08	A55	0.9	0.8	9.525	●			
	16ERAG55-TPM	0.08	AG55	1.5	1.1	9.525	●			
	16ERG55-TPM	0.21	G55	1.7	1.2	9.525	●			
	22ERN55-TPM	0.44	N55	2.5	1.7	12.7	●			

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

Catalogue Preview - AMB

**PARTIAL PROFILE**



- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

**PARTIAL PROFILE 60°**

	M	UN
A60	0.50÷1.50	48÷16
AG60	0.50÷3.00	48÷8
G60	1.75÷3.00	14÷8
N60	3.50÷5.00	7÷5

**PARTIAL PROFILE 55°**

	BSW-BSF-BSP
A55	48÷16
AG55	48÷8
G55	14÷8
N55	7÷5

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

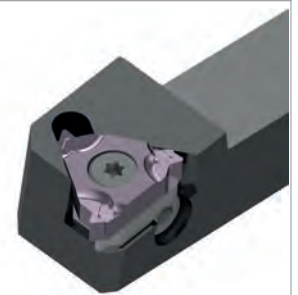
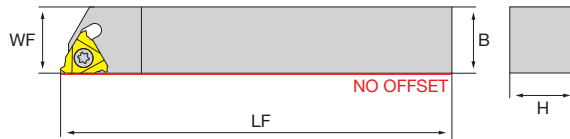
**SE**

ISO 16-22

- External threading holder
- Tightened by screws
- Available with shim, convenient to change inserts
- Holds both pressed type and ground type threading inserts

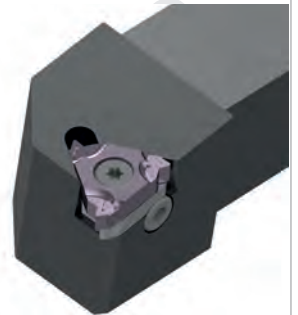
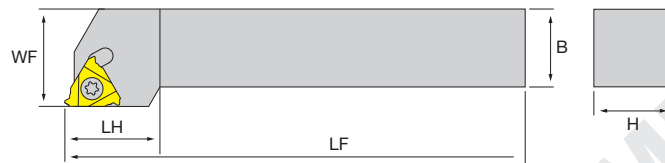
Without offset

Right-hand shown



Standard design

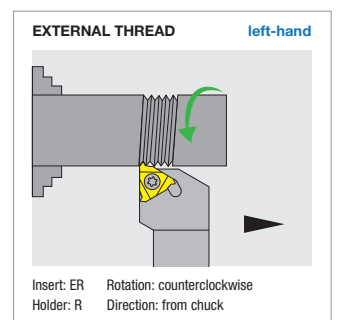
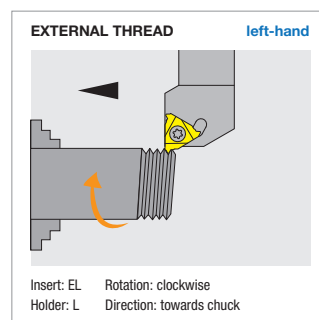
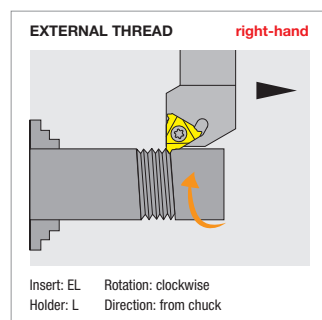
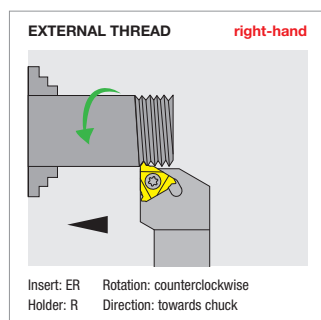
Right-hand shown



Designation	Stock		H	B	WF	LF	LH				MIID
	L	R									
<b>WITHOUT OFFSET</b>											
NT-SE/r1212H16N	○	○	12	12	12	100	-				16EL/R000
NT-SE/r1616H16N	○	○	16	16	16	100	-				16EL/R000
<b>STANDARD DESIGN</b>											
NT-SE/r1616H16	●	●	16	16	20	100	22				16EL/R000
NT-SE/r2020K16	●	●	20	20	25	125	25				16EL/R000
NT-SE/r2525M16	●	●	25	25	32	150	25				16EL/R000
NT-SE/r2525M22		●	25	25	32	150	29				22EL/R000
NT-SE/r3232M22		●	32	32	40	170	32				22EL/R000

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

Spare parts	Shim	Shim	Locking screw	L wrench	Insert screw	Flag wrench
NT-SEL0000160						
NT-SER0000160						
NT-SER0000220						



**M - External ISO-metric threads**

TP	6.00	5.50	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.75	1.50	1.25	1.00	0.80	0.75	0.70	0.50	
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>																	
<b>1</b>	0.46	0.43	0.41	0.37	0.34	0.34	0.28	0.27	0.24	0.22	0.22	0.21	0.18	0.17	0.16	0.14	0.11	
<b>2</b>	0.43	0.40	0.39	0.34	0.32	0.31	0.26	0.24	0.22	0.20	0.20	0.17	0.16	0.15	0.14	0.12	0.09	
<b>3</b>	0.35	0.32	0.32	0.28	0.25	0.25	0.21	0.20	0.18	0.17	0.17	0.14	0.12	0.12	0.11	0.10	0.07	
<b>4</b>	0.30	0.28	0.27	0.24	0.22	0.21	0.18	0.17	0.16	0.14	0.14	0.11	0.11	0.08	0.07	0.07	0.06	
<b>5</b>	0.29	0.26	0.24	0.22	0.20	0.18	0.16	0.15	0.14	0.12	0.12	0.10	0.08	-	-	-	-	
<b>6</b>	0.26	0.24	0.24	0.22	0.18	0.18	0.15	0.15	0.12	0.10	0.08	0.08	-	-	-	-	-	
<b>7</b>	0.24	0.21	0.22	0.20	0.17	0.16	0.14	0.12	0.11	0.10	-	-	-	-	-	-	-	
<b>8</b>	0.23	0.20	0.20	0.18	0.15	0.15	0.13	0.11	0.08	0.08	-	-	-	-	-	-	-	
<b>9</b>	0.22	0.19	0.19	0.17	0.14	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	
<b>10</b>	0.19	0.18	0.18	0.16	0.13	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-	
<b>11</b>	0.18	0.17	0.16	0.14	0.12	0.11	0.10	-	-	-	-	-	-	-	-	-	-	
<b>12</b>	0.16	0.15	0.15	0.13	0.12	0.08	0.08	-	-	-	-	-	-	-	-	-	-	
<b>13</b>	0.15	0.14	0.12	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	
<b>14</b>	0.13	0.13	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-	-	
<b>15</b>	0.13	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>16</b>	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEEDE</b>	3.82	3.52	3.19	2.87	2.53	2.23	1.92	1.60	1.25	1.13	0.93	0.81	0.65	0.52	0.48	0.43	0.33	

green background are standard items all other sizes can make specials

**W - External Whitworth threads**

TP	4	4.5	5	6	7	8	9	10	11	12	14	16	18	19	20	26	28	
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>																	
<b>1</b>	0.49	0.46	0.45	0.38	0.37	0.32	0.30	0.29	0.28	0.28	0.24	0.24	0.23	0.22	0.21	0.19	0.18	
<b>2</b>	0.46	0.43	0.43	0.36	0.35	0.30	0.28	0.27	0.26	0.26	0.22	0.22	0.22	0.22	0.21	0.18	0.17	
<b>3</b>	0.38	0.38	0.38	0.30	0.29	0.24	0.23	0.22	0.22	0.22	0.18	0.19	0.19	0.18	0.17	0.15	0.14	
<b>4</b>	0.36	0.33	0.32	0.26	0.25	0.21	0.20	0.19	0.19	0.18	0.15	0.16	0.16	0.14	0.14	0.12	0.12	
<b>5</b>	0.34	0.29	0.28	0.22	0.22	0.19	0.18	0.17	0.16	0.16	0.13	0.13	0.13	0.12	0.11	0.08	0.08	
<b>6</b>	0.31	0.25	0.25	0.21	0.19	0.17	0.15	0.15	0.14	0.14	0.11	0.11	0.08	0.08	0.08	-	-	
<b>7</b>	0.29	0.24	0.22	0.19	0.18	0.15	0.14	0.14	0.13	0.13	0.09	0.08	-	-	-	-	-	
<b>8</b>	0.27	0.22	0.20	0.17	0.16	0.14	0.13	0.13	0.12	0.08	0.08	-	-	-	-	-	-	
<b>9</b>	0.24	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.08	-	-	-	-	-	-	-	-	
<b>10</b>	0.22	0.18	0.18	0.15	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	
<b>11</b>	0.20	0.17	0.17	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	-	
<b>12</b>	0.19	0.16	0.15	0.14	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	
<b>13</b>	0.17	0.15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>14</b>	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>15</b>	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>16</b>	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEEDE</b>	4.29	3.82	3.44	2.90	2.50	2.17	1.93	1.76	1.58	1.45	1.20	1.13	1.01	0.96	0.92	0.72	0.69	

green background are standard items all other sizes can make specials

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

**UN - External UN threads**

TP	4	4.5	5	6	7	8	9	10	11	12	13	14	16	18	20	24	28	32
<b>NO. OF INFEEDS</b>	<b>RADIAL INFEED PER PASS</b>																	
1	0.47	0.45	0.43	0.36	0.35	0.30	0.28	0.27	0.27	0.27	0.25	0.23	0.22	0.23	0.20	0.19	0.17	0.17
2	0.44	0.41	0.40	0.34	0.33	0.28	0.26	0.26	0.25	0.26	0.24	0.22	0.21	0.21	0.19	0.17	0.15	0.15
3	0.40	0.39	0.36	0.27	0.26	0.25	0.21	0.20	0.20	0.20	0.18	0.17	0.16	0.16	0.15	0.14	0.11	0.13
4	0.36	0.31	0.31	0.23	0.22	0.21	0.20	0.17	0.19	0.18	0.17	0.15	0.14	0.14	0.12	0.12	0.09	0.08
5	0.32	0.26	0.26	0.22	0.21	0.18	0.17	0.16	0.16	0.15	0.14	0.13	0.13	0.12	0.10	0.08	0.08	-
6	0.27	0.23	0.23	0.20	0.19	0.16	0.15	0.15	0.14	0.13	0.12	0.11	0.11	0.08	0.08	-	-	-
7	0.25	0.21	0.20	0.18	0.17	0.14	0.14	0.14	0.12	0.12	0.11	0.10	0.08	-	-	-	-	-
8	0.23	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.11	0.08	0.08	0.08	-	-	-	-	-	-
9	0.22	0.18	0.19	0.15	0.14	0.12	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-
10	0.21	0.17	0.18	0.14	0.12	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-	-
11	0.19	0.16	0.17	0.13	0.11	0.11	0.08	-	-	-	-	-	-	-	-	-	-	-
12	0.18	0.15	0.15	0.12	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	-
13	0.16	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL INFEED</b>	4.07	3.62	3.29	2.71	2.33	2.08	1.84	1.66	1.52	1.39	1.29	1.19	1.05	0.94	0.84	0.70	0.60	0.53

green background are standard items all other sizes can make specials

**NPT - External NPT threads**

TP	8	11.5	14	18	27
<b>NO. OF INFEEDS</b>	<b>RADIAL INFEED PER PASS</b>				
1	0.28	0.25	0.24	0.22	0.19
2	0.25	0.22	0.22	0.18	0.15
3	0.22	0.18	0.17	0.15	0.13
4	0.19	0.16	0.15	0.14	0.11
5	0.18	0.16	0.14	0.13	0.09
6	0.18	0.14	0.13	0.12	0.08
7	0.17	0.14	0.12	0.10	-
8	0.17	0.12	0.10	0.08	-
9	0.16	0.12	0.10	-	-
10	0.16	0.10	0.08	-	-
11	0.14	0.09	-	-	-
12	0.13	0.08	-	-	-
13	0.12	-	-	-	-
14	0.11	-	-	-	-
15	0.08	-	-	-	-
<b>TOTAL INFEED</b>	2.54	1.76	1.45	1.12	0.75

green background are standard items all other sizes can make specials

**BSPT - British tapered pipe threads**

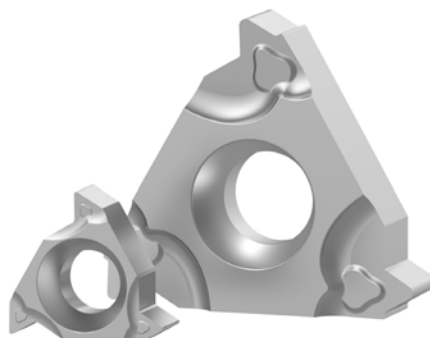
TP	11	14	19	28
<b>NO. OF INFEEDS</b>	<b>RADIAL INFEED PER PASS</b>			
1	0.25	0.24	0.22	0.17
2	0.23	0.20	0.19	0.14
3	0.21	0.17	0.15	0.11
4	0.18	0.14	0.12	0.10
5	0.16	0.12	0.12	0.06
6	0.14	0.12	0.06	-
7	0.13	0.11	-	-
8	0.12	0.06	-	-
9	0.06	-	-	-
<b>TOTAL INFEED</b>	1.58	1.20	0.86	0.58

green background are standard items all other sizes can make specials



Catalogue Preview

2022



**THREADING Internal threads**

Inserts Micro	.00
Holder Micro	.00
Inserts ISO 11 - 16 - 22	.00
Holder ISO 11 - 16 - 22	.00
Table "Number of passes"	.00

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Internal</h1>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD												
	<h2>Micro 07</h2>	<b>JP5125</b>												
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▲ suitable													
	<b>Dimensions</b>	<b>ISO</b>												
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>												
		<table border="1"> <tr><td><b>P</b></td><td>60 180</td></tr> <tr><td><b>M</b></td><td>60 120</td></tr> <tr><td><b>K</b></td><td>80 150</td></tr> <tr><td><b>N</b></td><td></td></tr> <tr><td><b>S</b></td><td>30 60</td></tr> <tr><td><b>H</b></td><td></td></tr> </table>	<b>P</b>	60 180	<b>M</b>	60 120	<b>K</b>	80 150	<b>N</b>		<b>S</b>	30 60	<b>H</b>	
<b>P</b>	60 180													
<b>M</b>	60 120													
<b>K</b>	80 150													
<b>N</b>														
<b>S</b>	30 60													
<b>H</b>														

Designation		RE	TP	PDX	PDY	IC	Stock
PARTIAL PROFILE	<b>60° P M K S</b>  <b>TPM pressed type</b> chip control oriented	0.08	A60	0.7	0.6	4.762	●
	<b>07IRA60-TPM</b>						
PARTIAL PROFILE	<b>55° P M K S</b>  <b>TPG pressed type</b> ground profile	0.08	A55	0.7	0.6	4.762	●
	<b>07IRA55-TPG</b>						

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

Catalogue Preview - AMB

**PARTIAL PROFILE**

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

**PARTIAL PROFILE 07IR**

	M	UN
A60	0.50÷1.50	48÷16
<b>BSW-BSF-BSP</b>		
A55	48÷16	

<h1>V SI</h1>		
<h2>Micro 07</h2>		
<ul style="list-style-type: none"> <li>• Internal threading holder</li> <li>• Vortex boring bar (High standard steel)</li> <li>• Special chip evacuation path</li> <li>• With coolant through</li> </ul>		

Designation	Stock		DMIN	DCON	WF	LF	LH	GAMO			MIID
	L	R									
<b>NT-V10H-SI/07-08</b>		●	8	10	4	100	20	21°			07IR <sub>∞</sub>

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

Spare parts	Insert screw	Flag wrench
	<b>NT-V10H-SI/07-08</b>	 NT-ST22049T07

Catalogue Preview - AMB 2022

**INTERNAL THREAD** right-hand

Insert: IR    Rotation: counterclockwise  
Holder: R    Direction: towards chuck

**INTERNAL THREAD** left-hand

Insert: IR    Rotation: counterclockwise  
Holder: R    Direction: from chuck

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Internal</h1> <h2>ISO 11-16-22</h2>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF	HF	BL	DP				
					PVD	PVD	PVD					
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	● ○	● ○	● ○	● ○	● ○				
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
			<b>P</b> 60 200	<b>60</b> 180	<b>M</b> 60 140	<b>60</b> 120	<b>K</b> 80 170	<b>80</b> 150	<b>N</b> 500 1500	<b>S</b> 30 70	<b>30</b> 60	<b>50</b> 100

FULL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▼
<p>TPM pressed type chip control oriented</p>	11IR100ISO-TPM	0.07	1	0.7	0.8	6.35	●			
	11IR125ISO-TPM	0.09	1.25	0.9	0.8	6.35	●			
	11IR150ISO-TPM	0.11	1.5	1	0.8	6.35	●			
	11IR175ISO-TPM	0.13	1.75	1.1	0.9	6.35	●			
	11IR200ISO-TPM	0.15	2	1.1	0.9	6.35	●			
	16IR100ISO-TPM	0.07	1	0.7	0.8	9.525	●	●		
	16IR125ISO-TPM	0.09	1.25	0.9	0.8	9.525	●	●		
	16IR150ISO-TPM	0.11	1.5	1	0.8	9.525	●	●		
	16IR175ISO-TPM	0.13	1.75	1.2	1.2	9.525	●	●		
	16IR200ISO-TPM	0.15	2	1.3	1.2	9.525	●	●		
	16IR250ISO-TPM	0.18	2.5	1.5	1.2	9.525	●	●		
	16IR300ISO-TPM	0.22	3	1.5	1.2	9.525	●	●		
	22IR350ISO-TPM	0.22	3.5	2.3	1.6	12.7	●			
	22IR400ISO-TPM	0.25	4	2.3	1.6	12.7	●			
	22IR450ISO-TPM	0.28	4.5	2.4	1.6	12.7	●			
	22IR500ISO-TPM	0.32	5	2.3	1.6	12.7	●			

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

**FULL PROFILE**



- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

**PRESSED VS GROUND**

**TPM pressed**

- Improve the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

**Precision ground**

- Reach the highest precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

<h1>Internal</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP	
	<h2>ISO 11-16-22</h2>					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable								
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable								
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable								
<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
		<b>P</b>	60 200	60 180					
		<b>M</b>	60 140	60 120					
		<b>K</b>	80 170	80 150					
		<b>N</b>			500 1500				
		<b>S</b>	30 70	30 60	50 100				
		<b>H</b>			60 160				

Designation		RE	TP	PDX	PDY	IC	Stock						
<b>FULL PROFILE</b>  precision ground sharpness oriented	<b>M P M K S</b>	11R050ISO	0.036	0.5	0.6	0.6	6.35	●					
		11R075ISO	0.05	0.75	0.6	0.6	6.35	●					
		11R100ISO	0.072	1	0.7	0.6	6.35	●					
		11R125ISO	0.09	1.25	0.9	0.8	6.35	●					
		11R150ISO	0.11	1.5	1	0.8	6.35	●					
		11R175ISO	0.13	1.75	1.1	0.9	6.35	●					
		11R200ISO	0.15	2	1.3	1	6.35	●					
		16R100ISO	0.072	1	0.7	0.6	9.525	●					
		16R125ISO	0.09	1.25	0.9	0.8	9.525	●					
		16R150ISO	0.11	1.5	1	0.8	9.525	●					
		16R175ISO	0.13	1.75	1.2	0.9	9.525	●					
		16R200ISO	0.14	2	1.3	1	9.525	●					
		16R250ISO	0.18	2.5	1.5	1.1	9.525	●					
		16R300ISO	0.22	3	1.5	1.1	9.525	●					
<b>FULL PROFILE</b>  precision ground left-hand	<b>M P M K S</b>	11L050ISO	0.036	0.5	0.6	0.6	6.35	●					
		11L075ISO	0.05	0.75	0.6	0.6	6.35	●					
		11L100ISO	0.072	1	0.7	0.6	6.35	●					
		11L125ISO	0.09	1.25	0.9	0.8	6.35	●					
		11L150ISO	0.11	1.5	1	0.8	6.35	●					
		11L175ISO	0.13	1.75	1.1	0.9	6.35	●					
		11L200ISO	0.14	2	1.3	1	6.35	●					
		16L100ISO	0.072	1	0.7	0.6	9.525	●					
		16L125ISO	0.09	1.25	0.9	0.8	9.525	●					
		16L150ISO	0.11	1.5	1	0.8	9.525	●					
		16L175ISO	0.13	1.75	1.2	0.9	9.525	●					
		16L200ISO	0.14	2	1.3	1	9.525	●					
		16L250ISO	0.18	2.5	1.5	1.1	9.525	●					
		16L300ISO	0.22	3	1.5	1.1	9.525	●					

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

**FULL PROFILE**

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

**PRESSED VS GROUND**

**TPM pressed**

- Improve the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

**Precision ground**

- Reach the highest precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

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F - ACCESSORIES

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<h1>Internal</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP																																																					
	<h2>ISO 11-16-22</h2>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable	<b>JP5120</b> <b>JP5125</b> <b>NBL350C</b> <b>ND050</b>																																																										
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																																																										
	<table border="1"> <tr> <td><b>P</b></td> <td>60 200</td> <td>60 180</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>M</b></td> <td>60 140</td> <td>60 120</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>K</b></td> <td>80 170</td> <td>80 150</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>N</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>500 1500</td> <td></td> <td></td> </tr> <tr> <td><b>S</b></td> <td>30 70</td> <td>30 60</td> <td></td> <td></td> <td></td> <td>50 100</td> <td></td> <td></td> </tr> <tr> <td><b>H</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>60 160</td> <td></td> <td></td> </tr> </table>	<b>P</b>	60 200	60 180							<b>M</b>	60 140	60 120							<b>K</b>	80 170	80 150							<b>N</b>						500 1500			<b>S</b>	30 70	30 60				50 100			<b>H</b>						60 160								
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<b>H</b>						60 160																																																							

Designation		RE	TP	PDX	PDY	IC	Stock			
<b>FULL PROFILE</b>  PCD carbide backed single edge	<b>M N</b> 16IR100ISO-1C	0.08	1	0.7	0.8	9.525				●
	16IR125ISO-1C	0.09	1.25	0.9		9.525				●
	16IR150ISO-1C	0.11	1.5	1		9.525				●
	16IR175ISO-1C	0.13	1.75	1.2		9.525				●
	16IR200ISO-1C	0.15	2	1.3		9.525				●
	16IR250ISO-1C	0.18	2.5	1.5		9.525				●
	16IR300ISO-1C	0.22	3	1.5		9.525				●
<b>FULL PROFILE</b>  PCBN solid brazing single edge	<b>M H</b> 16IR100ISO-1S	0.08	1	0.7	0.8	9.525				●
	16IR125ISO-1S	0.09	1.25	0.9		9.525				●
	16IR150ISO-1S	0.11	1.5	1		9.525				●
	16IR175ISO-1S	0.13	1.75	1.2		9.525				●
	16IR200ISO-1S	0.15	2	1.3		9.525				●
	16IR250ISO-1S	0.18	2.5	1.5		9.525				●
	16IR300ISO-1S	0.22	3	1.5		9.525				●
<b>FULL PROFILE</b>  TPM pressed type chip control oriented	<b>W P M K S</b> 11IR14W-TPM	0.24	14	1.1	0.9	6.35	●			
	16IR11W-TPM	0.3	11	1.5	1.2	9.525	●	●		
	16IR14W-TPM	0.24	14	1.5	1.2	9.525	●	●		
	16IR19W-TPM	0.17	19	1	0.8	9.525	●			
<b>FULL PROFILE</b>  TPM pressed type chip control oriented	<b>UN P M K S</b> 16IR08UN-TPM	0.23	8	1.7	1.3	9.525	●			
	16IR12UN-TPM	0.16	12	1.5	1.2	9.525	●			
	16IR14UN-TPM	0.13	14	1.5	1.2	9.525	●			
	16IR16UN-TPM	0.12	16	1.1	0.9	9.525	●			
	16IR18UN-TPM	0.1	18	1	0.8	9.525	●			
	16IR20UN-TPM	0.09	20	0.9	0.8	9.525	●			
	16IR24UN-TPM	0.08	24	0.8	0.8	9.525	●			

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

**FULL PROFILE**

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

**ADVANCED THREADING**

**PCBN for ISO H**

Please increase the number of passes when machining hardened steel with PCBN inserts. Keep the maximum infeed value lower than 0.10 mm

**PRESSED VS GROUND**

**TPM pressed**

- Improve the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

**Precision ground**

- Reach the highest precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

<h1>Internal</h1> <h2>ISO 11-16-22</h2>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP
					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable					
	<b>Dimensions</b>		<b>ISO</b>					
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>						
		<b>P</b>	60 200	60 180				
<b>M</b>	60 140	60 120						
<b>K</b>	80 170	80 150						
<b>N</b>					500 1500			
<b>S</b>	30 70	30 60			50 100			
<b>H</b>					60 160			

Designation		RE	TP	PDX	PDY	IC	Stock				
FULL PROFILE	<b>NPT P M K S</b>										
	16IR11.5NPT-TPM	0.25	11.5	1.5	1.2	9.525	●				
	16IR14NPT-TPM	0.22	14	1.5	1.2	9.525	●				
	16IR18NPT-TPM	0.2	18	1	0.8	9.525	●				
FULL PROFILE	<b>NPT P M K S</b>										
	16IR11.5NPT	0.07	11.5	1.5	1.1	9.525	●				
	16IR14NPT	0.06	14	1	0.8	9.525	●				
FULL PROFILE	<b>BSPT P M K S</b>										
	16IR11BSPT-TPM	0.3	11	1.5	1.2	9.525	●				
	16IR14BSPT-TPM	0.24	14	1.5	1.2	9.525	●				
	16IR19BSPT-TPM	0.17	19	1	0.8	9.525	●				
	16IR28BSPT-TPM	0.11	28	0.8	0.7	9.525	●				
PARTIAL PROFILE	<b>60° P M K S</b>										
	11IRA60-TPM	0.08	A60	0.9	0.8	6.35	●				
	16IRA60-TPM	0.08	A60	0.9	0.8	9.525	●				
	16IRAG60-TPM	0.08	AG60	1.5	1.1	9.525	●				
	16IRG60-TPM	0.13	G60	1.7	1.2	9.525	●				
	22IRN60-TPM	0.25	N60	2.5	1.7	12.7	●				

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

### FULL PROFILE

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

### PRESSED VS GROUND

**TPM pressed**

- Improve the chip control
- Strongly recommended in internal application especially for difficult materials
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**Precision ground**

- Reach the highest precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

### PARTIAL PROFILE

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

### PARTIAL PROFILE 60°

	M	UN
A60	0.50±1.50	48±16
AG60	0.50÷3.00	48÷8
G60	1.75÷3.00	14÷8
N60	3.50÷5.00	7÷5

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

<h1>Internal</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP
	<h2>ISO 11-16-22</h2>					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	○		○	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	●	○	●	
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice	⚡ suitable		⚡	⚡	⚡	
<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
		<b>P</b>	60 200	60 180				
		<b>M</b>	60 140	60 120				
		<b>K</b>	80 170	80 150				
		<b>N</b>					500 1500	
		<b>S</b>	30 70	30 60			50 100	
		<b>H</b>					60 160	

PARTIAL PROFILE	55° P M K S	Designation	RE	TP	PDX	PDY	IC	Stock			
								●	○	▲	▽
<p>TPM pressed type chip control oriented</p>		11IRA55-TPM	0.08	A55	0.9	0.8	6.35	●			
		16IRA55-TPM	0.08	A55	0.9	0.8	9.525	●			
		16IRAG55-TPM	0.08	AG55	1.5	1.1	9.525	●			
		16IRG55-TPM	0.21	G55	1.7	1.2	9.525	●			
		22IRN55-TPM	0.44	N55	2.5	1.7	12.7	●			

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

Catalogue Preview - AMP

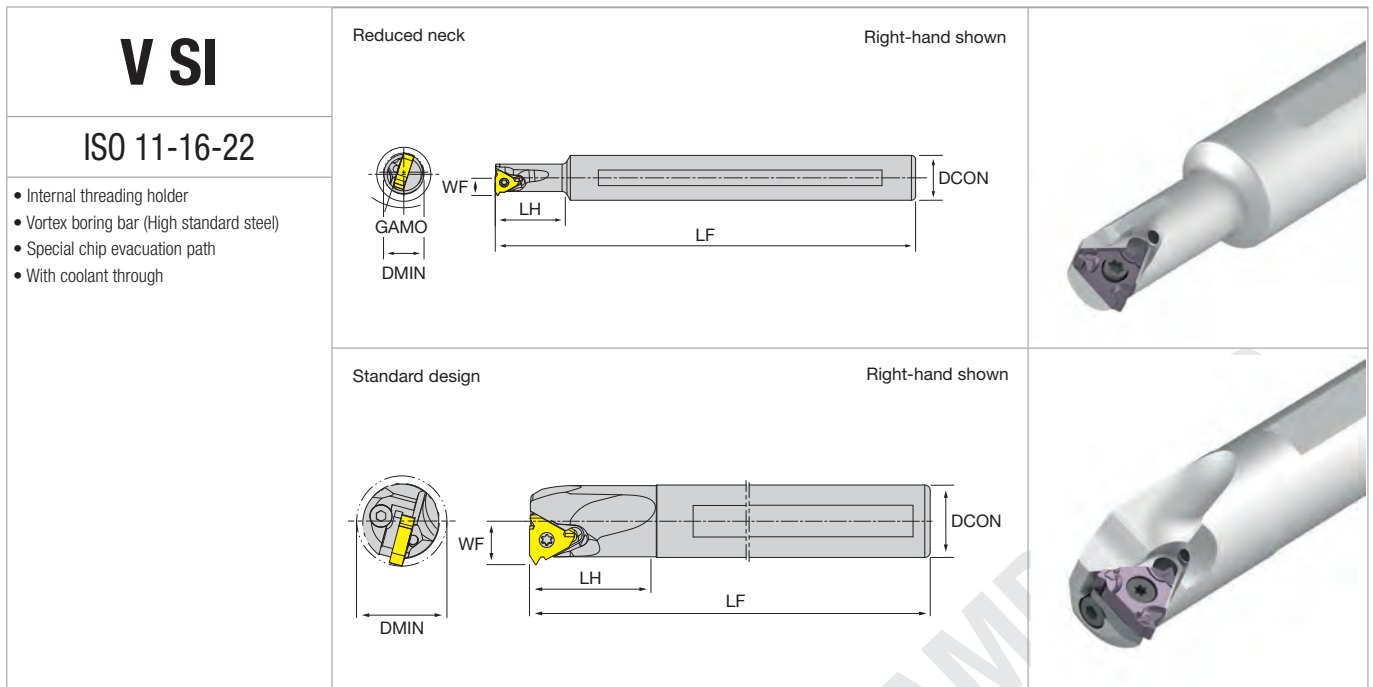
**PARTIAL PROFILE**

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

**PARTIAL PROFILE 55°**

	BSW-BSF-BSP
<b>A55</b>	48±16
<b>AG55</b>	48÷8
<b>G55</b>	14÷8
<b>N55</b>	7÷5

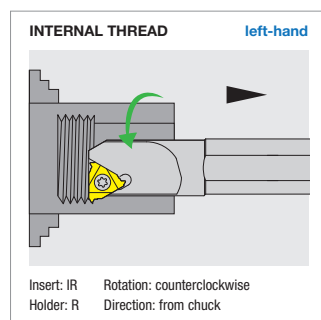
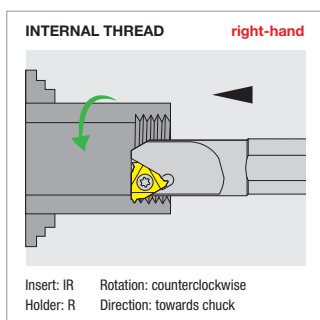




Designation	Stock		DMIN	DCON	WF	LF	LH	GAMO			MIID
	L	R									
<b>REDUCED NECK</b>											
NT-V16M-SI $\frac{1}{2}$ /R11-12		●	12	16	6.3	150	25	18°			11IR $\infty$
NT-V16M-SI $\frac{1}{2}$ /R11-15		●	15	16	7.5	150	25	18°			11IR $\infty$
<b>STANDARD DESIGN</b>											
NT-V10M-SI $\frac{1}{2}$ /R11-10		●	10	10	5.2	150	25	21°			11IR $\infty$
NT-V16M-SI $\frac{1}{2}$ /R16-20		●	20	16	10	150	35	15°			16IR $\infty$
NT-V20Q-SI $\frac{1}{2}$ /R16-24		●	24	20	12	180	35	15°			16IR $\infty$
NT-V25R-SI $\frac{1}{2}$ /R16-30		●	30	25	15	200	35	15°			16IR $\infty$
NT-V32S-SI $\frac{1}{2}$ /R16-37		●	37	32	18.5	250	35	15°			16IR $\infty$

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

Spare parts	Shim	Locking screw	L wrench	Insert screw	Flag wrench
NT-V $\infty$ M-SIR11- $\infty$	-	-	-	NT-ST25059T08	NT-FT08
NT-V16M-SIR16-20	-	-	-	NT-ST35089T15	NT-FT15
NT-V20Q-SIR16-24	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15
NT-V25R-SIR16-30	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15
NT-V32S-SIR16-37	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

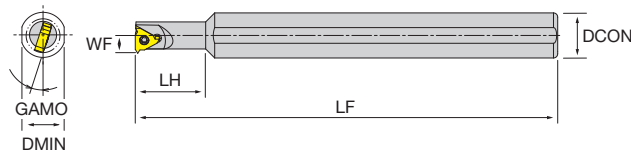
## SI

### ISO 11-16-22

- Internal threading holder
- Steel boring bar
- Without coolant through
- Small diameters with reduced neck

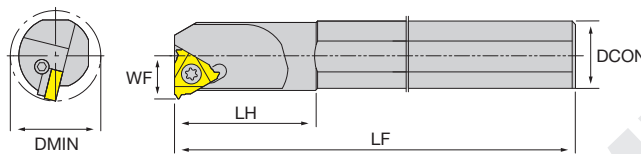
Reduced neck

Right-hand shown



Standard design

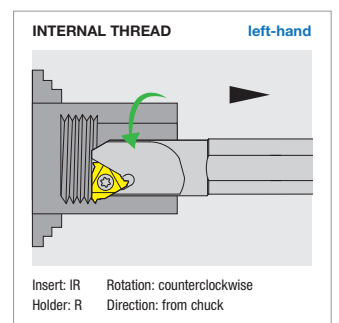
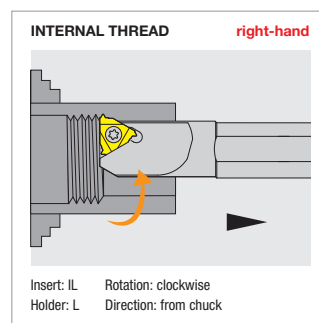
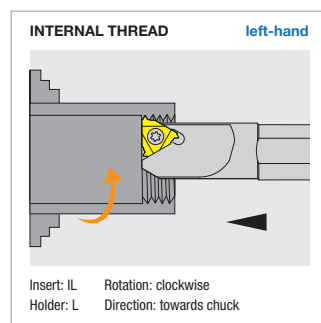
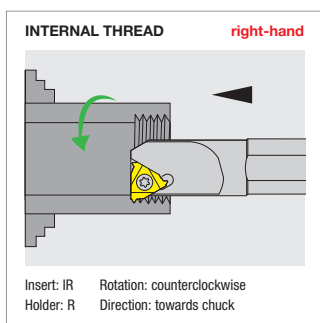
Right-hand shown



Designation	Stock		DMIN	DCON	WF	LF	LH	GAMO			MIID
	L	R									
<b>REDUCED NECK</b>											
NT-SI <sup>L</sup> /R1012-11		●	10	12	5.2	150	25	21°			11IR <sup>000</sup>
NT-SI <sup>L</sup> /R1216-11		●	12	16	6.3	150	25	18°			11IR <sup>000</sup>
NT-SI <sup>L</sup> /R1516-11		●	15	16	7.5	150	25	15°			11IR <sup>000</sup>
<b>STANDARD DESIGN</b>											
NT-SI <sup>L</sup> /R2016-16	●	●	20	16	10	150	35	15°			16IL/R <sup>000</sup>
NT-SI <sup>L</sup> /R2420S-16	●	●	24	20	12	180	35	15°			16IL/R <sup>000</sup>
NT-SI <sup>L</sup> /R3025S-16	●	●	30	25	15	200	35	15°			16IL/R <sup>000</sup>
NT-SI <sup>L</sup> /R3732S-16	●	●	37	32	18.5	250	35	15°			16IL/R <sup>000</sup>
NT-SI <sup>L</sup> /R3025S-22		●	30	25	16	200	35	15°			22EL/R <sup>000</sup>
NT-SI <sup>L</sup> /R3732S-22		●	37	32	19.5	250	35	15°			22EL/R <sup>000</sup>
NT-SI <sup>L</sup> /R4440S-22		●	44	40	24.5	300	35	15°			22EL/R <sup>000</sup>

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

Spare parts	Shim	Shim	Locking screw	L wrench	Insert screw	Flag wrench
NT-SI <sup>L</sup> /R <sup>0000</sup> -11					NT-ST25069T08	NT-FT08
NT-SI <sup>L</sup> /R <sup>0000</sup> -16	-	-	-	-	NT-ST35089T15	NT-FT15
NT-SIL <sup>0000</sup> S-16	NT-SH060	-	NT-SC003	NT-WR025	NT-ST35115T15	NT-FT15
NT-SIR <sup>0000</sup> S-16	-	NT-SH065	NT-SC003	NT-WR025	NT-ST35115T15	NT-FT15
NT-SIR <sup>0000</sup> S-22	-	NT-SH067	NT-SC004	NT-WR030	NT-ST40140T15	NT-FT15



**M - Internal ISO-metric threads**

TP	6.00	5.50	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.75	1.50	1.25	1.00	0.80	0.75	0.70	0.50	
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>																	
<b>1</b>	0.46	0.43	0.42	0.37	0.34	0.32	0.28	0.26	0.23	0.22	0.20	0.17	0.17	0.17	0.16	0.13	0.10	
<b>2</b>	0.43	0.40	0.40	0.34	0.31	0.30	0.26	0.25	0.21	0.20	0.18	0.17	0.15	0.14	0.13	0.12	0.08	
<b>3</b>	0.35	0.33	0.32	0.28	0.24	0.24	0.21	0.18	0.17	0.15	0.15	0.14	0.11	0.11	0.10	0.10	0.07	
<b>4</b>	0.30	0.26	0.26	0.23	0.21	0.19	0.16	0.15	0.15	0.13	0.13	0.10	0.09	0.07	0.07	0.07	0.06	
<b>5</b>	0.26	0.22	0.22	0.21	0.18	0.17	0.14	0.13	0.12	0.10	0.11	0.09	0.08	-	-	-	-	
<b>6</b>	0.22	0.20	0.20	0.19	0.15	0.15	0.13	0.12	0.11	0.09	0.08	0.08	-	-	-	-	-	
<b>7</b>	0.20	0.18	0.17	0.16	0.14	0.14	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	
<b>8</b>	0.19	0.17	0.16	0.15	0.13	0.13	0.11	0.10	0.08	0.08	-	-	-	-	-	-	-	
<b>9</b>	0.18	0.16	0.16	0.14	0.12	0.12	0.10	0.10	-	-	-	-	-	-	-	-	-	
<b>10</b>	0.16	0.15	0.15	0.13	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	-	-	
<b>11</b>	0.15	0.14	0.14	0.12	0.11	0.10	0.09	-	-	-	-	-	-	-	-	-	-	
<b>12</b>	0.15	0.14	0.14	0.12	0.10	0.08	0.08	-	-	-	-	-	-	-	-	-	-	
<b>13</b>	0.14	0.13	0.12	0.11	0.10	-	-	-	-	-	-	-	-	-	-	-	-	
<b>14</b>	0.13	0.12	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-	-	
<b>15</b>	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>16</b>	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEEDE</b>	3.54	3.25	2.96	2.65	2.33	2.05	1.78	1.48	1.17	1.05	0.85	0.75	0.60	0.49	0.46	0.42	0.31	

green background are standard items all other sozes can make specials

**W - Internal Whitworth threads**

TP	4	4.5	5	6	7	8	9	10	11	12	14	16	18	19	20	26	28	
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>																	
<b>1</b>	0.49	0.46	0.45	0.38	0.37	0.32	0.30	0.29	0.28	0.28	0.24	0.24	0.23	0.22	0.21	0.19	0.18	
<b>2</b>	0.46	0.43	0.43	0.36	0.35	0.30	0.28	0.27	0.26	0.26	0.22	0.22	0.22	0.22	0.21	0.18	0.17	
<b>3</b>	0.38	0.38	0.38	0.30	0.29	0.24	0.23	0.22	0.22	0.22	0.18	0.19	0.19	0.18	0.17	0.15	0.14	
<b>4</b>	0.36	0.33	0.32	0.26	0.25	0.21	0.20	0.19	0.19	0.18	0.15	0.16	0.16	0.14	0.14	0.12	0.12	
<b>5</b>	0.34	0.29	0.28	0.22	0.22	0.19	0.18	0.17	0.16	0.16	0.13	0.13	0.13	0.12	0.11	0.08	0.08	
<b>6</b>	0.31	0.25	0.25	0.21	0.19	0.17	0.15	0.15	0.14	0.14	0.11	0.11	0.08	0.08	0.08	-	-	
<b>7</b>	0.29	0.24	0.22	0.19	0.18	0.15	0.14	0.14	0.13	0.13	0.09	0.08	-	-	-	-	-	
<b>8</b>	0.27	0.22	0.20	0.17	0.16	0.14	0.13	0.13	0.12	0.08	0.08	-	-	-	-	-	-	
<b>9</b>	0.24	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.08	-	-	-	-	-	-	-	-	
<b>10</b>	0.22	0.18	0.18	0.15	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	
<b>11</b>	0.20	0.17	0.17	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	-	
<b>12</b>	0.19	0.16	0.15	0.14	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	
<b>13</b>	0.17	0.15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>14</b>	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>15</b>	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>16</b>	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEEDE</b>	4.29	3.82	3.44	2.90	2.50	2.17	1.93	1.76	1.58	1.45	1.20	1.13	1.01	0.96	0.92	0.72	0.69	

green background are standard items all other sozes can make specials

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

**UN - Internal UN threads**

TP	4	4.5	5	6	7	8	9	10	11	12	13	14	16	18	20	24	28	32
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>																	
1	0.44	0.41	0.42	0.35	0.34	0.30	0.28	0.27	0.27	0.27	0.25	0.23	0.22	0.23	0.20	0.18	0.17	0.17
2	0.41	0.38	0.38	0.33	0.32	0.28	0.26	0.25	0.23	0.23	0.20	0.18	0.18	0.17	0.16	0.15	0.14	0.14
3	0.39	0.34	0.33	0.25	0.24	0.22	0.19	0.18	0.18	0.18	0.15	0.14	0.14	0.14	0.13	0.13	0.09	0.10
4	0.33	0.28	0.27	0.21	0.21	0.18	0.16	0.15	0.15	0.15	0.13	0.13	0.12	0.12	0.10	0.10	0.08	0.08
5	0.28	0.23	0.23	0.18	0.17	0.15	0.14	0.13	0.13	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.08	-
6	0.24	0.20	0.20	0.16	0.15	0.13	0.13	0.12	0.11	0.11	0.11	0.10	0.09	0.08	0.08	-	-	-
7	0.22	0.19	0.18	0.15	0.14	0.12	0.12	0.11	0.11	0.10	0.10	0.09	0.08	-	-	-	-	-
8	0.21	0.18	0.17	0.14	0.13	0.11	0.11	0.10	0.10	0.08	0.08	0.08	-	-	-	-	-	-
9	0.20	0.17	0.16	0.13	0.12	0.11	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-
10	0.18	0.16	0.15	0.12	0.12	0.10	0.09	0.08	-	-	-	-	-	-	-	-	-	-
11	0.17	0.15	0.14	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-
12	0.16	0.14	0.14	0.11	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	-
13	0.15	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	0.14	0.13	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL INFEEDE</b>	3.74	3.32	2.99	2.46	2.13	1.88	1.66	1.49	1.36	1.25	1.14	1.06	0.93	0.84	0.76	0.64	0.56	0.49

green background are standard items all other sizes can make specials

**NPT - Internal NPT threads**

TP	8	11.5	14	18	27.0
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>				
1	0.28	0.28	0.28	0.28	0.28
2	0.25	0.25	0.25	0.25	0.25
3	0.22	0.22	0.22	0.22	0.22
4	0.19	0.19	0.19	0.19	0.19
5	0.18	0.18	0.18	0.18	0.18
6	0.18	0.18	0.18	0.18	0.18
7	0.17	0.17	0.17	0.17	0.17
8	0.17	0.17	0.17	0.17	0.17
9	0.16	0.16	0.16	0.16	0.16
10	0.16	0.16	0.16	0.16	0.16
11	0.14	0.14	0.14	0.14	0.14
12	0.13	0.13	0.13	0.13	0.13
13	0.12	0.12	0.12	0.12	0.12
14	0.11	0.11	0.11	0.11	0.11
15	0.08	0.08	0.08	0.08	0.08
<b>TOTAL INFEEDE</b>	2.54	1.76	1.45	1.12	0.75

green background are standard items all other sizes can make specials

**BSPT - British tapered pipe threads**

TP	11	14	19	28
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>			
1	0.25	0.24	0.22	0.17
2	0.23	0.20	0.19	0.14
3	0.21	0.17	0.15	0.11
4	0.18	0.14	0.12	0.10
5	0.16	0.12	0.12	0.06
6	0.14	0.12	0.06	-
7	0.13	0.11	-	-
8	0.12	0.06	-	-
9	0.06	-	-	-
<b>TOTAL INFEEDE</b>	1.58	1.20	0.86	0.58

green background are standard items all other sizes can make specials

ISO 513	MATERIAL	HARDNESS HB	JP5120			JP5125			
			min	start	max	min	start	max	
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	● 110	155	200	○ 100	140	180	
			● 90	130	170	● 80	115	150	
			⚙ 60	90	120	⚙ 60	90	120	
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	● 90	110	170	○ 80	120	160	
			● 80	110	140	● 70	95	120	
			⚙ 60	80	100	⚙ 60	80	100	
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	● 80	110	150	○ 70	100	140	
			● 70	95	130	● 65	85	120	
			⚙ 60	70	100	⚙ 60	70	100	
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	● 90	115	140	○ 80	100	120	
			● 80	95	110	● 70	80	90	
			⚙ 60	70	80	⚙ 60	70	80	
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	● 50	65	80	○ 50	60	70	
			● 40	55	60	● 40	55	60	
			⚙ 40	50	55	⚙ 40	50	55	
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	● 65	100	130	○ 60	85	110	
			● 60	80	100	● 55	70	80	
			⚙ 50	60	70	⚙ 50	60	70	
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		● 55	70	85	○ 50	65	80	
			● 50	60	70	● 45	60	70	
			⚙ 40	50	60	⚙ 40	50	60	
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	● 110	150	190	○ 100	140	180	
			● 90	135	160	● 80	115	150	
			⚙ 60	90	120	⚙ 60	90	120	
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	● 90	130	170	○ 80	120	160	
			● 80	105	130	● 70	95	120	
			⚙ 60	80	100	⚙ 60	80	100	
K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	● 80	115	150	○ 70	105	140	
			● 70	100	130	● 60	90	120	
			⚙ 50	75	100	⚙ 50	75	100	
ISO 513	MATERIAL	HARDNESS HB	ND050 (NDP001)						
			min	start	max				
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		● 600	1300	2000				
			● 450	1100	1750				
			⚙ 400	1000	1600				
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		● 400	600	800				
			● 350	500	650				
			⚙ 250	400	550				
N3	Copper alloy (ex. 2.0060/E-Cu57)		● 400	800	1200				
			● 350	700	1050				
			⚙ 300	600	900				
S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		● 50	75	100				
			● 45	60	75				
			⚙ 40	50	60				

- A - TURNING
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- C - GROOVING
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- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

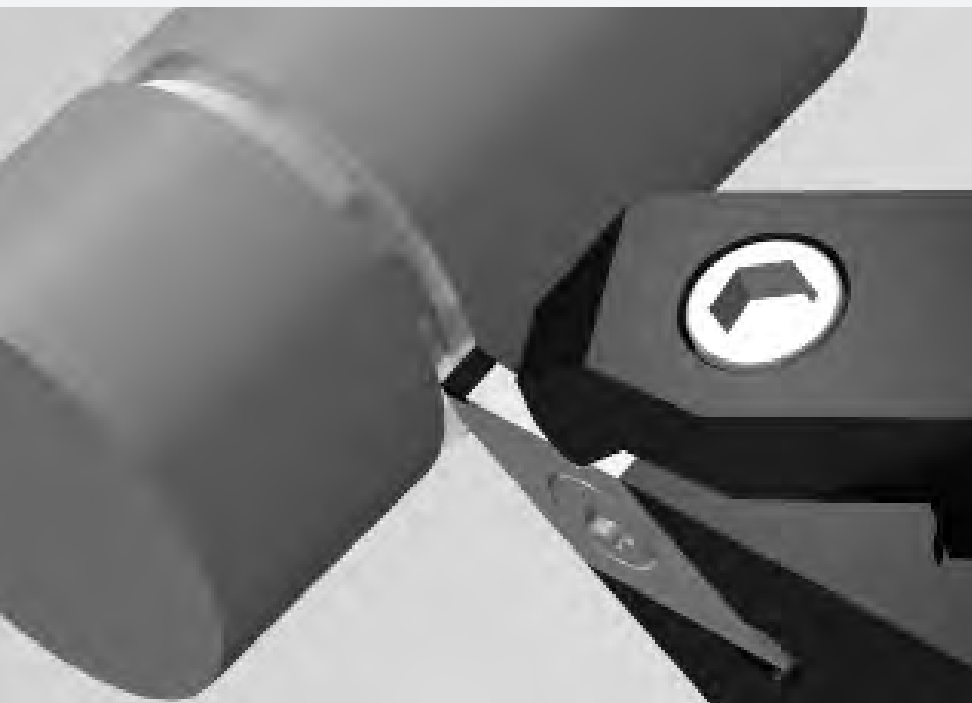
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

ISO 513	MATERIAL	HARDNESS HB	NBL350C				
			min	start	max		
H1	Case-hardened steel (ex. 1.7131/16 MnCr 5)	50 ÷ 56	● 80	<b>120</b>	160		
			● 70	<b>110</b>	150		
			⚙ 60	<b>100</b>	140		
H2	Bearing steel, quenched and tempered steel (ex. 1.3505/100 Cr 6)	54 ÷ 62	● 80	<b>110</b>	140		
			● 70	<b>100</b>	130		
			⚙ 60	<b>90</b>	120		
H3	Hardened tool steel (ex. 1.2436/X 210 CrW 12/2312)	60 ÷ 65	● 70	<b>90</b>	110		
			● 60	<b>80</b>	100		
			⚙ 50	<b>70</b>	90		

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## GROOVING

Grade table	.C2
Grade details	.C3
Quick guide	.C4
NDB	.C5
NCG	.C13
BGF	.C15

# GROOVING Grade table

ISO 513	CARBIDE			PCBN	DIAMOND
	CVD COATED	PVD COATED	UNCOATED	UNCOATED	PCD
A - TURNING P	P01				
	P10	JC8025	JPS120		
	P20		JPS125		
	P30		JPS130		
	P40				
Steel					
B - THREADING M	M01				
	M10		JPS120		
	M20		JPS125		
	M30		JPS130		
	M40				
Stainless steel					
C - GROOVING K	K01			MBH450U	
	K10	JC7010	JPS120		
	K20		JPS125		
	K30				
Cast iron					
D - MILLING N	N01				
	N10			JUG015	ND120
	N20				
	N30				
Non ferrous materials					
E - DRILLING H	H01				
	H10				
	H20			MBH450U	
	H30			MB350	
Hardened steel					
F - ACCESSORIES G - SPARE PARTS					

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GRADE	SUBSTRATE	HARDNESS HV	COATING		APPLICATION	FEATURES
			TECHNOLOGY	COMPOSITION		
<b>JC7010</b>	carbide	1.830	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub>	<b>K</b> K05 K25	High wear resistance. First choice for grey cast iron general machining.
<b>JC8025</b>	carbide	1.700	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub> +TiN	<b>P</b> P20 P30	All around grade suitable for a wide range of applications. Excellent reliability even on medium interruptions.
<b>JP5120</b>	micrograin carbide	1.830	PVD	TiAlN	<b>P</b> P10 P20	Special coating technology balances wear resistance and toughness. The post-coating surface treatment effectively inhibit built-up edge.
					<b>M</b> M10 M20	
					<b>K</b> K10 K20	
<b>JP5125</b>	micrograin carbide	1.830	PVD	TiAlN	<b>P</b> P20 P30	High Co micrograin carbide substrate with high toughness and latest coating technology. Universal use with great reliability and long tool life.
					<b>M</b> M20 M30	
					<b>K</b> K20 K30	
<b>JP5130</b>	micrograin carbide	1.830	PVD	TiAlN	<b>P</b> P20 P35	High toughness substrate combined with super-smooth coating designed for precision applications.
					<b>M</b> M20 M35	
<b>JU6015</b>	micrograin carbide	1.950	-	-	<b>N</b> N10 N20	Uncoated carbide for universal use, from finishing to roughing, on non ferrous materials.
<b>NB350</b>	Low volume CBN 75%	3.400	-	-	<b>H</b> H20 H35	Hardened steel machining with a perfect combination between toughness and wear resistance. Available only for BGF system.
<b>NBH450U</b>	High volume CBN 95%	4.400	-	-	<b>K</b> K01 K20	Gray cast iron machining at very high cutting condition and with great wear resistance. Available only for BGF system.
<b>ND120</b>	diamond 95%	6.000	-	-	<b>N</b> N10 N30	High productivity grooving of non ferrous materials. Available only for BGF system.

Catalogue

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F - ACCESSORIES

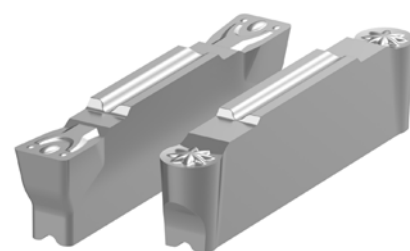
G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING**
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- F - ACCESSORIES
- G - SPARE PARTS

	<b>NDB</b>	<b>NCG</b>	<b>BGF</b>
	000	000	000
	 EXTERNAL   INTERNAL	 EXTERNAL   INTERNAL	 EXTERNAL
Pressed type inserts	✓	✗	✗
Ground type inserts	✓	✓	✓
Available sizes (CW)	02 / 03 / 04 / 05 / 06 / 08	1.10 ÷ 2.15	1.00 ÷ 4.00
Maximum depth (CDX)	14 / 20 / 25 / 25 / 30 / 30	1.30 ÷ 1.85	1.80 ÷ 4.50
Coolant holes	✓	✗	✗
Workpiece material	<b>P M K N S</b>	<b>P M</b>	<b>N H</b>
No. of corners	2	3	1
No. of geometries	6	1	2
Special features	All-around system	Can be installed on threading tool holders	Easy tailor-made
Grooving	✓	✓	✓
Turning	✓	✗	✗
Profiling	✓	✗	✗
Cut-off	✓	✗	✗
Versatility	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ □
Strength	■ ■ ■ ■ □	■ ■ ■ □ □	■ ■ ■ ■ ■
Precision	■ ■ ■ □ □	■ ■ ■ ■ ■	■ ■ ■ ■ □
Finishing	■ ■ ■ ■ □	■ ■ ■ ■ □	■ ■ ■ ■ □
Range	■ ■ ■ ■ □	■ ■ ■ □ □	■ ■ ■ □ □

Catalogue Preview

MB 2022



## GROOVING NDB

Inserts .C6

Holdings .C8

Parameters .C10

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

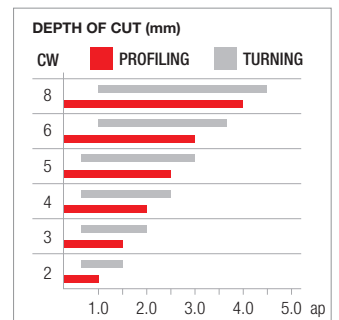
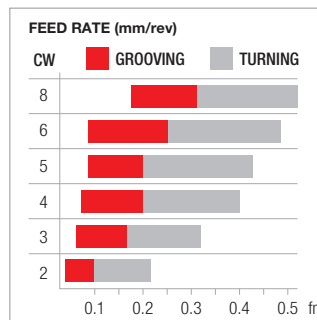
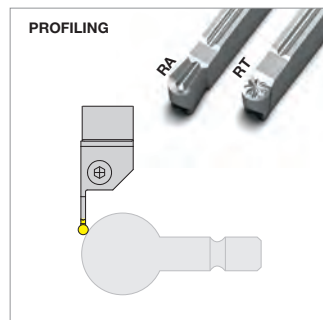
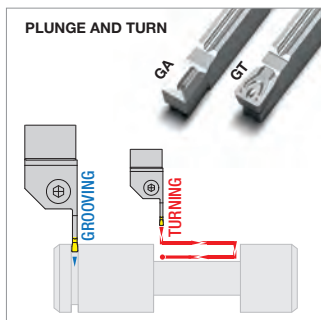
F - ACCESSORIES

G - SPARE PARTS

<h1>NDBD</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition					HC	HC	HF	HF	HF						
	CVD PVD					CVD	CVD	PVD	PVD	PVD						
<h2>NDB system</h2>						<b>JC7010</b>	<b>JC8025</b>	<b>JP5120</b>	<b>JP5125</b>	<b>JU6015</b>						
<ul style="list-style-type: none"> <li>• Double sided grooving insert</li> <li>• Available for PMKNS materials</li> <li>• Max. grooving depth depends on INSL value and holder specifications</li> <li>• Improved holding system, automatically positioned, reliable and efficient</li> </ul>						Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable		General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable		Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable						
						<b>Dimensions</b>						<b>ISO</b>				
												<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
<b>P</b>	140 300	60 200	60 180													
	<b>M</b>		60 140	60 120												
	<b>K</b>	180 380	80 170	80 150												
	<b>N</b>			500 1500												
	<b>S</b>		30 70	30 60												
	<b>H</b>															

	Designation	CW	CWTOL	RE	INSL	S	Stock				
<b>PLUNGE AND TURN</b>  straight edge pressed type	<b>GT P M K S</b> NDBD20R02M-GT	2	±0.050	0.2	16	3.5	●	●	●		
	NDBD30R04M-GT	3	±0.050	0.4	21	4.8	●	●	●		
	NDBD40R04M-GT	4	±0.050	0.4	21	4.8	●	●	●		
	NDBD50R04M-GT	5	±0.050	0.4	26	5.8	●	●	●		
	NDBD60R08M-GT	6	±0.050	0.8	26	5.8	●	●	●		
	NDBD80R08M-GT	8	±0.050	0.8	31	6.5	●	●			
<b>PLUNGE AND TURN</b>  ALU straight edge ground and polished	<b>GA N</b> NDBD20R02G-GA	2	±0.025	0.2	16	3.5				●	
	NDBD30R04G-GA	3	±0.025	0.4	21	4.8				●	
	NDBD40R04G-GA	4	±0.025	0.4	21	4.8				●	
<b>PROFILING</b>  full radius edge pressed type	<b>RT P M K S</b> NDBD20R10M-RT	2	±0.050	1	16	3.5				●	
	NDBD30R15M-RT	3	±0.050	1.5	21	4.8				●	
	NDBD40R20M-RT	4	±0.050	2	21	4.8	●			●	
	NDBD50R25M-RT	5	±0.050	2.5	26	5.8	●			●	
	NDBD60R30M-RT	6	±0.050	3	26	5.8	●			●	
	NDBD80R40M-RT	8	±0.050	4	31	6.5				●	
<b>PROFILING</b>  ALU full radius edge ground and polished	<b>RA N</b> NDBD20R10G-RA	2	±0.025	1	16	3.5				●	
	NDBD30R15G-RA	3	±0.025	1.5	21	4.8				●	
	NDBD40R20G-RA	4	±0.025	2	21	4.8				●	

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

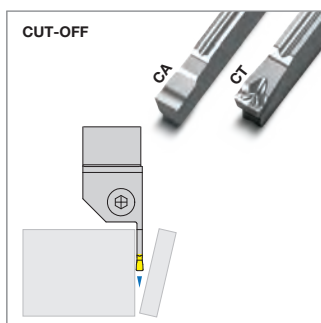


<h1>NDBD</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition					HC	HC	HF	HF	HF	
						CVD	CVD	PVD	PVD		
NDB system							<b>JC7010</b>	<b>JC8025</b>	<b>JP5120</b>	<b>JP5125</b>	<b>JU6015</b>
<ul style="list-style-type: none"> <li>• Double sided grooving insert</li> <li>• Available for PMKNS materials</li> <li>• Max. grooving depth depends on INSL value and holder specifications</li> <li>• Improved holding system, automatically positioned, reliable and efficient</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	○	●	○	●	
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊖ suitable	⊕	⊖				⊕	⊖	
	<b>Dimensions</b>		<b>ISO</b>					<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>P</b>	140 300	60 200	60 180						
		<b>M</b>		60 140	60 120						
		<b>K</b>	180 380	80 170	80 150						
		<b>N</b>				500 1500					
		<b>S</b>		30 70	30 60						
		<b>H</b>									

	Designation	CW	CWTOL	RE	INSL	S	Stock				
CUT-OFF <b>CT P M</b>	NDBD20R02M-CT	2	±0.050	0.2	16	3.5			▲	▲	
	NDBD30R02M-CT	3	±0.050	0.2	21	4.8			▲	▲	
CUT-OFF <b>CA N</b>	NDBD20R02M-CA	2	±0.025	0.2	16	3.5				▲	
	NDBD30R02G-CA	3	±0.025	0.2	21	4.8				▲	

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

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FEED RATE (mm/rev)	
CW	Material
3	CA Steel: 0.06 ÷ 0.10
	CT Stainless Steel: 0.08 ÷ 0.12
	CT Aluminium: 0.10 ÷ 0.18
2	CA Steel: 0.04 ÷ 0.08
	CT Stainless Steel: 0.06 ÷ 0.10
	CT Aluminium: 0.08 ÷ 0.14

0.05 0.10 0.15 0.20 fn

A - TURNING

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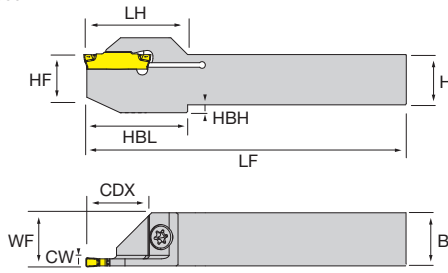
A - TURNING  
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# NDB E

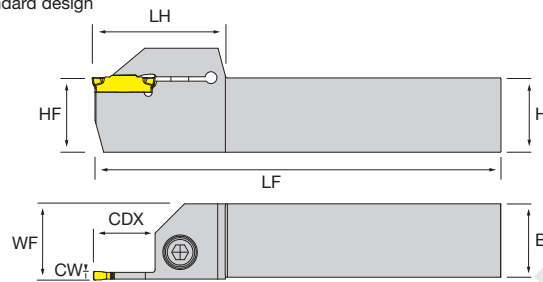
## NDB system

- External holders for NDB double sided grooving insert
- Different grooving depth (CDX) available for different groove width
- Clamp fastened and loosened by screw
- Improved holding system, automatically positioned, reliable and efficient

Radial reinforced



Standard design



Designation	Stock		CW	CDX	H	B	WF	LF	LH	HF	HBL	HBH
	L	R										
WITH RADIAL REINFORCEMENT												
NDB E $\frac{1}{2}$ 1212-2-CDX14	●	●	2	14	12	12	12.2	120	25	12	24	2
NDB E $\frac{1}{2}$ 1616-2-CDX14	●	●	2	14	16	16	16.2	120	25	16	24	2
NDB E $\frac{1}{2}$ 1616-3-CDX20	●	●	3	20	16	16	16.3	120	31	16	30	2
STANDARD DESIGN												
NDB E $\frac{1}{2}$ 2020-2-CDX14	●	●	2	14	20	20	21	125	38	20	-	-
NDB E $\frac{1}{2}$ 1616-3-CDX10	●	●	3	10	16	16	16.2	120	35	16	-	-
NDB E $\frac{1}{2}$ 2020-3-CDX10	●	●	3	10	20	20	21	125	38	20	-	-
NDB E $\frac{1}{2}$ 2020-3-CDX20	●	●	3	20	20	20	21	125	40	20	-	-
NDB E $\frac{1}{2}$ 2525-3-CDX10	●	●	3	10	25	25	26	150	40	25	-	-
NDB E $\frac{1}{2}$ 2525-3-CDX20	●	●	3	20	25	25	26	150	45	25	-	-
NDB E $\frac{1}{2}$ 2020-4-CDX10	●	●	4	10	20	20	21	125	35	20	-	-
NDB E $\frac{1}{2}$ 2020-4-CDX25	●	●	4	25	20	20	21	125	50	20	-	-
NDB E $\frac{1}{2}$ 2525-4-CDX10	●	●	4	10	25	25	26	150	40	25	-	-
NDB E $\frac{1}{2}$ 2525-4-CDX25	●	●	4	25	25	25	26	150	50	25	-	-
NDB E $\frac{1}{2}$ 2525-5-CDX10	●	●	5	10	25	25	26	150	40	25	-	-
NDB E $\frac{1}{2}$ 2525-5-CDX25	●	●	5	25	25	25	26	150	50	25	-	-
NDB E $\frac{1}{2}$ 2525-6-CDX15	●	●	6	15	25	25	26	150	45	25	-	-
NDB E $\frac{1}{2}$ 2525-6-CDX30	●	●	6	30	25	25	26	150	56	25	-	-
NDB E $\frac{1}{2}$ 2525-8-CDX15	●	●	8	15	25	25	26.5	150	43	25	-	-
NDB E $\frac{1}{2}$ 2525-8-CDX30	●	●	8	30	25	25	27	150	55	25	-	-

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

Spare parts	Locking screw	Flag wrench	Locking screw	L wrench
NDB E $\frac{1}{2}$ 1212-2-CDX14	NT-ST076	NT-FT15	-	-
NDB E $\frac{1}{2}$ 1616-2-CDX14	NT-ST077	NT-FT15	-	-
NDB E $\frac{1}{2}$ 1616-3-CDX20	NT-ST077	NT-FT15	-	-
NDB E $\frac{1}{2}$ 1616-3-CDX10	-	-	NT-SC001	NT-WR040
NDB E $\frac{1}{2}$ 2020-○-CDX○	-	-	NT-SC001	NT-WR040
NDB E $\frac{1}{2}$ 2525-○-CDX○	-	-	NT-SC002	NT-WR040

<h1>NDB I</h1>	
<p><b>NDB system</b></p> <ul style="list-style-type: none"> <li>• Internal holders for NDB double-headed grooving insert</li> <li>• Vortex boring bar (High standard steel)</li> <li>• Special chip evacuation path</li> <li>• Clamp tightened by screw</li> </ul>	

Designation	Stock		CW	CDX	DMIN	DCON	WF	LF	OHN	GAMO	
	L	R									
NDB I/1620V-2-CDX04	●	●	2	4	20	16	11.5	150	25	15°	
NDB I/2025V-2-CDX06	●	●	2	6	25	20	14.5	180	30	15°	
NDB I/2025V-3-CDX06	●	●	3	6	25	20	14.5	180	30	15°	
NDB I/2532V-3-CDX08	●	●	3	8	32	25	19	200	40	15°	
NDB I/3240V-3-CDX10	●	●	3	10	40	32	23.5	200	50	15°	
NDB I/2532V-4-CDX08	●	●	4	8	32	25	19	220	40	15°	
NDB I/3240V-4-CDX10	●	●	4	10	40	32	23.5	220	50	15°	

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

Spare parts	Locking screw	L wrench
NDB I/1620V-2-CDX04	NT-ST40115T15	NT-TX15
NDB I/2025V-2-CDX06	NT-ST051	NT-TX20

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A - TURNING

ISO 513	MATERIAL	HARDNESS HB	JG8025			JP5120			JP5125		
			min	start	max	min	start	max	min	start	max
<b>P1 - P2</b>	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	○ 170	250	330	● 110	155	200	○ 100	140	180
			● 160	225	290	● 90	130	170	● 80	115	150
			⊕ 145	195	250				⊕ 60	90	120
<b>P3 - P4</b>	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	○ 150	220	290	● 90	110	170	○ 80	120	160
			● 140	205	270	● 80	110	140	● 70	95	120
			⊕ 130	190	250				⊕ 60	80	100
<b>P5 - P6</b>	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	○ 140	200	270	● 80	110	150	○ 70	100	140
			● 130	185	250	● 70	95	130	● 65	85	120
			⊕ 120	170	230				⊕ 60	70	100

B - THREADING

ISO 513	MATERIAL	HARDNESS HB	JP5120			JP5125					
			min	start	max	min	start	max	min	start	max
<b>P7</b>	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	● 90	115	140	○ 80	100	120			
			● 80	95	110	● 70	80	90			
						⊕ 60	70	80			
<b>P8</b>	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	● 50	65	80	○ 50	60	70			
			● 40	55	60	● 40	55	60			
						⊕ 40	50	55			
<b>M1</b>	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	● 65	100	130	○ 60	85	110			
			● 60	80	100	● 55	70	80			
						⊕ 50	60	70			
<b>M2 - M3</b>	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		● 55	70	85	○ 50	65	80			
			● 50	60	70	● 45	60	70			
						⊕ 40	50	60			

C - GROOVING

D - MILLING

ISO 513	MATERIAL	HARDNESS HB	JG7010			JP5120			JP5125		
			min	start	max	min	start	max	min	start	max
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	● 180	280	380	● 110	150	190	○ 100	140	180
			● 150	275	300	● 90	135	160	● 80	115	150
			⊕ 130	195	260				⊕ 60	90	120
<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	● 150	200	250	● 90	130	170	○ 80	120	160
			● 130	165	215	● 80	105	130	● 70	95	120
			⊕ 120	160	200				⊕ 60	80	100
<b>K3 - K4</b>	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	● 140	190	240	● 80	115	150	○ 70	105	140
			● 120	165	210	● 70	100	130	● 60	90	120
			⊕ 110	155	200				⊕ 50	75	100

E - DRILLING

F - ACCESSORIES

ISO 513	MATERIAL	HARDNESS HB	JU6015								
			min	start	max	min	start	max	min	start	max
<b>N1</b>	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		● 500	1000	1500						
			● 300	550	800						
			⊕ 200	350	500						
<b>N2</b>	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		● 100	225	350						
			● 80	150	220						
			⊕ 60	80	100						

G - SPARE PARTS

ISO 513	MATERIAL	HARDNESS HB	JP5125								
			min	start	max	min	start	max	min	start	max
<b>S1 - S2 - S3</b>	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		● 30	40	50						
			● 20	30	40						
<b>S4 - S5</b>	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		● 40	50	60						
			● 30	40	50						



DESIGNATION		Grooving			Turning and Profiling						Cut-off		
		FEED RATE			DEPTH OF CUT			FEED RATE			FEED RATE		
		fn (mm/rev)			ap (mm)			fn (mm/rev)			fn (mm/rev)		
		min	start	max	min	start	max	min	start	max	min	start	max
STRAIGHT EDGE	NDBD20R020-Go	0.06	<b>0.08</b>	0.10	0.30	<b>0.90</b>	1.50	0.10	<b>0.13</b>	0.16	-	-	-
	NDBD30R040-Go	0.07	<b>0.10</b>	0.13	0.40	<b>1.20</b>	2.00	0.16	<b>0.18</b>	0.20	-	-	-
	NDBD40R040-Go	0.10	<b>0.12</b>	0.14	0.50	<b>1.50</b>	2.50	0.18	<b>0.21</b>	0.24	-	-	-
	NDBD50R040-Go	0.11	<b>0.15</b>	0.19	0.60	<b>1.80</b>	3.00	0.20	<b>0.25</b>	0.30	-	-	-
	NDBD60R080-Go	0.13	<b>0.19</b>	0.25	0.70	<b>2.10</b>	3.50	0.24	<b>0.33</b>	0.42	-	-	-
	NDBD80R080-Go	0.18	<b>0.26</b>	0.34	0.80	<b>2.65</b>	4.50	0.32	<b>0.44</b>	0.56	-	-	-
FULL RADIUS	NDBD20R10-Ro	0.06	<b>0.09</b>	0.12	0.00	<b>0.50</b>	1.00	0.18	<b>0.18</b>	0.18	-	-	-
	NDBD30R15-Ro	0.08	<b>0.11</b>	0.14	0.00	<b>0.75</b>	1.50	0.18	<b>0.23</b>	0.28	-	-	-
	NDBD40R20-Ro	0.10	<b>0.13</b>	0.16	0.00	<b>1.00</b>	2.00	0.20	<b>0.27</b>	0.34	-	-	-
	NDBD50R25-Ro	0.12	<b>0.16</b>	0.20	0.00	<b>1.25</b>	2.50	0.24	<b>0.33</b>	0.42	-	-	-
	NDBD60R30-Ro	0.13	<b>0.19</b>	0.25	0.00	<b>1.50</b>	3.00	0.24	<b>0.37</b>	0.50	-	-	-
	NDBD80R40-Ro	0.18	<b>0.26</b>	0.34	0.00	<b>2.00</b>	4.00	0.32	<b>0.49</b>	0.66	-	-	-
CONCAVE EDGE	NDBD20R02M-CA	-	-	-	-	-	-	-	-	-	0.04	<b>0.06</b>	0.08
	NDBD30R04M-CA	-	-	-	-	-	-	-	-	-	0.06	<b>0.08</b>	0.10
	NDBD20R02M-CT	-	-	-	-	-	-	-	-	-	0.06	<b>0.10</b>	0.14
	NDBD30R04M-CT	-	-	-	-	-	-	-	-	-	0.08	<b>0.13</b>	0.18

Catalogue Preview - AMM 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS



Catalogue Preview

2022



**GROOVING NCG**

Inserts .C14

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<h1 style="margin: 0;">NCG</h1>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD											
<h2 style="margin: 0;">Circlip Grooving</h2>		<b>JP5130</b>											
<ul style="list-style-type: none"> <li>Triple head top mounted grooving insert</li> <li>Available for P/M materials</li> <li>According to DIN 471/472</li> <li>Can share holders with 16IR/ER threading inserts</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable												
	<b>Dimensions</b>	<b>ISO</b>											
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="background-color: #e0f0ff;"><b>P</b></td><td>80 180</td></tr> <tr><td style="background-color: #fff9c4;"><b>M</b></td><td>60 140</td></tr> <tr><td style="background-color: #ffe0b2;"><b>K</b></td><td></td></tr> <tr><td style="background-color: #c8e6c9;"><b>N</b></td><td></td></tr> <tr><td style="background-color: #d7ccc8;"><b>S</b></td><td></td></tr> <tr><td style="background-color: #e0e0e0;"><b>H</b></td><td></td></tr> </table>	<b>P</b>	80 180	<b>M</b>	60 140	<b>K</b>		<b>N</b>		<b>S</b>		<b>H</b>
<b>P</b>	80 180												
<b>M</b>	60 140												
<b>K</b>													
<b>N</b>													
<b>S</b>													
<b>H</b>													

Designation		CW	CWTOL	CDX	RE	IC	Stock
EXTERNAL 	<b>P M</b> NCG16ER 110-010	1.1	0/+0.02	1.3	0.1	9.525	●
	NCG16ER 130-010	1.3	0/+0.02	1.6	0.1	9.525	●
	NCG16ER 160-010	1.6	0/+0.02	1.85	0.1	9.525	●
	NCG16ER 185-010	1.85	0/+0.02	1.85	0.1	9.525	●
	NCG16ER 215-010	2.15	0/+0.02	1.85	0.1	9.525	●
INTERNAL 	<b>P M</b> NCG16IR 110-010	1.1	0/+0.02	1.3	0.1	9.525	●
	NCG16IR 130-010	1.13	0/+0.02	1.6	0.1	9.525	●
	NCG16IR 160-010	1.6	0/+0.02	1.85	0.1	9.525	●
	NCG16IR 185-010	1.85	0/+0.02	1.85	0.1	9.525	●
	NCG16IR 215-010	2.15	0/+0.02	1.85	0.1	9.525	●

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

Catalogue Preview - AMB

**CIRCLIP RINGS**  
DIN 471 EXTERNAL

DIN 472 INTERNAL

**GROOVE TOLERANCES**

RING (S)	GROOVE (M)	TOLL.	INSERT
1.00	1.10	H13	NCG 16 <sup>ER/IR</sup> 110-010
1.20	1.30	H13	NCG 16 <sup>ER/IR</sup> 130-010
1.50	1.60	H13	NCG 16 <sup>ER/IR</sup> 160-010
1.75	1.85	H13	NCG 16 <sup>ER/IR</sup> 185-010
2.00	2.15	H13	NCG 16 <sup>ER/IR</sup> 215-010

**NCG cutting speed (m/min)**

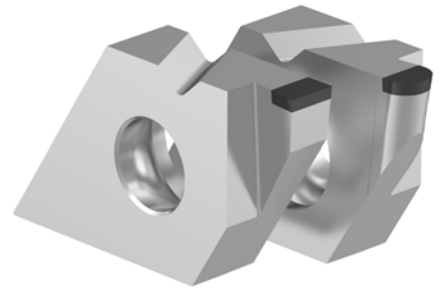
Grade	Material	Speed Range
P1-P2	Low carbon and soft steel	60÷180
P3-P4	Medium and high alloy steel	60÷160
P5-P6	High tensile strength steel	60÷140
P7	Ferritic stainless steel	60÷120
P8	PH stainless steel	40÷70
M1	Austenitic stainless steel	50÷110
M2-M3	Difficult stainless steel	40÷80

**NCG feed rate (mm/rev)**

	ER	IR
NCG 16 <sup>ER/IR</sup> 110-010	0.03÷0.07	0.01÷0.05
NCG 16 <sup>ER/IR</sup> 130-010	0.04÷0.08	0.02÷0.06
NCG 16 <sup>ER/IR</sup> 160-010	0.04÷0.08	0.02÷0.06
NCG 16 <sup>ER/IR</sup> 185-010	0.04÷0.10	0.03÷0.07
NCG 16 <sup>ER/IR</sup> 215-010	0.04÷0.10	0.03÷0.07

Catalogue Preview

2022



## GROOVING BGF

Inserts .C16

Holder .C17

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS


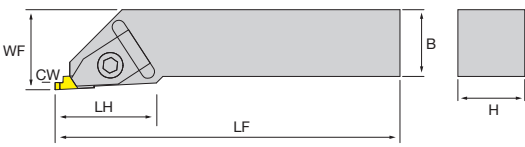
<h1>BGF</h1>	BL: Low volume CBN BH: High volume CBN DP: Polycrystalline diamond			BL	BH	DP
	Advanced Grooving				<b>MB350</b>	<b>MBH450U</b>
<ul style="list-style-type: none"> <li>Tangentially mounted brazed-tip advance material grooving inserts</li> <li>Available with PCD and CBN type for K / H or N materials</li> <li>Reliable and quick change grip system</li> </ul>		Stable machining, light cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable Unstable machining, heavy cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable				
		<b>Dimensions</b>		<b>ISO</b>		
				<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>		
				<b>P</b>		
				<b>M</b>		
				<b>K</b>	400 1200	
				<b>N</b>		500 2000
				<b>S</b>		
				<b>H</b>	60 160	60 160

Designation		CW	CWTOL	CDX	RE	IC	Stock		
LEFT-HAND 	<b>N H</b> BGFL 100-010	1	±0.050	1.8	0.1	12.7		○	
	BGFL 150-010	1.5	±0.050	2.6	0.1	12.7		○	
	BGFL 200-020	2	±0.050	3	0.2	12.7		○	
	BGFL 250-020	2.5	±0.050	3.5	0.2	12.7	▽	○	
	BGFL 300-020	3	±0.050	4.5	0.2	12.7		○	
	BGFL 350-020	3.5	±0.050	4.5	0.2	12.7	▽	○	
	BGFL 400-020	4	±0.050	4.5	0.2	12.7		○	
LEFT-HAND 	<b>FR N H</b> BGFL 100-050FR	1	±0.050	1.8	0.5	12.7		○	
	BGFL 150-075FR	1.5	±0.050	2.6	0.75	12.7		○	
	BGFL 200-100FR	2	±0.050	3	1	12.7		○	
	BGFL 250-125FR	2.5	±0.050	3.5	1.25	12.7		○	
	BGFL 300-150FR	3	±0.050	4.5	1.5	12.7		○	
	BGFL 350-175FR	3.5	±0.050	4.5	1.75	12.7		○	
	BGFL 400-200FR	4	±0.050	4.5	2	12.7		○	
RIGHT-HAND 	<b>N H</b> BGFR 100-010	1	±0.050	1.8	0.1	12.7	▽	○	○
	BGFR 150-010	1.5	±0.050	2.6	0.1	12.7		○	○
	BGFR 200-020	2	±0.050	3	0.2	12.7		○	○
	BGFR 250-020	2.5	±0.050	3.5	0.2	12.7	▽	○	○
	BGFR 300-020	3	±0.050	4.5	0.2	12.7		○	○
	BGFR 350-020	3.5	±0.050	4.5	0.2	12.7		○	○
	BGFR 400-020	4	±0.050	4.5	0.2	12.7		○	○
RIGHT-HAND 	<b>FR N H</b> BGFR 100-050FR	1	±0.050	1.8	0.5	12.7		○	○
	BGFR 150-075FR	1.5	±0.050	2.6	0.75	12.7		○	○
	BGFR 200-100FR	2	±0.050	3	1	12.7		○	○
	BGFR 250-125FR	2.5	±0.050	3.5	1.25	12.7		○	○
	BGFR 300-150FR	3	±0.050	4.5	1.5	12.7	▽	○	○
	BGFR 350-175FR	3.5	±0.050	4.5	1.75	12.7		○	○
	BGFR 400-200FR	4	±0.050	4.5	2	12.7		○	○

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






N1	Alluminium alloy Si ≤ 12%	450÷2400
N2	Alluminium alloy Si > 12%	250÷700
N3	Copper alloy	350÷1400
H1	Case-hardened steel	60÷150
H2	Bearing steel	60÷130
H3	Hardened tool steel	50÷100

	<b>N</b>	<b>H</b>
BGF <sup>FR</sup> / <sub>R</sub> 100	0.04÷0.12	0.04÷0.06
BGF <sup>FR</sup> / <sub>R</sub> 150	0.04÷0.12	0.04÷0.06
BGF <sup>FR</sup> / <sub>R</sub> 200	0.06÷0.14	0.04÷0.08
BGF <sup>FR</sup> / <sub>R</sub> 250	0.06÷0.14	0.04÷0.08
BGF <sup>FR</sup> / <sub>R</sub> 300	0.06÷0.14	0.04÷0.08
BGF <sup>FR</sup> / <sub>R</sub> 350	0.08÷0.16	0.06÷0.10
BGF <sup>FR</sup> / <sub>R</sub> 400	0.08÷0.16	0.06÷0.10


<h1>BGF-HLD</h1>	Right-hand shown	
<h2>Advanced Grooving</h2>		
<ul style="list-style-type: none"> <li>External holders for tangential mounted advanced grooving insert</li> <li>Clamp tightened by screw</li> </ul>		

Designation	Stock		H	B	WF	LF	LH				
	L	R									
BGF-HLD 1616 <sup>1/8</sup> /R		▽	16	16	30	150	45				
BGF-HLD 2020 <sup>1/8</sup> /R	●	●	20	20	30	150	45				
BGF-HLD 2525 <sup>1/8</sup> /R	●	●	25	25	30	150	45				

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

Spare parts	Insert screw	Flag wrench	Clamp	Clamp screw	L wrench
BGF-HLD ○○○R					
BGF-HLD ○○○L	NT-ST50110T20	NT-FT15	NT-CS300R	NT-SC300	NT-WR040
	NT-ST50110T20	NT-FT15	NT-CS300L	NT-SC300	NT-WR040

**RELIABLE CLAMPING**



1. Install the insert and screw lightly
2. Firmly fix the clamp
3. Screw tight the insert

A - TURNING

B - THREADING

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D - MILLING

E - DRILLING

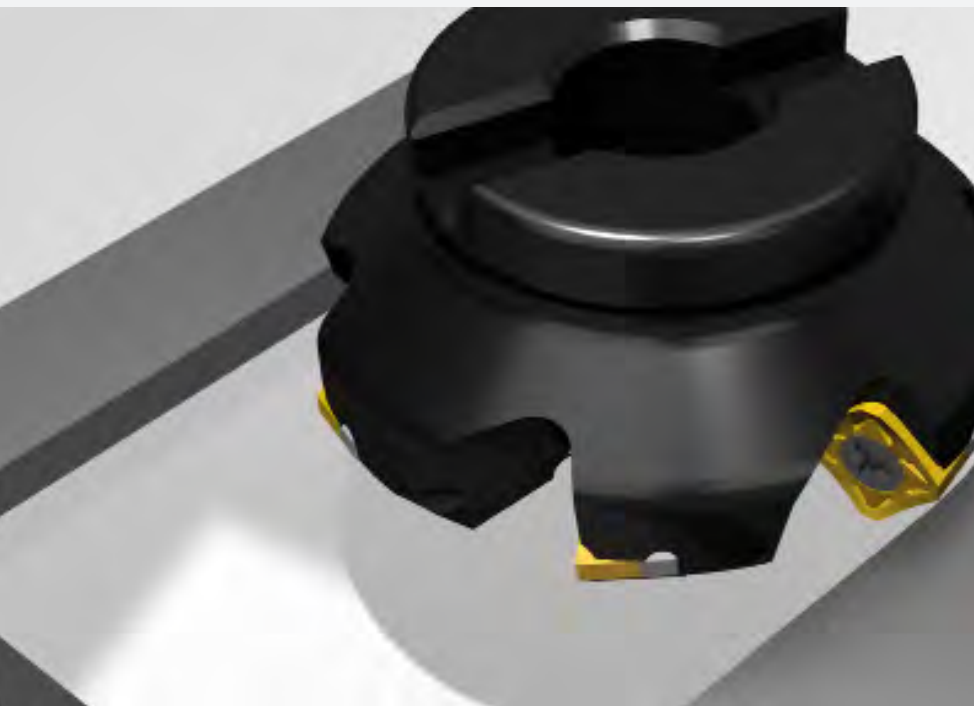
F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - NIKKO TOOLS - 2022







AMB 2022

## MILLING

- Grades table .D3
- Grades details .D4
- Grades cross reference .D6
- Application overview .D8
- Shouldering .D9
- Facing .D43
- High feed .D73
- Profiling .D83
- Chamfering .D97
- Advanced .D103



ISO 513	CARBIDE			GERMET	PCBN	DIAMOND	CERAMIC	
	CVD COATED	PVD COATED	UNCOATED	UNCOATED	UNCOATED	PCD	Si <sub>3</sub> N <sub>4</sub>	Al <sub>2</sub> O <sub>3</sub> mixed
<b>P</b> Steel	P01							
	P10	JC8520						
	P20							
	P30	JC8530	JP5530					
	P40		JP5540					
<b>M</b> Stainless steel	M01							
	M10							
	M20	JP9540	JP5530					
	M30		JP5540					
	M40		JP9535-JP9635					
<b>K</b> Cast iron	K01				NBH450U		NSM350	MAC200
	K10	JC7515	JP7615		NBH550U			
	K20	JC8520	JP7525		NBH900U		NSM400	
	K30	JC7530			NBH950U			
<b>N</b> Non ferrous material	N01		JP6525			ND150		
	N10			JU6520		ND120		
	N20							
	N30							
<b>S</b> Heat resistance alloy	S01							
	S10		JP9535-JP9635					
	S20	JP9540	JP9545					
	S30							
<b>H</b> Hardened steel	H01				NBH450U			
	H10				NBH900U			
	H20				NBH950U			
	H30							

A - TURNING
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A - TURNING

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GRADE	SUBSTRATE	HARDNESS HV	COATING		APPLICATION	FEATURES
			TECHNOLOGY	COMPOSITION		
<b>JC7515</b>	carbide	1.950	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub>	<b>K</b> K05 K20	MTCVD special coating with extreme wear resistance. Recommended for grey cast iron machining at high cutting speed.
<b>JC8520</b>	carbide	1.640	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub>	<b>P</b> P10 P20	High wear resistance on steel machining at high cutting speed, very good performance also in cast iron machining as a complementary solution.
					<b>K</b> K15 K25	
<b>JC9540</b>	carbide	1.560	CVD	TiCN+Al <sub>2</sub> O <sub>3</sub>	<b>M</b> M25 M40	Tough substrate with high stability at high temperature. High wear resistance on stainless steel and HRSA machining.
					<b>S</b> S20 S30	
<b>JP5530</b>	micrograin carbide	1.840	PVD	TiAlN	<b>P</b> P20 P40	Universal grade mainly for steel application but also available for ISO M and ISO K machining.
					<b>M</b> M25 M30	
					<b>K</b> K25 K30	
<b>JP5540</b>	carbide	1.560	PVD	TiAlSiN	<b>P</b> P35 P45	All-around solution with high reliability thanks to a special tough substrate with high stability at high temperature.
					<b>M</b> M30 M40	
					<b>S</b> S20 S30	
<b>JP6525</b>	micrograin carbide	1700	PVD	TiBCN	<b>N</b> N05 N25	High performance coated grade for non ferrous materials. Very low friction coefficient reduce adhesions and improve surface finishing.
<b>JP7525</b>	carbide	1.840	PVD	TiAlN	<b>K</b> K15 K35	First choice for ISO K machining with a predictable long tool life. Perfect performance both on gray and nodular cast iron.
<b>JP7615</b>	carbide	1.840	PVD	TiAlN	<b>K</b> K10 K20	A hard multilayered PVD coating for succesful milling of cast iron under stable conditions. Available only for RekPlus series.
<b>JP8625</b>	micrograin carbide	1.600	PVD	TiAlN	<b>P</b> P15 P25	Micrograin PVD grade for general machining of steel under various cutting conditions. Available only for RekPlus series.
<b>JP8725</b>	micrograin carbide	1.840	PVD	AlCrN	<b>P</b> P15 P30	First choiche for steel application. The new substrate contribute to a great performance increase compared to conventional product.
<b>JP9535</b>	micrograin carbide	1.640	PVD	TiAlN	<b>M</b> M20 M35	First choice for stainless steel machining under general cutting conditions. Also applicable on titanium thanks to a great stability at high temperature.
					<b>S</b> S15 S25	
<b>JP9635</b>	micrograin carbide	1.640	PVD	TiAlN	<b>M</b> M20 M35	Micrograin PVD grade for general machining of stainless steel under various cutting conditions. Available only for RekPlus series.
					<b>S</b> S15 S25	
<b>JP9545</b>	carbide	1.560	PVD	TiAlSiN	<b>M</b> M35 M45	Ultra tough substrate with high stability at high temperature. Perfect choice for difficult to cut materials under sever cutting conditions.
					<b>S</b> S25 S35	
<b>JU4525</b>	cermet	1.560	-	-	<b>P</b> P05 P15	Uncoated cermet for high speed machining of steel. Optimum solution for finishing application under stable conditions.
<b>JU6520</b>	micrograin carbide	1.560	-	-	<b>N</b> N10 N30	Uncoated grade for non ferrous materials. The micrograin substrate toughness allows the production of very sharp grinded cutting edges.
<b>NAC200</b>	Al <sub>2</sub> O <sub>3</sub> +TiCN	2.300	-	-	<b>K</b> K01 K20	Applicable for finishing application of cast iron and hardened steel in case of very stable cutting conditions.
					<b>H</b> H01 H20	

GRADE	SUBSTRATE	HARDNESS HV	COATING		APPLICATION	FEATURES
			TECHNOLOGY	COMPOSITION		
<b>NBH450U</b>	High volume CBN 95%	4.400	-	-	<b>K</b> K01 K20	First choice for gray cast iron finishing at very high cutting condition and with great wear resistance.
<b>NBH550U</b>	High volume CBN 80%	3.500	-	-	<b>K</b> K20 K30	First choice for gray cast iron roughing at very high cutting condition (until 2000 m/min). Productivity unattainable with conventional products.
<b>NBH900U</b>	High volume CBN 80%	3.500	-	-	<b>H</b> H25 H35	Universal grade for severe applications both on ISO K and ISO H materials. High reliability on roughing operations.
					<b>K</b> K25 K35	
<b>NBH950U</b>	High volume CBN 90%	4.000	-	-	<b>H</b> H30 H35	Extreme toughness mainly for cast iron machining but applicable, as alternative grade, even on hardened steel.
					<b>K</b> K30 K35	
<b>ND120</b>	diamond 95%	6.000	-	-	<b>N</b> N10 N30	First choice for all-around application on non ferrous materials.
<b>ND150</b> new name: <b>NBP302</b>	diamond 95%	7.000	-	-	<b>N</b> N05 N25	Multi-modal grade for a perfect combination between toughness and wear resistance. Good solution for high silicon aluminium and bi-metal applications.
<b>NSA6000</b>	SiAlON	1.800	-	-	<b>S</b> S10 S30	First choice for heat resistance super alloys (HRSA) machining with variable cutting conditions. Perfect balance between toughness and wear resistance.
<b>NSN350</b>	Si <sub>3</sub> N <sub>4</sub>	1.700	-	-	<b>K</b> K05 K20	High wear resistance for stable applications.
<b>NSN400</b>	Si <sub>3</sub> N <sub>4</sub>	1.700	-	-	<b>K</b> K05 K30	First choice for roughing machining of gray cast iron even with interrupted cut.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview

	ISO 513	nixkoTOOLS		ISCAR		KENNAMETAL		KYOCERA		MITSUBISHI			
		carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet		
A - TURNING	<b>P</b>	<b>P1 - P10</b>	JC8520	JU4525	IC5400	IC30N		KTPK20		TN100M			
		<b>P10 - P20</b>	JC8520 JP5530 JP8725	JU4525	IC5400 IC5500 IC808	IC30N		KTPK20	PR1225 PR1525	TN100M PV60M	MC7020 MP6120 VP15TF	NX2525	
		<b>P20 - P30</b>	JP5530 JP8725		IC5500 IC808 IC830		KCPK30 KC522M KC725M KCPM40		PR1225 PR1525		MP6130 VP20RT	NX4545	
		<b>P30 - P40</b>	JP5540		IC330 IC830 IC845		KC725M KCPK30 KCPM40		PR1230 PR1535		MP6130 VP30RT		
B - THREADING	<b>M</b>	<b>M1 - M10</b>			IC30N		KTPK20		TN100M PV60M		NX2525		
		<b>M10 - M20</b>	JP9535		IC808	IC30N	KC522M		PR1525		VP15TF	NX4545	
		<b>M20 - M30</b>	JC9540 JP9535		IC5820 IC380 IC830		KC522M KCPM40		CA6535 PR1525 PR1535		MC7020 MP7130 VP20RT		
		<b>M30 - M40</b>	JC9540 JP5540 JP9535 JP9545		IC5820 IC830 IC840 IC882		KC725M KCPM40 KCSM40		CA6535 PR1535		MP7140 VP30RT		
C - GROOVING	<b>K</b>	<b>K01 - K10</b>	JC7515 JC8520		IC5100	IC30N	KCK15	KTPK20	PR1210 PR1510	TN100M PV60M	MC5020	NX2525	
		<b>K10 - K20</b>	JC7515 JC8520 JP7525 JP7615		IC5100 IC810		KCK15 KCK20		CA420M PR1210 PR1510		MC5020 MP8010		
		<b>K20 - K30</b>	JP7525		IC810		KCK20 KCPK30		CA420M PR1210 PR1510		VP15TF		
D - MILLING	<b>N</b>	<b>N01 - N10</b>	JP6525	-			KC410M	-	KW10	-		-	
		<b>N10 - N20</b>	JP6525 JU6525	-	IC28		KC410M K313	-	KW10 GW25	-	HT110 LC15TF	-	
		<b>N20 - N30</b>	JU6525	-	IC28		KC422M	-	GW25	-	TF15	-	
E - DRILLING	<b>S</b>	<b>HRSA</b>	<b>S01 - S10</b>	JC9540 JP5540	-	IC808						-	
			<b>S10 - S20</b>	JP9535 JP9635	-	IC830		KC522M KCSM30		CA6535 PR1535		MP9120	-
			<b>S20 - S30</b>	JC9540 JP5540	-	IC380 IC840		KC725M KCSM40		CA6535 PR1535		MP9130 VP15TF	-
		<b>TITANIUM</b>	<b>S01 - S10</b>		-								-
			<b>S10 - S20</b>	JP6525 JP9535 JU6520	-	IC28 IC808		KCSM30		GW25 PR1535		MP9120	-
			<b>S20 - S30</b>	JP9535	-	IC28 IC808		KCSM30 KCSM40		PR1535		MP9130 VP15TF	-

BLACK: CVD, UNDERLINED: PVD, RED: uncoated

Catalog Preview - AMB 2022

F - ACCESSORIES

G - SPARE PARTS

SANDVIK		SECO		SUMITOMO		TAEGUTEC		TUNGALOY		WALTER	
carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet	carbide	cermet
GC1010	CT530	MP1501	MP1020	ACP100	T2500A	TT2510	CT7000	AH110 AH710	NS740		
GC1130 GC4220	CT530	MP1501	MP1020	ACP100 ACP200	T2500A	TT7080	CT7000	AH725 T3225	NS740	WKP25S	
GC1130 GC4330		MP2501 MP3000 F40M		ACP200 ACP300 ACU2500		TT7080 TT8080		AH130 AH725 T3130 T3225		WKP25S WKP35G	
GC4340		F40M MM4500 T350M		ACP300		TT8080 TT8020 TT8525B		AH140 AH3135 T3130		WKP35G WSP45S	
	CT530		MP1020		T2500A		CT7000		NS740		
		MS2050		ACM200 ACU2500		TT9030 TT9080		AH725			
GC2030		F40M MP2050 MS2050		ACM200 ACP300		TT9080 TT8080		AH130 AH725 T3130 T3225		WSM35S	
GC1040 GC2040		F40M MP2050 MM4500 T350M		ACM300 ACP300		TT8080 TT8020		AH140 AH3135		WSM45X WSM35S WSP45S	
GC3220	CT530	MK1500	MP1020	ACK200	T2500A	TT2510	CT7000	T1115 T1215	NS740	WAK15	
GC1020 GC3220 GC3330		MK1500 MK2050 MP1501		ACK2000 ACK3000		TT6080 TT7515		AH120 T1115 T1215		WKP25S WKK25S	
GC1020 GC3040		MK2050		ACK3000		TT6080		AH120		WKP35S WKK25S	
H10	-	H15	-		-	K10	-	KS05F TH10	-	WK10	-
H10	-	H15	-	H20	-	K10	-	KS05F TH10	-	WK10 WXN15	-
	-	H25	-	H20	-		-		-		-
	-		-		-		-	AH120	-		-
GC1130 S30T	-	MS2500	-	ACM200	-	TT9540	-	AH725	-	WSM35S	-
S40T	-	MS2050 F40M	-	ACM300	-	TT9540	-		-	WSM45X	-
	-		-		-		-	AH120	-	WK10	-
GC1130 S30T	-	MS2500	-	ACM200	-	K10	-	AH725	-	WK10 WSM35S	-
S40T	-	MS2050 F40M	-	ACM300	-	TT3540	-		-	WSM45X	-

This table is our own estimation based on information available to the public and is not authorized by the company mentioned on it.

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

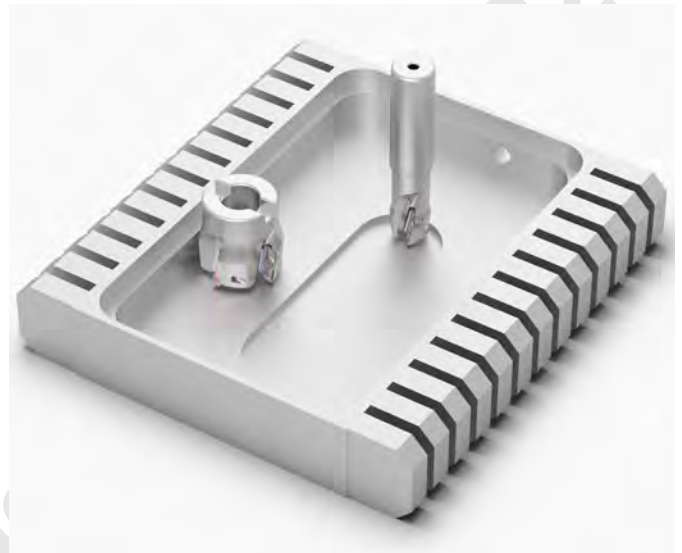
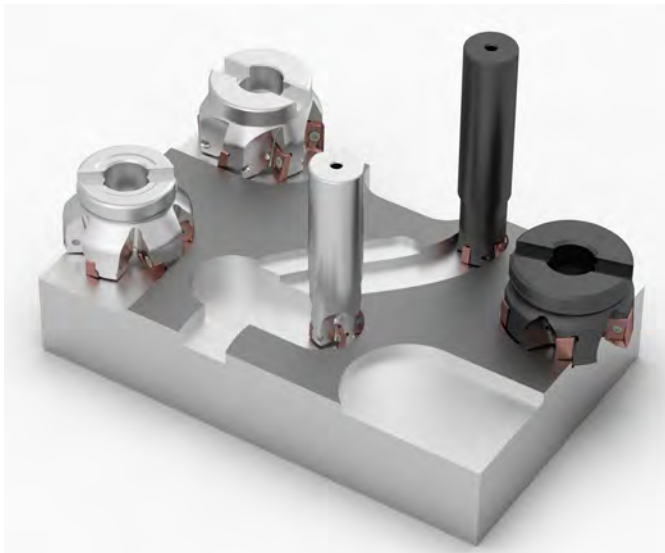
# SHOULDERING

quick guide



- DOUBLEREK**    **P M K**     000
- REKPLUS**    **P M K N S**     000
- DOUBLEGON**    **P M K N S**     000
- ISO APKT**    **P M N**     000

- ALUREK**    **N**     000



# FACING

quick guide



- DOUBLE4FACE**    **P M K N S**     000
- 4FACEPLUS**    **P M K N S**     000
- OKTOPLUS**    **P M K N S**     000
- ISO SEHX**    **P M K N**     000

- DOUBLEHEX**    **K**     000





## HIGH FEED PROFILING

quick guide

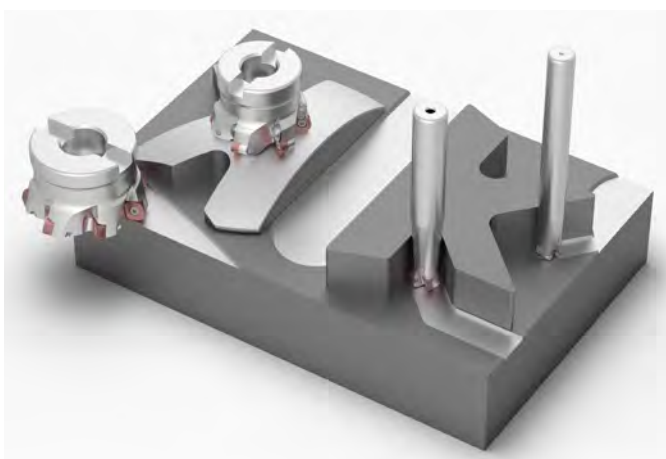


quick guide



**HF4PLUS** **P M K S**  000

**ROUNDPLUS** **P M K S**  000



## CHAMFERING

quick guide



**CHAMPERSQUARE** **P M K N**  000



## ADVANCED

quick guide

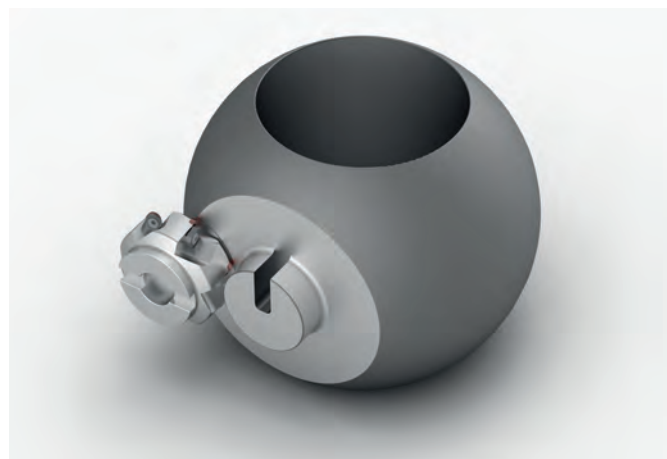


**TANGENTIAL** **K**  000

**SQUARE** **K**  000

**XP SERIES** **K N**  000

**ROUND** **S H**  000



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS





## MILLING Shouldering

Quick guide .D10

**REKPLUS** .D12

**DOUBLEREK** .D21

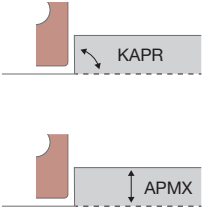







**DOUBLE3CON** .D27

**ALUREK** .D35

**ISO APKT** .D40

- A - TURNING
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	REKPLUS	DOUBLEREK	DOUBLE3GON
	□ D12	□ D21	□ D27
<b>CYLINDRICAL</b>			
<b>SCREW-IN</b>			
<b>ARBOR</b>			
<b>KAPR</b>	90°	90°	90°
<b>Insert sizes</b>	11 / 16	10 / 17	04 / 08
<b>APMX</b>	8 / 15	7 / 15	3 / 7
<b>Tool diameter</b>	Ø16 - Ø100	Ø16 - Ø125	Ø20 - Ø160
<b>Coolant holes</b>	✓	✓	✓
<b>Workpiece material</b>	<b>P M K N S</b>	<b>P M K</b>	<b>P M K N S</b>
<b>No. of corners</b>	2	4	6
<b>No. of geometries</b>	5	2	4
<b>Special features</b>	cylindrical 10xD cutters		
<b>Side Milling</b>	✓	✓	✓
<b>Slotting</b>	✓	✓	✓
<b>Face Milling</b>	✓	✓	✓
<b>Ramping</b>	✓	✗	✗
<b>Machine load</b>	■ ■ ■ □ □	■ ■ ■ □ □	■ ■ ■ □ □
<b>Strenght</b>	■ ■ ■ ■ □	■ ■ ■ ■ ■	■ ■ ■ □ □
<b>Precision</b>	■ ■ ■ ■ □	■ ■ ■ ■ □	■ ■ ■ ■ ■
<b>Finishing</b>	■ ■ ■ □ □	■ ■ ■ ■ ■	■ ■ ■ ■ □
<b>Range</b>	■ ■ ■ ■ □	■ ■ ■ □ □	■ ■ ■ □ □

	ALUREK	ISO APKT
	<input type="checkbox"/> D35	<input type="checkbox"/> D40
		 CYLINDRICAL  SCREW-IN  ARBOR
<b>KAPR</b>	90°	90°
<b>Insert sizes</b>	19	10 / 16
<b>APMX</b>	19	9 / 15
<b>Tool diameter</b>	Ø25 - Ø50	-
<b>Coolant holes</b>	✓	-
<b>Workpiece material</b>	<b>N</b>	<b>P M N</b>
<b>No. of corners</b>	2	2
<b>No. of geometries</b>	1	2
<b>Special features</b>	PVD coated grade for non ferrous materials	-
<b>Side Milling</b> 	✓	✓
<b>Slotting</b> 	✓	✓
<b>Face Milling</b> 	✓	✓
<b>Ramping</b> 	✓	✓
<b>Machine load</b>	■ □ □ □ □	■ ■ ■ ■ □
<b>Strength</b>	■ ■ ■ □ □	■ ■ ■ □ □
<b>Precision</b>	■ ■ ■ ■ □	■ ■ ■ □ □
<b>Finishing</b>	■ ■ ■ ■ □	■ ■ ■ □ □
<b>Range</b>	■ ■ □ □ □	■ □ □ □ □

MB 2022

- A - TURNING
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# REKPLUS

Versatile shoulder milling cutters capable of ramping for diverse application

## APPLICATION

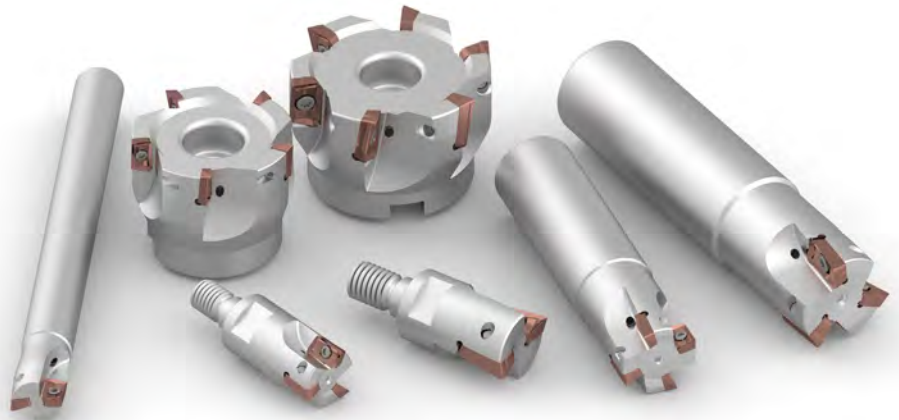
- Shoulder milling
- Long overhang milling
- Profiling and Pocketing
- Linear and helical ramping

## ISO APPLICATION FIELDS

**P M K N S**

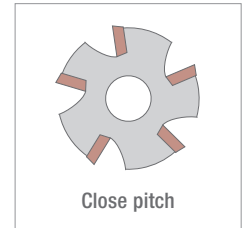
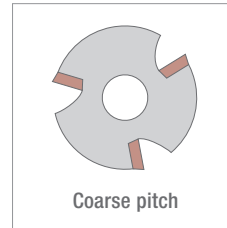
## ADVANTAGES AND CHARACTERISTICS

- Inserts of helical geometry type can produce high precision 90°.
- The straight geometries are suitable for roughing without special finishing needs and ensure excellent competitiveness.
- Extremely complete range of cutter bodies with cylindrical shank (Weldon also available), both with standard and 10xD lengths, with threaded connection plus 10xD extensive sleeves, all with internal cooling.



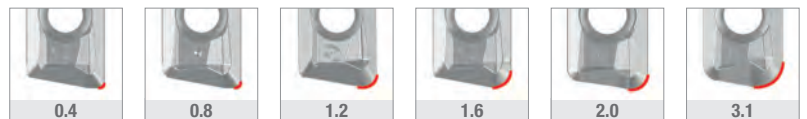
### ● Cutter bodies

- Arbor type
- Cylindrical type (up to 10xD)
- Threaded type
- Extensive sleeves (steel/carbide 10xD)
- From D16 to D100



### ● Inserts

- 2 cutting edges
- Edge length 11 and 16
- Cemented carbide grades with CVD and PVD coatings
- Geometries: HSC, HGP, GP, TE, AL.



Helical geometries are available with a wide range of radii.

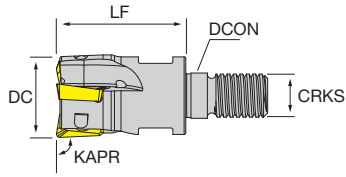



# NT-RKP

**RekPlus**

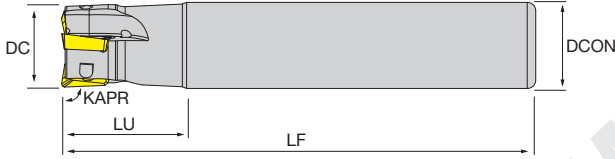
- Positive type precision shoulder milling system
- All with coolant through
- Tolerance of tool diameter (with Nikko inserts installed) 0/-0.2
- Steel and carbide arbors available for screw-in type holders


Screw-in



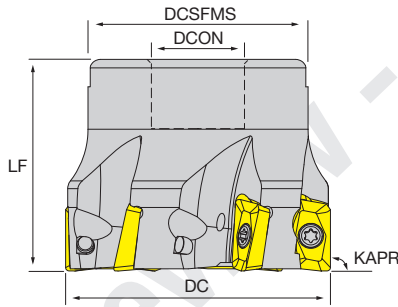



Cylindrical





Arbor





Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	KAPR	WT	MIID
<b>SCREW-IN</b>											
NT-RKP11 D016-M08-Z02	●	16	2	8.5	25	-	-	M8	90°		NT-RKP11
NT-RKP11 D020-M10-Z03	●	20	3	10.5	38	-	-	M10	90°		NT-RKP11
NT-RKP11 D025-M12-Z03	●	25	3	12.5	38	-	-	M12	90°		NT-RKP11
NT-RKP11 D025-M12-Z04	●	25	4	12.5	38	-	-	M12	90°		NT-RKP11
NT-RKP11 D032-M16-Z04	●	32	4	17	43	-	-	M16	90°		NT-RKP11
NT-RKP11 D032-M16-Z05	●	32	5	17	43	-	-	M16	90°		NT-RKP11
NT-RKP16 D025-M12-Z02	●	25	2	12.5	38	-	-	M12	90°		NT-RKP16
NT-RKP16 D032-M16-Z03	●	32	3	17	43	-	-	M16	90°		NT-RKP16
NT-RKP16 D040-M16-Z04	●	40	4	17	43	-	-	M16	90°		NT-RKP16
<b>CYLINDRICAL</b>											
NT-RKP11 D016-S16-Z02	●	16	2	16	100	25	-	-	90°		NT-RKP11
NT-RKP11 D020-S16-Z03	●	20	3	16	110	30	-	-	90°		NT-RKP11
NT-RKP11 D020-S20-Z03	●	20	3	20	110	30	-	-	90°		NT-RKP11
NT-RKP11 D025-S25-Z03	●	25	3	25	120	35	-	-	90°		NT-RKP11
NT-RKP11 D025-S25-Z04	●	25	4	25	120	35	-	-	90°		NT-RKP11
NT-RKP11 D028-S25-Z04	○	28	4	25	120	35	-	-	90°		NT-RKP11
NT-RKP11 D030-S25-Z04	○	30	4	25	130	35	-	-	90°		NT-RKP11
NT-RKP11 D032-S32-Z04	●	32	4	32	130	35	-	-	90°		NT-RKP11
NT-RKP11 D032-S32-Z05	●	32	5	32	130	35	-	-	90°		NT-RKP11
NT-RKP16 D025-S25-Z02	●	25	2	25	120	35	-	-	90°		NT-RKP16
NT-RKP16 D032-S32-Z03	●	32	3	32	130	45	-	-	90°		NT-RKP16
<b>CYLINDRICAL - LONG TYPE (10XD)</b>											
NT-RKP11 D016-S15-Z02-L	●	16	2	15	160	25	-	-	90°		NT-RKP11
NT-RKP11 D016-S16-Z02-L	●	16	2	16	160	25	-	-	90°		NT-RKP11
NT-RKP11 D017-S16-Z02-L	●	17	2	16	170	25	-	-	90°		NT-RKP11

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

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A - TURNING  
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Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	KAPR	WT	MIID
NT-RKP11 D020-S19-Z03-L	●	20	3	19	200	30	-	-	90°		NT-RKP11
NT-RKP11 D020-S20-Z03-L	●	20	3	20	200	30	-	-	90°		NT-RKP11
NT-RKP11 D021-S20-Z03-L	●	21	3	20	210	30	-	-	90°		NT-RKP11
NT-RKP11 D025-S24-Z03-L	●	25	3	25	250	35	-	-	90°		NT-RKP11
NT-RKP11 D025-S25-Z03-L	●	25	3	25	250	35	-	-	90°		NT-RKP11
NT-RKP11 D026-S25-Z03-L	●	26	3	25	260	35	-	-	90°		NT-RKP11
CYLINDRICAL - REDUCED SHANK											
NT-RKP11 D025-S20-Z03	●	25	3	20	120	35	-	-	90°		NT-RKP11
NT-RKP11 D032-S25-Z04	●	32	4	25	130	35	-	-	90°		NT-RKP11
NT-RKP16 D040-S32-Z04	●	40	4	32	150	45	-	-	90°		NT-RKP16
CYLINDRICAL - WELDON CONNECTION											
NT-RKP11 D016-W16-Z02	●	16	2	16	80	25	-	-	90°		NT-RKP11
NT-RKP11 D020-W20-Z03	●	20	3	20	90	30	-	-	90°		NT-RKP11
NT-RKP11 D025-W25-Z04	●	25	4	25	100	35	-	-	90°		NT-RKP11
ARBOR											
NT-RKP11 D032-F16-Z04	●	32	4	16	40	-	28	-	90°		NT-RKP11
NT-RKP11 D040-F16-Z05	●	40	5	16	40	-	35	-	90°		NT-RKP11
NT-RKP11 D040-F16-Z06	●	40	6	16	40	-	35	-	90°		NT-RKP11
NT-RKP11 D050-F22-Z05	●	50	5	22	40	-	40	-	90°		NT-RKP11
NT-RKP11 D050-F22-Z07	●	50	7	22	40	-	46	-	90°		NT-RKP11
NT-RKP11 D063-F22-Z06	●	63	6	22	40	-	50	-	90°		NT-RKP11
NT-RKP11 D063-F22-Z08	●	63	8	22	40	-	50	-	90°		NT-RKP11
NT-RKP11 D080-F27-Z07	●	80	7	27	50	-	60	-	90°		NT-RKP11
NT-RKP11 D080-F27-Z10	●	80	10	27	50	-	60	-	90°		NT-RKP11
NT-RKP16 D040-F16-Z04	●	40	4	16	40	-	35	-	90°		NT-RKP16
NT-RKP16 D040-F16-Z05	●	40	5	16	40	-	35	-	90°		NT-RKP16
NT-RKP16 D050-F22-Z04	●	50	4	22	40	-	40	-	90°		NT-RKP16
NT-RKP16 D050-F22-Z05	●	50	5	22	40	-	40	-	90°		NT-RKP16
NT-RKP16 D063-F22-Z05	●	63	5	22	40	-	50	-	90°		NT-RKP16
NT-RKP16 D063-F22-Z06	●	63	6	22	40	-	50	-	90°		NT-RKP16
NT-RKP16 D080-F27-Z06	●	80	6	27	50	-	60	-	90°		NT-RKP16
NT-RKP16 D080-F27-Z08	●	80	8	27	50	-	60	-	90°		NT-RKP16
NT-RKP16 D100-F32-Z07	●	100	7	32	50	-	80	-	90°		NT-RKP16
NT-RKP16 D100-F32-Z09	●	100	9	32	50	-	80	-	90°		NT-RKP16

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

Spare parts	Insert screw	Flag wrench
NT-RKP11 D000-000-Z00	NT-ST25056T08HQ	NT-FTB08
NT-RKP16 D000-000-Z00	NT-ST40095T15HQ	NT-FTB15



# NT-RKP

## RekPlus

- HGP and HSC are high precision helical type geometries, better guarantee your shouldering precision
- GP, TE and SC are economical straight type geometries
- Available in different radii besides R0.8, such as R0.4, 1.2, 1.6, 2.0, 3.1
- Available with cermet and diverse carbide grades covering PMKNS applications
- Aluminum type available with different radius. For more possibilities for non ferrous materials, please go to AluRek series
- For H materials please go to advanced milling chapter

HC: Coated carbide  
HF: Micrograin carbide  
HT: Cermet  
CVD: Chemical vapour deposition  
PVD: Physical vapour deposition

Stable machining, light cut ● 1<sup>st</sup> choice ○ suitable

General machining, medium cut ● 1<sup>st</sup> choice ○ suitable

Unstable machining, heavy cut ⊕ 1<sup>st</sup> choice ⊕ suitable

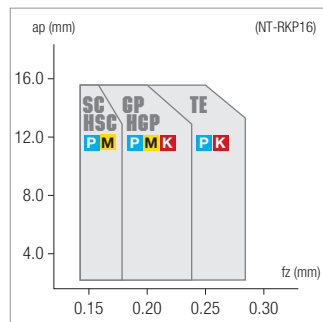
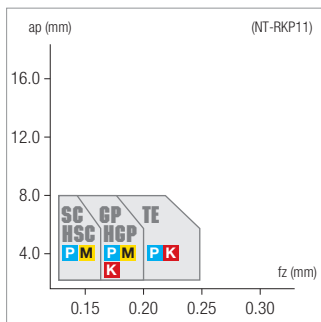
**Dimensions**

2 edges

ISO		Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)									
<b>P</b>		80 250	60 230	60 220				80 250	80 280		160 350
<b>M</b>		60 160	60 150	60 200					60 200	60 200	100 240
<b>K</b>		120 350	100 200	100 240	120 250						160 380
<b>N</b>											500 1500
<b>S</b>				40 100				40 80	40 80		
<b>H</b>											

Designation		RE	IC	S	D1	BS	Stock									
GENERAL <b>HGP P M K</b> 	NT-RKP11R04M-HGP	0.4	6.35	3.5	2.8	1.2										●
	NT-RKP11R08M-HGP	0.8	6.35	3.5	2.8	0.7					●			●		
	NT-RKP11R12M-HGP	1.2	6.35	3.5	2.8	0.5										●
	NT-RKP11R16M-HGP	1.6	6.35	3.5	2.8	-										●
	NT-RKP16R08M-HGP	0.8	9.525	4.76	4.5	0.7					▲	●	●	▲		●
	NT-RKP16R12M-HGP	1.2	9.525	4.76	4.5	0.5										●
	NT-RKP16R16M-HGP	1.6	9.525	4.76	4.5	-										●
	NT-RKP16R20M-HGP	2	9.525	4.76	4.5	-										●
	NT-RKP16R31M-HGP	3.1	9.525	4.76	4.5	-										●
GENERAL <b>GP P M K</b> 	NT-RKP11R08M-GP	0.8	6.35	3.5	2.8	1.9	▽		●	○			●	●		●
	NT-RKP16R08M-GP	0.8	9.525	4.76	4.5	2	▽		●	○			●	●		●
LOW FORCE <b>HSC P M S</b> 	NT-RKP11R04M-HSC	0.4	6.35	3.5	2.8	1.2							●			●
	NT-RKP11R08M-HSC	0.8	6.35	3.5	2.8	0.7								●		
	NT-RKP11R12M-HSC	1.2	6.35	3.5	2.8	0.5								●		●
	NT-RKP16R08M-HSC	0.8	9.525	4.76	4.5	0.7					▲		●	▲		●
	NT-RKP16R12M-HSC	1.2	9.525	4.76	4.5	0.5								●		●
LOW FORCE <b>SC P M S</b> 	NT-RKP11R08M-SC	0.8	6.35	3.5	2.8	1.9	▽	▽								
	NT-RKP16R08M-SC	0.8	9.525	4.76	4.5	2	▽								▽	

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

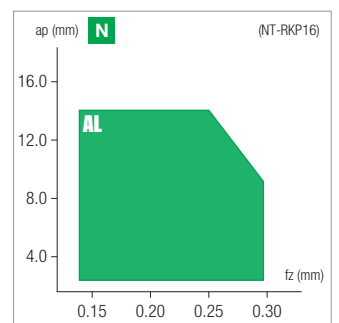
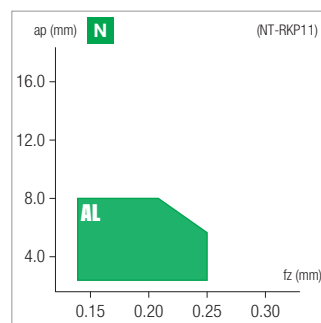
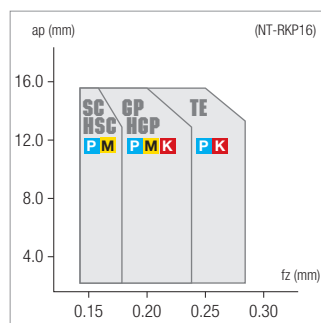
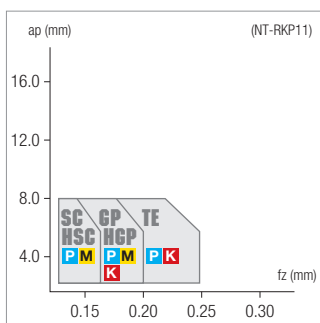
G - SPARE PARTS

<h1>NT-RKP</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition													
	<h2>RekPlus</h2>	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	HF	
<ul style="list-style-type: none"> <li>HGP and HSC are high precision helical type geometries, better guarantee your shouldering precision</li> <li>GP, TE and SC are economical straight type geometries</li> <li>Available in different radii besides R0.8, such as R0.4, 1.2, 1.6, 2.0, 3.1</li> <li>Available with cermet and diverse carbide grades covering PMKNS applications</li> <li>Aluminum type available with different radius. For more possibilities for non ferrous materials, please go to AluRek series</li> <li>For H materials please go to advanced milling chapter</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable											
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable											
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice	⚡ suitable											
<b>Dimensions</b>	<b>ISO</b>													
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>													
	<b>P</b>	80 250	60 230	60 220				80 250	80 280			160 350		
	<b>M</b>	60 160	60 150	60 200						60 200	60 200	100 240		
	<b>K</b>	120 350	100 200	100 240	120 250							160 380		
	<b>N</b>												500 1500	
	<b>S</b>			40 100					40 80	40 80				
	<b>H</b>													

Designation		RE	IC	S	D1	BS	Stock											
<b>REINFORCED</b>	<b>TE P K</b>																	
	NT-RKP11R08M-TE	0.8	6.35	3.5	2.8	1.9		●	○			●						
	NT-RKP16R08M-TE	0.8	9.525	4.76	4.5	2.2		○	○			●						
<b>ALUMINIUM</b>	<b>AL N</b>																	
	<b>polished surface periphery ground</b>																	
	NT-RKP11R04G-AL	0.4	6.35	3.5	2.8	1.9												●
	NT-RKP11R08G-AL	0.8	6.35	3.5	2.8	1.9												●
	NT-RKP16R08G-AL	0.8	9.525	4.76	4.5	2.2												●

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

Catalogue Preview - AMP



# Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

**D - MILLING**

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5530			JP5540			JP8625		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	100	140	180	80	120	160	100	140	180
				30%	160	200	240	120	160	200	160	200	240
				10%	220	240	260	180	200	220	220	240	260
B - THREADING	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	80	120	160	60	100	140	80	120	160
				30%	120	160	200	100	140	180	120	160	200
				10%	180	200	220	160	180	200	180	200	220
C - GROOVING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	60	90	120				60	90	120
				30%	100	130	160				100	130	160
				10%	140	170	200				140	170	200
D - MILLING	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	60	100	140	60	100	140	80	120	160
				30%	80	130	180	80	130	180	100	150	200
				10%	100	160	220	100	160	220	120	180	240
E - DRILLING	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%				50	80	110	60	90	120
				30%				60	90	120	70	100	130
				10%				70	100	130	80	110	140
F - ACCESSORIES	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	60	90	120	60	90	120	80	110	140
				30%	80	120	160	80	120	160	100	140	180
				10%	100	140	180	100	140	180	120	160	200
G - SPARE PARTS	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%				60	90	120	70	100	130
				30%				70	100	130	80	110	140
				10%				80	110	140	90	120	150
A - TURNING	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	140	180	220	140	180	220			
				30%	160	210	260	160	210	260			
				10%	180	240	300	180	240	300			
B - THREADING	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	100	140	180	100	140	180			
				30%	120	170	220	120	170	220			
				10%	140	200	260	140	200	260			
C - GROOVING	K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	90	120	150	90	120	150			
				30%	120	150	180	120	150	180			
				10%	150	180	210	150	180	210			
D - MILLING	N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	300	400	500						
				30%	400	600	800						
				10%	500	800	1100						
E - DRILLING	N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		100%	200	250	300						
				30%	300	350	400						
				10%	400	450	500						
F - ACCESSORIES	S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	20	25	30	20	30	40	20	25	30
				30%	30	35	40	30	40	50	30	35	40
				10%	40	45	50	40	50	60	40	45	50
G - SPARE PARTS	S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%	30	40	50	40	50	60	30	40	50
				30%	40	50	60	50	60	70	40	50	60
				10%	50	60	70	60	70	80	50	60	70

<b>JP8725</b>			<b>JU4525</b>						
min	start	max	min	start	max				
100	<b>150</b>	200	130	<b>180</b>	230				
160	<b>210</b>	260	200	<b>240</b>	280				
220	<b>250</b>	280	260	<b>280</b>	300				
90	<b>130</b>	170	120	<b>150</b>	180				
130	<b>170</b>	210	180	<b>210</b>	240				
190	<b>210</b>	230	230	<b>250</b>	270				
80	<b>110</b>	140	90	<b>120</b>	150				
120	<b>150</b>	180	150	<b>180</b>	210				
160	<b>190</b>	220	190	<b>220</b>	250				
<b>JP9635</b>									
min	start	max							
80	<b>110</b>	140							
100	<b>140</b>	180							
120	<b>170</b>	220							
60	<b>80</b>	100							
70	<b>90</b>	110							
80	<b>100</b>	120							
80	<b>100</b>	120							
100	<b>130</b>	160							
120	<b>150</b>	180							
70	<b>90</b>	110							
80	<b>100</b>	120							
90	<b>110</b>	130							

- A - TURNING
- B - THREADING
- C - GROOVING
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- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

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C - GROOVING

D - MILLING

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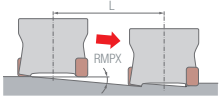
F - ACCESSORIES

G - SPARE PARTS

DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
NT-RKP11R00M-HGP	100%	1.00	<b>2.50</b>	4.00	0.06	<b>0.09</b>	0.12
	30%	1.00	<b>4.50</b>	8.00	0.08	<b>0.11</b>	0.14
	10%	1.00	<b>4.50</b>	8.00	0.10	<b>0.15</b>	0.20
NT-RKP16R00M-HGP	100%	1.00	<b>4.00</b>	7.00	0.10	<b>0.13</b>	0.16
	30%	1.00	<b>8.00</b>	15.00	0.12	<b>0.16</b>	0.20
	10%	1.00	<b>8.00</b>	15.00	0.16	<b>0.20</b>	0.24
NT-RKP11R00M-HSC	100%	1.00	<b>2.50</b>	4.00	0.04	<b>0.07</b>	0.10
	30%	1.00	<b>4.50</b>	8.00	0.06	<b>0.09</b>	0.12
	10%	1.00	<b>4.50</b>	8.00	0.08	<b>0.12</b>	0.16
NT-RKP16R00M-HSC	100%	1.00	<b>4.00</b>	7.00	0.06	<b>0.10</b>	0.14
	30%	1.00	<b>8.00</b>	15.00	0.10	<b>0.13</b>	0.16
	10%	1.00	<b>8.00</b>	15.00	0.12	<b>0.15</b>	0.18

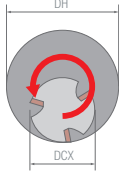
DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
NT-RKP11R08M-GP	100%	1.00	<b>2.50</b>	4.00	0.06	<b>0.09</b>	0.12
	30%	1.00	<b>4.50</b>	8.00	0.08	<b>0.11</b>	0.14
	10%	1.00	<b>4.50</b>	8.00	0.10	<b>0.15</b>	0.20
NT-RKP16R08M-GP	100%	1.00	<b>4.00</b>	7.00	0.10	<b>0.13</b>	0.16
	30%	1.00	<b>8.00</b>	15.00	0.12	<b>0.16</b>	0.20
	10%	1.00	<b>8.00</b>	15.00	0.16	<b>0.20</b>	0.24
NT-RKP11R08M-SC	100%	1.00	<b>2.50</b>	4.00	0.04	<b>0.07</b>	0.10
	30%	1.00	<b>4.50</b>	8.00	0.06	<b>0.09</b>	0.12
	10%	1.00	<b>4.50</b>	8.00	0.08	<b>0.12</b>	0.16
NT-RKP16R08M-SC	100%	1.00	<b>4.00</b>	7.00	0.06	<b>0.10</b>	0.14
	30%	1.00	<b>8.00</b>	15.00	0.10	<b>0.13</b>	0.16
	10%	1.00	<b>8.00</b>	15.00	0.12	<b>0.15</b>	0.18
NT-RKP11R08M-TE	100%	1.00	<b>2.50</b>	4.00	0.08	<b>0.11</b>	0.14
	30%	1.00	<b>4.50</b>	8.00	0.10	<b>0.14</b>	0.18
	10%	1.00	<b>4.50</b>	8.00	0.12	<b>0.17</b>	0.22
NT-RKP16R08M-TE	100%	1.00	<b>4.00</b>	7.00	0.12	<b>0.15</b>	0.18
	30%	1.00	<b>8.00</b>	15.00	0.14	<b>0.18</b>	0.22
	10%	1.00	<b>8.00</b>	15.00	0.18	<b>0.23</b>	0.28
NT-RKP11R00G-AL	100%	1.00	<b>2.50</b>	4.00	0.08	<b>0.14</b>	0.20
	30%	1.00	<b>4.50</b>	8.00	0.10	<b>0.17</b>	0.24
	10%	1.00	<b>4.50</b>	8.00	0.12	<b>0.20</b>	0.28
NT-RKP16R00G-AL	100%	1.00	<b>4.00</b>	7.00	0.11	<b>0.18</b>	0.25
	30%	1.00	<b>8.00</b>	15.00	0.14	<b>0.22</b>	0.30
	10%	1.00	<b>8.00</b>	15.00	0.16	<b>0.25</b>	0.34

Guide for ramping

	NT-RKP11			NT-RKP16		
	DC	RMPX	L	DC	RMPX	L
	16	4.2°	10.8	25	5.0°	9.0
	17	3.9°	11.5	32	1.7°	24.3
	20	2.9°	15.4	40	1.1°	36.5
	21	2.7°	16.6			
	25	2.0°	21.5			
	26	1.9°	22.4			
	32	1.4°	29.5			
	40	1.0°	39.3			

RMPX: max. ramping angle; L: max. ramping path

Guide for helical milling

	NT-RKP11 R0.4			NT-RKP11 R0.8/1.2/1.6					
	DC	DH min.	DH max.	DC	DH min.	DH max.			
	16	20	32	16	21	31			
	17	22	34	17	23	33			
	20	28	40	20	29	39			
	21	30	42	21	31	41			
	25	38	50	25	39	49			
	26	40	52	26	41	51			
	32	52	64	32	53	63			
	40	68	80	40	69	79			
	NT-RKP16 R0.8			NT-RKP16 R1.2/1.6/2.0			NT-RKP16 R3.1		
	DC	DH min.	DH max.	DC	DH min.	DH max.	DC	DH min.	DH max.
	25	32	49	25	33	49	25	35	47
	32	46	63	32	47	63	32	49	61
	40	62	79	40	63	79	40	65	77

DH min.: min. cutting dia.; DH max.: max. cutting dia.

# DOUBLEREK

High productivity high precision double sided shoulder milling system

## APPLICATION

- Shoulder milling
- Shoulders with repeated passes
- Long overhang shoulder milling

## ISO APPLICATION FIELDS

**P M K**

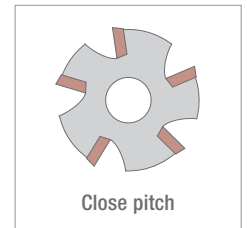
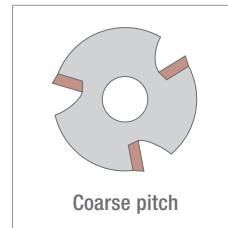
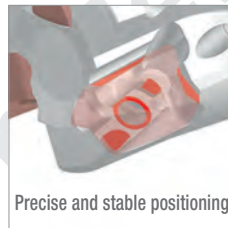


## ADVANTAGES AND CHARACTERISTICS

- Available in big and small dimensions allow axial removals up to 15 mm.
- Super positive rake with helical geometry, extremely smooth cutting action.
- Fully ground inserts for precision machining and excellent finishes.
- Thickness greater than conventional inserts of the same size ensures better heat dissipation and excellent mechanical strength
- Secure and reliable installation guarantees better precision especially at tough conditions

### • Cutter bodies

- Arbor type
- Cylindrical type
- Threaded type
- Extensive sleeves (steel/carbide 10xD)
- From D16 to D125



### • Inserts

- 4 cutting edges
- Edge length 10 and 17
- Cemented carbide grades with CVD and PVD coatings
- Geometries: GP, TE



A - TURNING

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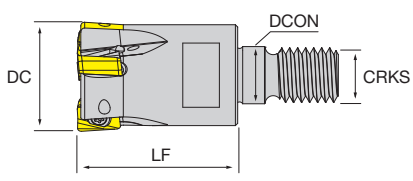
A - TURNING  
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F - ACCESSORIES  
G - SPARE PARTS

# NT-DRK

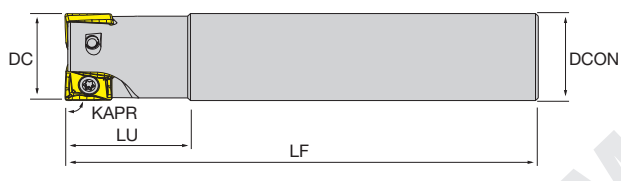
## DoubleRek

- Double-sided precision shoulder milling system
- All with coolant through
- Low resistance robust helical shoulder milling system, provides precision, good surface and reliability
- Tolerance of tool diameter (with Nikko inserts installed) 0/-0.2

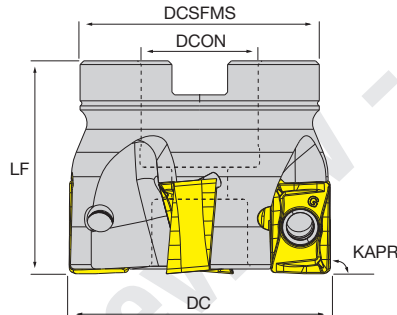
Screw-in






Cylindrical



Arbor



Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	KAPR	WT	MIID
<b>SCREW-IN</b>											
NT-DRK10 D016-M08-Z02	●	16	2	8.5	25	-	-	M8	90°	0.03	NT-DRK10
NT-DRK10 D020-M12-Z03	●	20	3	10.5	30	-	-	M10	90°	0.05	NT-DRK10
NT-DRK10 D025-M16-Z03	●	25	3	12.5	35	-	-	M12	90°	0.1	NT-DRK10
NT-DRK10 D032-M16-Z04	●	32	4	17	43	-	-	M16	90°	0.22	NT-DRK10
<b>CYLINDRICAL</b>											
NT-DRK10 D016-S16-Z02	●	16	2	16	100	25	-	-	90°	0.13	NT-DRK10
NT-DRK10 D020-S20-Z03	●	20	3	20	110	30	-	-	90°	0.23	NT-DRK10
NT-DRK10 D025-S25-Z03	●	25	3	25	120	35	-	-	90°	0.41	NT-DRK10
NT-DRK10 D032-S32-Z04	●	32	4	32	130	45	-	-	90°	0.74	NT-DRK10
NT-DRK17 D032-S32-Z02	●	32	2	32	130	45	-	-	90°	0.69	NT-DRK17
NT-DRK17 D040-S32-Z03	●	40	3	32	150	40	-	-	90°	0.89	NT-DRK17
<b>ARBOR</b>											
NT-DRK10 D032-F16-Z04	●	32	4	16	35	-	30	-	90°	0.1	NT-DRK10
NT-DRK10 D040-F16-Z05	●	40	5	16	40	-	30	-	90°	0.18	NT-DRK10
NT-DRK10 D050-F22-Z06	●	50	6	22	40	-	40	-	90°	0.31	NT-DRK10
NT-DRK10 D050-F22-Z07	●	80	7	22	40	-	40	-	90°	0.3	NT-DRK10
NT-DRK10 D063-F22-Z07	●	63	7	22	40	-	55	-	90°		NT-DRK10
NT-DRK10 D063-F22-Z08	●	63	8	22	40	-	55	-	90°	0.62	NT-DRK10
NT-DRK10 D080-F27-Z07	●	80	7	27	50	-	63	-	90°	1.26	NT-DRK10
NT-DRK10 D080-F27-Z10	●	80	10	27	50	-	63	-	90°	1.24	NT-DRK10
NT-DRK17 D050-F22-Z04	●	50	4	22	40	-	45	-	90°	0.29	NT-DRK17
NT-DRK17 D063-F22-Z05	●	63	5	22	40	-	56	-	90°	0.54	NT-DRK17
NT-DRK17 D063-F22-Z06	●	63	6	22	40	-	56	-	90°	0.51	NT-DRK17
NT-DRK17 D080-F27-Z06	●	80	6	27	50	-	63	-	90°	1.13	NT-DRK17
NT-DRK17 D080-F27-Z07	●	80	7	27	50	-	63	-	90°	1.1	NT-DRK17

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

D22



Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	KAPR	WT	MIID
NT-DRK17 D100-F32-Z07	●	100	7	32	50	-	78	-	90°	1.71	NT-DRK17
NT-DRK17 D100-F32-Z09	●	100	9	32	50	-	78	-	90°	1.71	NT-DRK17
NT-DRK17 D125-F40-Z08	●	125	8	40	63	-	80	-	90°	3.2	NT-DRK17
NT-DRK17 D125-F40-Z10	●	125	10	40	63	-	80	-	90°	3.15	NT-DRK17

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

Spare parts	Insert screw	Flag wrench
		
NT-DRK10 D <sub>000-000</sub> -Z <sub>00</sub>	NT-ST25078P08	NT-FTP08
NT-DRK17 D <sub>000-000</sub> -Z <sub>00</sub>	NT-ST45111T15	NT-FTB15

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

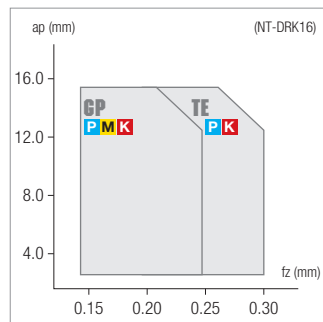
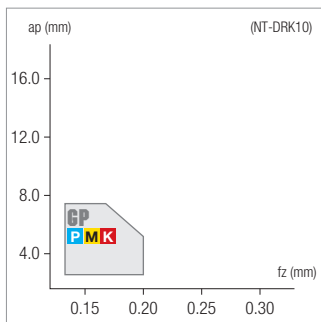
F - ACCESSORIES

G - SPARE PARTS

<h1>NT-DRK</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition										
	<h2>DoubleRek</h2>	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD		
<ul style="list-style-type: none"> <li>GP and TE are both helical geometries with reduced cutting resistance</li> <li>Precise and enhanced positioning guarantees more reliability in machining</li> <li>Available in diverse grades covering wide application range</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable	●	●	○	○	○	○	○	○
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	●	●	●	●	○
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice	○ suitable	○	○	○	○	○	○	○	○
	<b>Dimensions</b>	<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
	<b>P</b>	150 350	60 230	80 280							
	<b>M</b>		140 260	60 150		60 200	50 140				
	<b>K</b>	120 350	130 250	100 200	<b>100 240</b>						
	<b>N</b>										
	<b>S</b>		40 100			40 80	40 60				
	<b>H</b>										

Designation		RE	IC	S	D1	BS	Stock										
GENERAL	 NT-DRK10R08K-GP	0.8	5.82	5.45	2.9	0.9	●	●	●	●	●	●	●	●	●	●	●
	 NT-DRK17R08K-GP	0.8	11.2	10.94	5.2	3.2	●	●	●	●	●	●	●	●	●	●	●
REINFORCED	 NT-DRK17R12K-TE	1.2	11.2	10.94	5.2	3.2	●	●	●	●	●	●	●	●	●	●	●

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



ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC8520			JP5530			JP8725		
				min	start	max	min	start	max	min	start	max
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	130	180	230	100	140	180	100	150	200
			30%	200	240	280	160	200	240	160	210	260
			10%	260	280	300	220	240	260	220	250	280
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	100	140	180	80	120	160	90	130	170
			30%	160	200	240	120	160	200	130	170	210
			10%	220	240	260	180	200	220	190	210	230
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	70	100	130	60	90	120	80	110	140
			30%	120	160	200	100	130	160	120	150	180
			10%	200	220	240	140	170	200	160	190	220
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC9540			JP9535			JP9545		
				min	start	max	min	start	max	min	start	max
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	90	130	170	80	120	160	60	100	140
			30%	110	160	210	100	150	200	80	130	180
			10%	130	190	250	120	180	240	100	160	220
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	70	100	130	60	90	120	50	80	110
			30%	80	110	140	70	100	130	60	90	120
			10%	90	120	150	80	110	140	70	100	130
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	90	120	150	80	110	140	60	90	120
			30%	110	150	190	100	140	180	80	120	160
			10%	130	170	210	120	160	200	100	140	180
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	80	110	140	70	100	130	60	90	120
			30%	90	120	150	80	110	140	70	100	130
			10%	100	130	160	90	120	150	80	110	140
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC7515			JC8520			JP7525		
				min	start	max	min	start	max	min	start	max
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	180	230	280	160	200	240	140	180	220
			30%	200	260	320	180	230	280	160	210	260
			10%	220	290	360	200	260	320	180	240	300
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	180	240	120	160	200	100	140	180
			30%	160	220	280	140	190	240	120	170	220
			10%	200	260	320	160	220	280	140	200	260
K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	100	140	180	100	130	160	90	120	150
			30%	140	180	220	120	160	200	120	150	180
			10%	180	220	260	140	190	240	150	180	210
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC9540			JP9535			JP9545		
				min	start	max	min	start	max	min	start	max
S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	30	40	50	20	30	40	20	25	30
			30%	40	50	60	30	40	50	30	35	40
			10%	50	60	70	40	50	60	40	45	50
S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%				40	50	60	30	40	50
			30%				50	60	70	40	50	60
			10%				60	70	80	50	60	70

A - TURNING

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A - TURNING
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DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
NT-DRK10R08K-GP	100%	1.00	<b>2.50</b>	4.00	0.08	<b>0.10</b>	0.12
	30%	1.00	<b>4.00</b>	7.00	0.10	<b>0.13</b>	0.16
	10%	1.00	<b>4.00</b>	7.00	0.12	<b>0.16</b>	0.20
NT-DRK17R08K-GP	100%	1.00	<b>4.00</b>	7.00	0.11	<b>0.18</b>	0.21
	30%	1.00	<b>8.00</b>	15.00	0.14	<b>0.20</b>	0.26
	10%	1.00	<b>8.00</b>	15.00	0.16	<b>0.23</b>	0.30
NT-DRK17R12K-TE	100%	1.00	<b>4.00</b>	7.00	0.13	<b>0.19</b>	0.25
	30%	1.00	<b>8.00</b>	15.00	0.16	<b>0.23</b>	0.30
	10%	1.00	<b>8.00</b>	15.00	0.20	<b>0.27</b>	0.34

Catalogue Preview - AMB 2022

# DOUBLE3GON

High economical trigonal shoulder milling system for universal processes

## APPLICATION

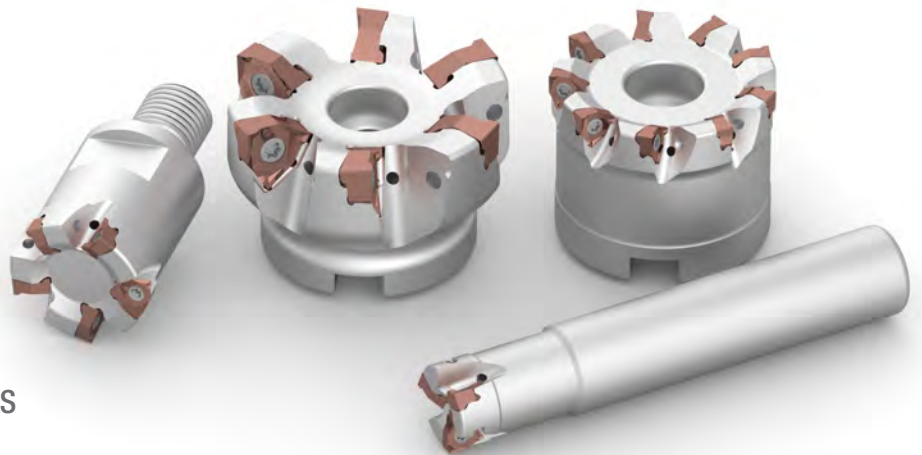
- Shoulder milling
- Shoulders with repeated passes
- Long overhang shoulder milling

## ISO APPLICATION FIELDS

**P M K N S**

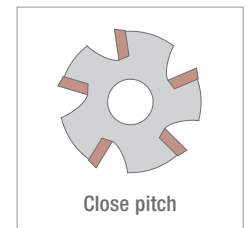
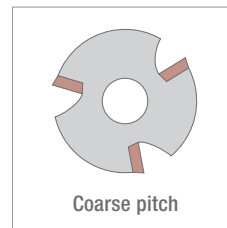
## ADVANTAGES AND CHARACTERISTICS

- High precision in making 90° side milling
- Reduced cost per edge than conventional shoulder milling systems.
- Very robust system because of the negative trigonal and reliable installation.
- Full range of carbide geometries, radii and grades.
- «Ultra-precise» cutter bodies with special surface treatment to ensure longer life.



## • Cutter bodies

- Arbor type
- Cylindrical type
- Threaded type
- Extensive sleeves (steel/carbide 10xD)
- From D20 to D160



## • Inserts

- 6 cutting edges
- Edge length 04 and 08
- Cemented carbide grades with CVD and PVD coatings
- Geometries: SC, GP, TE, AL



A - TURNING

B - THREADING

C - GROOVING

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E - DRILLING

F - ACCESSORIES

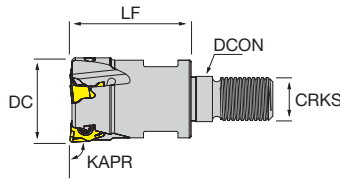
G - SPARE PARTS

# NT-WX

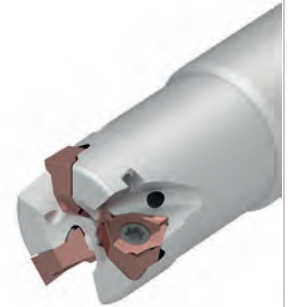
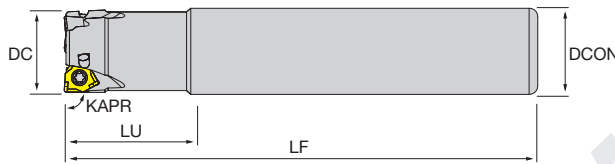
## Double3Gon

- Double sided trigonal type shoulder milling system
- All with coolant through
- Tolerance of tool diameter (with Nikko inserts installed) 0/-0.2
- Steel and carbide arbors available for screw-in type holders

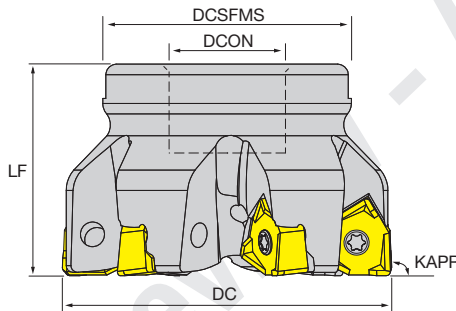
Screw-in



Cylindrical



Arbor



Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	KAPR	WT	MIID
<b>SCREW-IN</b>											
NT-WX04H D020-M10-Z03	●	20	3	10.5	28	-	-	M10	90°		WNEX0403
NT-WX04H D025-M12-Z03	○	25	3	12.5	30	-	-	M12	90°		WNEX0403
NT-WX04H D025-M12-Z04	●	25	4	12.5	30	-	-	M12	90°		WNEX0403
NT-WX04H D032-M16-Z04	○	32	4	17	40	-	-	M16	90°		WNEX0403
NT-WX04H D032-M16-Z05	●	32	5	17	40	-	-	M16	90°		WNEX0403
<b>CYLINDRICAL</b>											
NT-WX04H D020-S16-Z03	●	20	3	16	110	20	-	-	90°		WNEX0403
NT-WX04H D020-S20-Z03	●	20	3	20	110	28	-	-	90°		WNEX0403
NT-WX04H D025-S20-Z04	●	25	4	20	120	22	-	-	90°		WNEX0403
NT-WX04H D025-S25-Z04	●	25	4	25	120	30	-	-	90°		WNEX0403
NT-WX04H D032-S25-Z05	●	32	5	25	130	25	-	-	90°		WNEX0403
NT-WX04H D032-S32-Z05	●	32	5	32	130	40	-	-	90°		WNEX0403
<b>ARBOR</b>											
NT-WX04H D040-F16-Z05	○	40	5	16	40	-	35	-	90°		WNEX0403
NT-WX04H D040-F16-Z07	●	40	7	16	40	-	35	-	90°		WNEX0403
NT-WX04H D050-F22-Z06	○	50	6	22	40	-	47	-	90°		WNEX0403
NT-WX04H D050-F22-Z09	●	50	9	22	40	-	47	-	90°		WNEX0403
NT-WX04H D063-F22-Z08	○	63	8	22	40	-	47	-	90°		WNEX0403
NT-WX04H D063-F22-Z10	○	63	10	22	40	-	47	-	90°		WNEX0403
NT-WX08H D050-F22-Z04	●	50	4	22	40	-	47	-	90°		WNEX0806
NT-WX08H D050-F22-Z05	●	50	5	22	40	-	47	-	90°		WNEX0806
NT-WX08H D063-F22-Z06	●	63	6	22	40	-	47	-	90°		WNEX0806
NT-WX08H D063-F22-Z07	●	63	7	22	40	-	47	-	90°		WNEX0806
NT-WX08H D063-F27-Z06	●	63	6	27	40	-	47	-	90°		WNEX0806
NT-WX08H D080-F27-Z07	●	80	7	27	50	-	62.1	-	90°		WNEX0806

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

Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	KAPR	WT	MID
NT-WX08H D080-F27-Z09	●	80	9	27	50	-	62.1	-	90°		WNEX0806
NT-WX08H D100-F32-Z08	●	100	8	32	50	-	77.1	-	90°		WNEX0806
NT-WX08H D125-F40-Z11	●	125	11	40	63	-	80	-	90°		WNEX0806
NT-WX08H D160-F40-Z12	●	160	12	40	63	-	85	-	90°		WNEX0806

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

Spare parts	Insert screw	Flag wrench
		
NT-WX04H D <sub>000-000</sub> -Z <sub>00</sub>	NT-ST25056T08HQ	NT-FTB08
NT-WX08H D <sub>000-000</sub> -Z <sub>00</sub>	NT-ST40110T15HQ	NT-FTB15

Catalogue Preview - AMB 2022

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E - DRILLING

F - ACCESSORIES

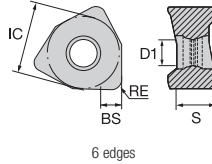
G - SPARE PARTS

**WNEX**

**Double3Gon**

- Double-sided trigonal inserts offering 6 edges!
- Stable sitting in the pocket guarantees more reliability in machining
- Available in diverse grades covering wide application range

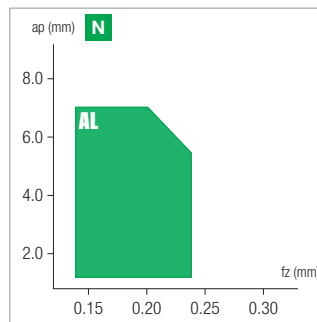
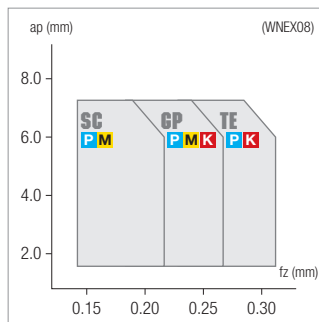
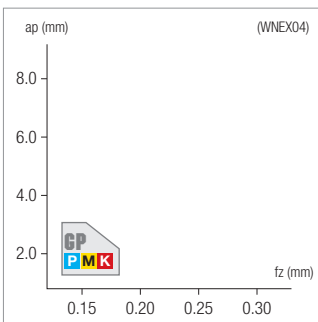
- Stable machining, light cut  1<sup>st</sup> choice  suitable
- General machining, medium cut  1<sup>st</sup> choice  suitable
- Unstable machining, heavy cut  1<sup>st</sup> choice  suitable



Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)										
P		150	100	60	60	80	80					
M				140	60						70	
K	120	100	130		100	100						
N			250		200	240					500	
S				40	40						1500	
H												

Designation		RE	IC	S	D1	BS	Stock														
GENERAL 	WNEX040304R-GP	0.4	6.7	3.3	3.1	0.9									▽		●	●	▽	▽	
	WNEX040308R-GP	0.8	6.7	3.3	3.1	0.9															
	WNEX080608R-GP	0.8	12.5	6.5	4.6	1.5	●	●	●	●	●	●	●								
LOW FORCE 	WNEX080604R-SC	0.4	12.5	6.5	4.6	1.8													▽		
	WNEX080608R-SC	0.8	12.5	6.5	4.6	1.5												●			
REINFORCED 	WNEX080608R-TE	0.8	12.5	6.5	4.6	1.5	●	▽									●	●	●	●	▽
	WNEX080612R-TE	1.2	12.5	6.5	4.6	1.1												●		▽	
ALUMINIUM  polished surface periphery ground	WNEX080608R-AL	0.8	12.5	6.5	4.6	1.4															●

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





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A - TURNING

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**D - MILLING**

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC8520			JP5530			JP5540		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	130	180	230	100	140	180	80	120	160
				30%	200	240	280	160	200	240	120	160	200
				10%	260	280	300	220	240	260	180	200	220
B - THREADING	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	100	140	180	80	120	160	60	100	140
				30%	160	200	240	120	160	200	100	140	180
				10%	220	240	260	180	200	220	160	180	200
C - GROOVING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	70	100	130	60	90	120			
				30%	120	160	200	100	130	160			
				10%	200	220	240	140	170	200			
D - MILLING	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	90	130	170	60	100	140	60	100	140
				30%	110	160	210	80	130	180	80	130	180
				10%	130	190	250	100	160	220	100	160	220
E - DRILLING	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	70	100	130				50	80	110
				30%	80	110	140				60	90	120
				10%	90	120	150				70	100	130
F - ACCESSORIES	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	90	120	150	60	90	120	60	90	120
				30%	110	150	190	80	120	160	80	120	160
				10%	130	170	210	100	140	180	100	140	180
G - SPARE PARTS	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	80	110	140				60	90	120
				30%	90	120	150				70	100	130
				10%	100	130	160				80	110	140
A - TURNING	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	180	230	280	160	200	240	140	180	220
				30%	200	260	320	180	230	280	160	210	260
				10%	220	290	360	200	260	320	180	240	300
B - THREADING	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	180	240	120	160	200	100	140	180
				30%	160	220	280	140	190	240	120	170	220
				10%	200	260	320	160	220	280	140	200	260
C - GROOVING	K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	100	140	180	100	130	160	90	120	150
				30%	140	180	220	120	160	200	120	150	180
				10%	180	220	260	140	190	240	150	180	210
D - MILLING	N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	300	400	500						
				30%	400	600	800						
				10%	500	800	1100						
E - DRILLING	N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		100%	200	250	300						
				30%	300	350	400						
				10%	400	450	500						
F - ACCESSORIES	S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	30	40	50	20	25	30			
				30%	40	50	60	30	35	40			
				10%	50	60	70	40	45	50			
G - SPARE PARTS	S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%				30	40	50			
				30%				40	50	60			
				10%				50	60	70			

JP8725							
min	start	max					
100	150	200					
160	210	260					
220	250	280					
90	130	170					
130	170	210					
190	210	230					
80	110	140					
120	150	180					
160	190	220					

A - TURNING

B - THREADING

C - GROOVING

**D - MILLING**

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
			ap (mm)			fn (mm/rev)		
			min	start	max	min	start	max
A - TURNING	WNEX040300R-GP	100%	0.60	<b>1.00</b>	1.40	0.05	<b>0.10</b>	0.15
		30%	0.60	<b>1.80</b>	3.00	0.06	<b>0.12</b>	0.18
		10%	0.60	<b>1.80</b>	3.00	0.07	<b>0.14</b>	0.20
B - THREADING	WNEX080600R-GP	100%	1.00	<b>2.50</b>	4.00	0.11	<b>0.18</b>	0.21
		30%	1.00	<b>4.00</b>	7.00	0.14	<b>0.20</b>	0.26
		10%	1.00	<b>4.00</b>	7.00	0.16	<b>0.23</b>	0.30
B - THREADING	WNEX080600R-SC	100%	1.00	<b>2.50</b>	4.00	0.08	<b>0.13</b>	0.18
		30%	1.00	<b>4.00</b>	7.00	0.10	<b>0.16</b>	0.22
		10%	1.00	<b>4.00</b>	7.00	0.12	<b>0.20</b>	0.26
B - THREADING	WNEX080600R-TE	100%	1.00	<b>2.50</b>	4.00	0.13	<b>0.19</b>	0.25
		30%	1.00	<b>4.00</b>	7.00	0.16	<b>0.23</b>	0.30
		10%	1.00	<b>4.00</b>	7.00	0.20	<b>0.27</b>	0.34
C - GROOVING	WNEX080608R-AL	100%	1.00	<b>2.50</b>	4.00	0.08	<b>0.14</b>	0.20
		30%	1.00	<b>4.00</b>	7.00	0.10	<b>0.17</b>	0.24
		10%	1.00	<b>4.00</b>	7.00	0.12	<b>0.20</b>	0.28
D - MILLING								
E - DRILLING								
F - ACCESSORIES								
G - SPARE PARTS								

Catalogue Preview - AMB 2022

# ALUREK

Multi-functional shoulder milling cutters specially for non ferrous materials

## APPLICATION

- Shoulder milling
- Long overhang milling
- Profiling and Pocketing
- Linear and helical ramping

## ISO APPLICATION FIELDS

**N**

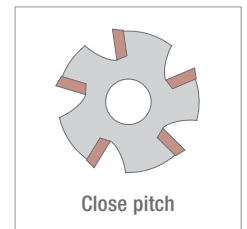
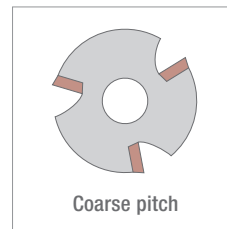
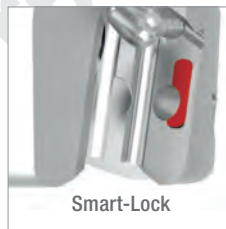
## ADVANTAGES AND CHARACTERISTICS

- Inserts of helical geometry type can produce high precision 90°.
- PVD coated carbide inserts, an optimal cost-effective solution comparing with PCD milling.
- Different radii of inserts available.
- Smart-Lock at the back of the insert and on the cutter seats, guarantees a more reliable machining process and better surface finishing.
- Popular sizes of cutter bodies available with cylindrical shank, screw-in and arbor type connection, all with internal coolant.
- 10xD extensive sleeves available in both steel and carbide.



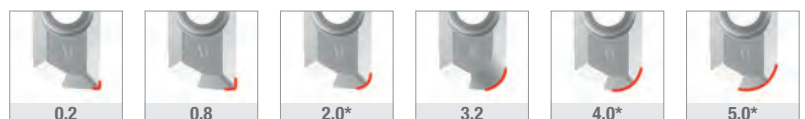
## • Cutter bodies

- Arbor type
- Cylindrical type (up to 10xD)
- Threaded type
- Extensive sleeves (steel/carbide 10xD)
- From D25 to D50



## • Inserts

- 2 cutting edges
- Edge length 19
- PVD coated carbide grade specially for N materials
- Geometries: AL
- With Smart-Lock



\*Available upon request

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

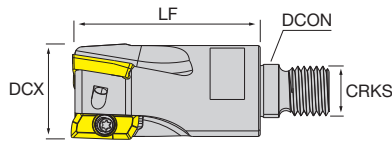
A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

# NT-ALU90

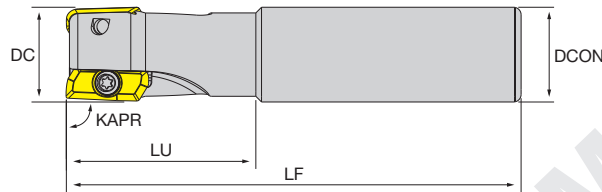
## AluRek

- Highly positive and fine polished precision shoulder milling system tailored for aluminum and non-ferrous materials
- All with coolant through
- With Nikko smart-lock at the back of the insert and on the seat, offering better surface finishing
- Tolerance of tool diameter (with Nikko inserts installed) 0/-0.2

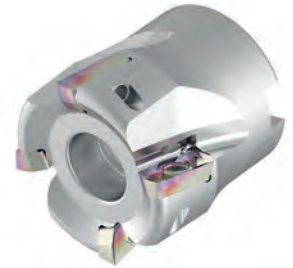
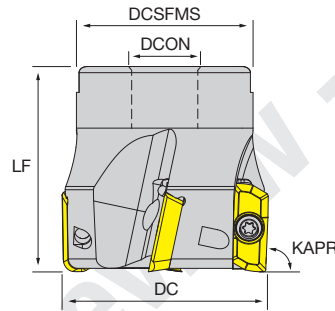
Screw-in



Cylindrical



Arbor



Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	KAPR	WT	MIID
<b>SCREW-IN</b>											
NT-ALU9019 D025-M12-Z02	▲	25	2	12.5	50	-	-	M12	90°		NT-ALU9019
NT-ALU9019 D032-M16-Z03	▲	32	3	17	60	-	-	M16	90°		NT-ALU9019
<b>CYLINDRICAL</b>											
NT-ALU9019 D025-S25-Z02	●	25	2	25	120	50	-	-	90°		NT-ALU9019
NT-ALU9019 D032-S32-Z03	▲	32	3	32	130	60	-	-	90°		NT-ALU9019
<b>ARBOR</b>											
NT-ALU9019 D040-F16-Z03	▲	40	3	16	50	-	33	-	90°		NT-ALU9019
NT-ALU9019 D050-F22-Z03	●	50	3	22	50	-	43	-	90°		NT-ALU9019
NT-ALU9019 D050-F22-Z04	●	50	4	22	50	-	43	-	90°		NT-ALU9019

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

Spare parts	Insert screw	Flag wrench
NT-ALU9019 D000-000-Z00	NT-ST40090T15	NT-FTB15

<b>NT-ALU90</b>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD		
	<b>AluRek</b>	<b>JP6525</b>		
<ul style="list-style-type: none"> <li>PVD coated micro-grain grade, optimal cost effective solution between uncoated carbide inserts and PCD</li> <li>With Nikko smart lock at the back, provides better surface finishing</li> <li>Sharp but reliable geometry, polished surface, precision periphery ground high performance solution</li> <li>Multiple radii available, R0.2 / 0.8 / 3.2</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●		
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●		
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	▲		
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
		<b>P</b> <b>M</b> <b>K</b> <b>N</b> 500 <b>S</b> 1500 <b>H</b>		

Designation		RE	IC	S	D1	LE	Stock
<b>ALUMINIUM</b>  polished surface periphery ground	NT-ALU9019R02H-AL	0.2	9.5	4.76	4.6	19	●
	NT-ALU9019R08H-AL	0.8	9.5	4.76	4.6	19	●
	NT-ALU9019R32H-AL	3.2	9.5	4.76	4.6	19	●

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

Catalogue Preview - AMB

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

- A - TURNING
- B - THREADING
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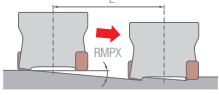
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP6525				
				min	start	max		
<b>N1</b>	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	400	<b>500</b>	600		
			30%	600	<b>800</b>	1000		
			10%	800	<b>1100</b>	1400		
<b>N2</b>	Aluminium alloys Si > 12% (ex. 3.2382/G-AISI12)		100%	200	<b>350</b>	500		
			30%	300	<b>450</b>	600		
			10%	400	<b>550</b>	700		

Catalogue Preview - AMB 2022



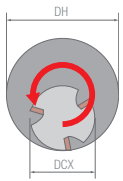
DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
NT-ALU9019RooH-AL	100%	1.00	<b>4.00</b>	7.00	0.06	<b>0.10</b>	0.14
	30%	1.00	<b>9.00</b>	17.00	0.08	<b>0.15</b>	0.22
	10%	1.00	<b>9.00</b>	17.00	0.10	<b>0.20</b>	0.30

Guide for ramping

	ALU9019					
	DCX	RMPX	L			
	25	3.4°	3.0			
	32	2.5°	2.9			
	40	1.4°	2.1			
	50	0.7°	1.4			

RMPX: max. ramping angle; L: max. ramping path

Guide for helical milling

	ALU9019 R0.2			ALU9019 R0.8			ALU9019 R3.2			
	DC	DH min.	DH max.	DC	DH min.	DH max.	DC	DH min.	DH max.	
	25	32	49	25	33	48	25	37	47	
	32	46	63	32	47	62	32	51	61	
	40	62	79	40	63	78	40	67	77	
	50	82	99	50	83	98	50	87	97	

DH min.: min. cutting dia.; DH max.: max. cutting dia.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

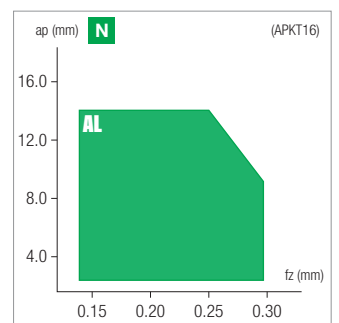
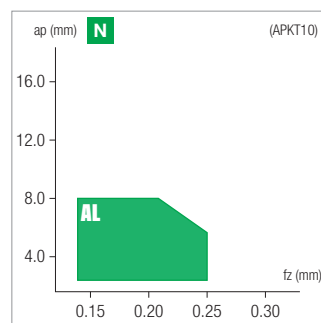
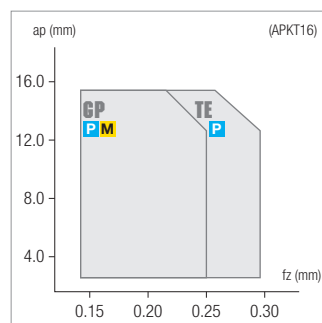
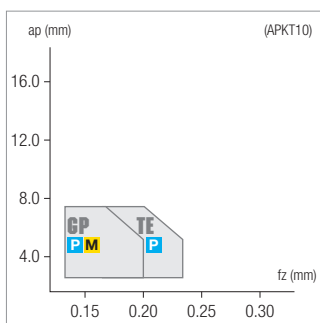
F - ACCESSORIES

G - SPARE PARTS

<h1>APKT</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition				HC	HF	HF	HF
					CVD	PVD	PVD	
ISO					<b>JC7530</b>	<b>JP5540</b>	<b>JP8725</b>	<b>JU6520</b>
<ul style="list-style-type: none"> <li>Positive shoulder milling insert for general purpose use</li> <li>3 geometries available, GP for universal use, TE for difficult conditions, AL for aluminum and non-ferrous materials</li> <li>AL geometry is highly sharp, periphery ground and fine polished</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable					
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	●	
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice	○ suitable	▲	▲			
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>P</b>	60 220	80 280				
		<b>M</b>	60 200					
		<b>K</b>	100 300					
		<b>N</b>		500 1500				
		<b>S</b>	40 100					
	<b>H</b>							

Designation		RE	IC	S	D1	BS	Stock				
GENERAL 	APKT1003PDSR-GP	0.5	6.7	3.18	3.15	0.9	▽	●	●		
	APKT1604PDSR-GP	1	9.525	4.76	4.4	1.9	▽	●	●		
REINFORCED 	APKT1003PDSR-TE	0.5	6.7	3.18	3.15	0.9		●	●		
	APKT1604PDSR-TE	1	9.525	4.76	4.4	1.3	▽	●	●		
ALUMINIUM  polished surface periphery ground	APKT1003PDFR-AL	0.5	6.7	3.18	3.15	1.6				●	
	APKT1604PDFR-AL	1	9.525	4.76	4.4	1.9				●	

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



ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5540			JP8725		
				min	start	max	min	start	max
<b>P1 - P2</b>	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	80	<b>120</b>	160	100	<b>150</b>	200
			30%	120	<b>160</b>	200	160	<b>210</b>	260
			10%	180	<b>200</b>	220	220	<b>250</b>	280
<b>P3 - P4</b>	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	60	<b>100</b>	140	90	<b>130</b>	170
			30%	100	<b>140</b>	180	130	<b>170</b>	210
			10%	160	<b>180</b>	200	190	<b>210</b>	230
<b>P5 - P6</b>	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%				80	<b>110</b>	140
			30%				120	<b>150</b>	180
			10%				160	<b>190</b>	220
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5540					
<b>P7</b>	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	60	<b>100</b>	140			
			30%	80	<b>130</b>	180			
			10%	100	<b>160</b>	220			
<b>P8</b>	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	50	<b>80</b>	110			
			30%	60	<b>90</b>	120			
			10%	70	<b>100</b>	130			
<b>M1</b>	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	60	<b>90</b>	120			
			30%	80	<b>120</b>	160			
			10%	100	<b>140</b>	180			
<b>M2 - M3</b>	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	60	<b>90</b>	120			
			30%	70	<b>100</b>	130			
			80	<b>110</b>	140				
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JU6520					
<b>N1</b>	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	300	<b>400</b>	500			
			30%	400	<b>600</b>	800			
			10%	500	<b>800</b>	1100			
<b>N2</b>	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		100%	200	<b>250</b>	300			
			30%	300	<b>350</b>	400			
			10%	400	<b>450</b>	500			
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5540					
<b>S1 - S2 - S3</b>	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	20	<b>25</b>	30			
			30%	30	<b>35</b>	40			
			10%	40	<b>45</b>	50			
<b>S4 - S5</b>	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%	30	<b>40</b>	50			
			30%	40	<b>50</b>	60			
			10%	50	<b>60</b>	70			

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

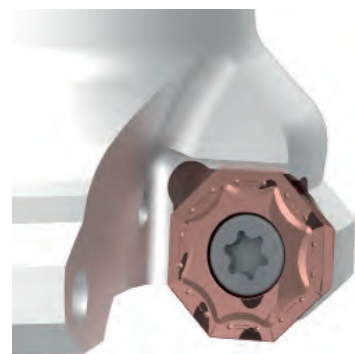
G - SPARE PARTS

A - TURNING
B - THREADING
C - GROOVING
D - MILLING
E - DRILLING
F - ACCESSORIES
G - SPARE PARTS

DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
APKT1003PDSR-GP	100%	1.00	<b>2.50</b>	4.00	0.06	<b>0.11</b>	0.16
	30%	1.00	<b>4.00</b>	7.00	0.08	<b>0.14</b>	0.20
	10%	1.00	<b>4.00</b>	7.00	0.10	<b>0.16</b>	0.22
APKT1604PDSR-GP	100%	1.00	<b>4.00</b>	7.00	0.08	<b>0.14</b>	0.19
	30%	1.00	<b>7.00</b>	13.00	0.10	<b>0.17</b>	0.24
	10%	1.00	<b>7.00</b>	13.00	0.12	<b>0.20</b>	0.28
APKT1003PDSR-TE	100%	1.00	<b>2.50</b>	4.00	0.08	<b>0.13</b>	0.18
	30%	1.00	<b>4.00</b>	7.00	0.10	<b>0.16</b>	0.22
	10%	1.00	<b>4.00</b>	7.00	0.12	<b>0.19</b>	0.26
APKT1604PDSR-TE	100%	1.00	<b>4.00</b>	7.00	0.10	<b>0.16</b>	0.22
	30%	1.00	<b>7.00</b>	13.00	0.12	<b>0.20</b>	0.28
	10%	1.00	<b>7.00</b>	13.00	0.14	<b>0.24</b>	0.34
APKT1003PDFR-AL	100%	1.00	<b>2.50</b>	4.00	0.08	<b>0.14</b>	0.20
	30%	1.00	<b>4.00</b>	7.00	0.10	<b>0.17</b>	0.24
	10%	1.00	<b>4.00</b>	7.00	0.12	<b>0.20</b>	0.28
APKT1604PDFR-AL	100%	1.00	<b>4.00</b>	7.00	0.08	<b>0.16</b>	0.24
	30%	1.00	<b>7.00</b>	13.00	0.10	<b>0.20</b>	0.30
	10%	1.00	<b>7.00</b>	13.00	0.12	<b>0.24</b>	0.36

Catalogue Preview - AMB 2022

Catalogue Preview - AMB 2022



## MILLING Facing

Quick guide .D44

**4FACEPLUS** .D46

**OKTOPLUS** .D53

**DOUBLE4FACE** .D60

**DOUBLEHEX** .D65

**ISO SEHX** .D70

A - TURNING

B - THREADING




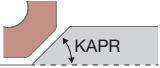


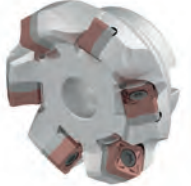
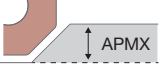


























C - GROOVING

**D - MILLING**

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	4FACEPLUS	OKTOPLUS	DOUBLEFACE
	 D46	 D53	 D60
			
	ARBOR	ARBOR	ARBOR
KAPR	45°	43°	45°
Insert sizes	13	05 / 06	12
APMX	5	3	3
Tool diameter	Ø40 - Ø200	Ø50 - Ø160	Ø50 - Ø160
Coolant holes			
Workpiece material	<b>P M K N S</b>	<b>P M K N S</b>	<b>P M K N S</b>
No. of corners	4	8	8
No. of geometries	8	5	5
Special features	single edge Wiper type	double edge Wiper type	double edge Wiper type
Face Milling 			
Intermittent Milling 			
Machine load			
Streight			
Precision			
Finishing			
Range			

	DOUBLEHEX	ISO SEHX
	<input type="checkbox"/> D65	<input type="checkbox"/> D70
 	 ARBOR	 Only insert is available.
KAPR	60° (45° on request)	45°
Insert sizes	09	12
APMX	6	5
Tool diameter	Ø80 - Ø160	-
Coolant holes	✗	-
Workpiece material	<b>K</b>	<b>P M K N</b>
No. of corners	12	4
No. of geometries	4	4
Special features	solid PCBN and ceramic available	-
Face Milling 	✓	✓
Intermittent Milling 	✓	✓
Machine load	■ ■ ■ ■ □	■ ■ □ □ □
Strength	■ ■ ■ ■ ■	■ ■ ■ □ □
Precision	■ ■ ■ □ □	■ ■ □ □ □
Finishing	■ ■ ■ □ □	■ ■ ■ □ □
Range	■ ■ ■ ■ □	■ □ □ □ □

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# 4FACEPLUS

Face milling system for multiple use general purpose operations

## APPLICATION

- Finishing / semi-finishing / rough face milling
- Removal of the crusted surfaces
- General milling of interrupted surfaces
- Machining of linear and helical ramping

## ISO APPLICATION FIELDS

**P M K N S**

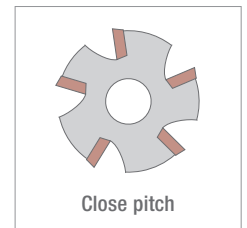
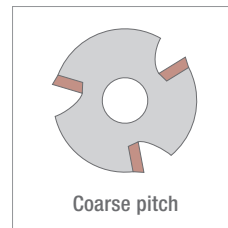
## ADVANTAGES AND CHARACTERISTICS

- High productivity and easy to use
- Light cutting action with low power consumption
- Available in E.tol (ground type) and M.tol (pressed type)
- Available with wiper geometry for good surface finish



### • Cutter bodies

- Arbor type with shim
- From D50 to D200

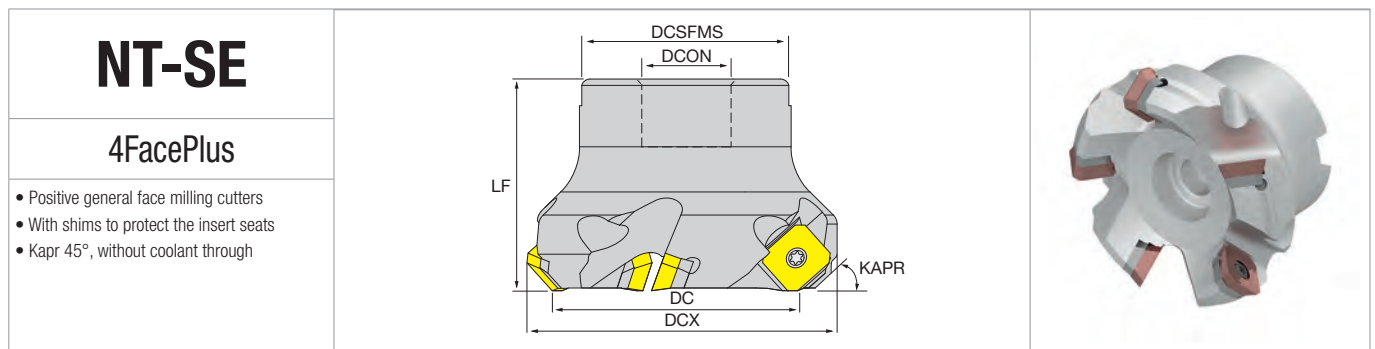


### • Inserts

- 4 cutting edges
- Edge length 13 with APMX = 6mm
- Cemented carbide grades with CVD and PVD coatings
- Geometries: SC, GP, TE, GG, GH, Flat, WU, AL







Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	DCX	WT	MIID
NT-SE13 D040-F16-Z03	○	40	3	16	40	-	35	-	53		SE0013T3
NT-SE13 D050-F22-Z04	●	50	4	22	40	-	40	-	63		SE0013T3
NT-SE13 D050-F22-Z05	●	50	5	22	50	-	40	-	63		SE0013T3
NT-SE13 D063-F22-Z05	●	63	5	22	50	-	50	-	76		SE0013T3
NT-SE13 D063-F22-Z06	●	63	6	22	50	-	50	-	76		SE0013T3
NT-SE13 D080-F27-Z06	●	80	6	27	50	-	60	-	93		SE0013T3
NT-SE13 D080-F27-Z08	●	80	8	27	50	-	60	-	93		SE0013T3
NT-SE13 D100-F32-Z07	●	100	7	32	50	-	80	-	113		SE0013T3
NT-SE13 D100-F32-Z10	●	100	10	32	50	-	80	-	113		SE0013T3
NT-SE13 D125-F40-Z08	●	125	8	40	63	-	100	-	138		SE0013T3
NT-SE13 D125-F40-Z12	●	125	12	40	63	-	100	-	138		SE0013T3
NT-SE13 D160-F40-Z10	●	160	10	40	63	-	100	-	173		SE0013T3
NT-SE13 D200-F60-Z12	●	200	12	60	63	-	130	-	213		SE0013T3

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

Spare parts	Insert screw	Flag wrench	Shim	Shim screw	L wrench
NT-SE13 D000-F00-Z00	 NT-ST35120T15	 NT-FTB15	 NT-SH004	 NT-SR002	 NT-WR035

Catalogue Preview

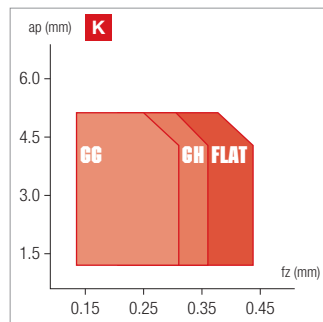
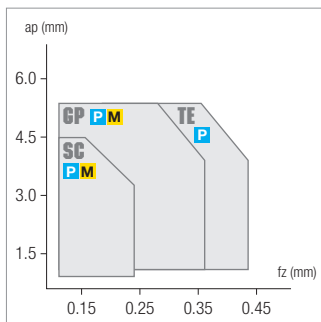
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

- A - TURNING
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SE	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition										
4FacePlus	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	HF	
<ul style="list-style-type: none"> <li>• Positive general face milling inserts</li> <li>• Diverse carbide grades with PVD and CVD coatings and also cermet grades available, covering a wide range of applications</li> <li>• Sharp/universal/robust/cast iron featured/wiper geometries available</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable								
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	○	●	●	●	●	●	
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice	⚡ suitable	⚡	⚡	⚡	⚡	⚡			
	<b>Dimensions</b>	<b>ISO</b>									
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>										
	<b>P</b>	150 350	80 250	60 230	80 280	160 350					
	<b>M</b>		140 260	60 160	60 150	60 200	100 240				
	<b>K</b>	100 300	130 250		100 200	100 240	160 380				
	<b>N</b>							500 1500			
	<b>S</b>		40 100			40 80					
<b>H</b>											

Designation		BS	IC	S	D1	LE	Stock															
<b>GENERAL</b> 	SEET13T3AGEN-GP	1.2	13.4	3.97	4.4	8.8																
	SEMT13T3AGEN-GP	1.2	13.4	3.97	4.4	8.8	●	●	●	●												
<b>GENERAL</b> 	SEET13T3AGSN-GG	1.3	13.4	3.97	4.4	8.8																
	SEMT13T3AGSN-GG	1.3	13.4	3.97	4.4	8.8																
<b>LOW FORCE</b> 	SEET13T3AGEN-SC	1.7	13.4	3.97	4.4	8.8																
<b>REINFORCED</b> 	SEET13T3AGSN-TE	1.2	13.4	3.97	4.4	8.8																
	SEMT13T3AGSN-TE	1.2	13.4	3.97	4.4	8.8	●															
<b>REINFORCED</b> 	SEET13T3AGSN-GH	1.3	13.4	3.97	4.4	8.8																
	SEMT13T3AGSN-GH	1.3	13.4	3.97	4.4	8.8																

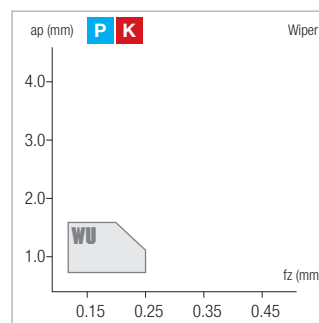
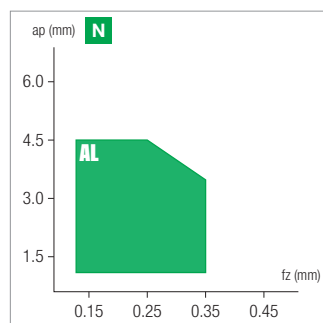
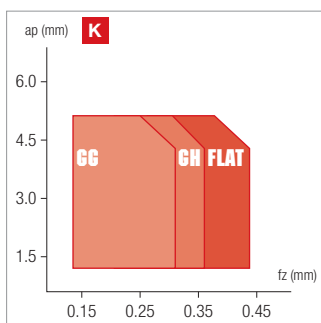
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



<h1>SE</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition										
	HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT	HF
<h2>4FacePlus</h2>	<b>JC7530</b>	<b>JC8520</b>	<b>JC9540</b>	<b>JP5520</b>	<b>JP5530</b>	<b>JP7525</b>	<b>JP8725</b>	<b>JP9535</b>	<b>JU4525</b>	<b>JU6520</b>	
<ul style="list-style-type: none"> <li>Positive general face milling inserts</li> <li>Diverse carbide grades with PVD and CVD coatings and also cermet grades available, covering a wide range of applications</li> <li>Sharp/universal/robust/cast iron featured/wiper geometries available</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable										
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable										
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▲ suitable										
	Dimensions ISO Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)										
		<b>P</b>	150 350	80 250	60 230	80 280	160 350				
		<b>M</b>		140 260	60 160	60 150		60 200	100 240		
		<b>K</b>	100 300	130 250		100 200	100 240		160 380		
		<b>N</b>								500 1500	
		<b>S</b>		40 100					40 80		
		<b>H</b>									

Designation		BS	IC	S	D1	LE	Stock							
REINFORCED	<b>Flat K</b>  flat type	SEEW13T3AGSN	7.5	13.4	3.97	4.4	8.8	▽						
	<b>AL N</b>  polished surface periphery ground	SEET13T3AGFN-AL	2.2	13.4	3.97	4.4	8.8							●
WIPER	<b>WU P K</b> 	SEET13T3-WU	7.5	13.4	3.97	4.4	8.8			●	●			

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



	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC8520			JP5530			JP8725		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	130	180	230	100	140	180	100	150	200
				30%	200	240	280	160	200	240	160	210	260
				10%	260	280	300	220	240	260	220	250	280
	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	100	140	180	80	120	160	90	130	170
				30%	160	200	240	120	160	200	130	170	210
				10%	220	240	260	180	200	220	190	210	230
B - THREADING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	70	100	130	60	90	120	80	110	140
				30%	120	160	200	100	130	160	120	150	180
				10%	200	220	240	140	170	200	160	190	220
C - GROOVING	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	90	130	170	60	100	140	80	120	160
				30%	110	160	210	80	130	180	100	150	200
				10%	130	190	250	100	160	220	120	180	240
	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	70	100	130				60	90	120
				30%	80	110	140				70	100	130
				10%	90	120	150				80	110	140
D - MILLING	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	90	120	150	60	90	120	80	110	140
				30%	110	150	190	80	120	160	100	140	180
				10%	130	170	210	100	140	180	120	160	200
	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	80	110	140				70	100	130
				30%	90	120	150				80	110	140
				10%	100	130	160				90	120	150
E - DRILLING	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	160	200	240	140	180	220			
				30%	180	230	280	160	210	260			
				10%	200	260	320	180	240	300			
	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	160	200	100	140	180			
				30%	140	190	240	120	170	220			
				10%	160	220	280	140	200	260			
F - ACCESSORIES	K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	100	130	160	90	120	150			
				30%	120	160	200	120	150	180			
				10%	140	190	240	150	180	210			
G - SPARE PARTS	N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	300	400	500						
				30%	400	600	800						
				10%	500	800	1100						
	N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		100%	200	250	300						
				30%	300	350	400						
				10%	400	450	500						
	S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	30	40	50	20	30	40			
				30%	40	50	60	30	40	50			
				10%	50	60	70	40	50	60			
	S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%				40	50	60			
				30%				50	60	70			
				10%				60	70	80			

JU4525							
min	start	max					
130	180	230					
200	240	280					
260	280	300					
120	150	180					
180	210	240					
230	250	270					
90	120	150					
150	180	210					
190	220	250					

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

	DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
			ap (mm)			fn (mm/rev)		
			min	start	max	min	start	max
A - TURNING	SEoT13T3AGEN-GP	100%	1.00	<b>3.00</b>	5.00	0.08	<b>0.15</b>	0.22
		30%	1.00	<b>3.00</b>	5.00	0.10	<b>0.19</b>	0.28
		10%	1.00	<b>3.00</b>	5.00	0.12	<b>0.22</b>	0.32
B - THREADING	SEET13T3AGEN-SC	100%	0.50	<b>2.50</b>	4.50	0.06	<b>0.11</b>	0.16
		30%	0.50	<b>2.50</b>	4.50	0.08	<b>0.14</b>	0.20
		10%	0.50	<b>2.50</b>	4.50	0.09	<b>0.16</b>	0.23
C - GROOVING	SEoT13T3AGSN-TE	100%	1.00	<b>3.00</b>	5.00	0.11	<b>0.20</b>	0.29
		30%	1.00	<b>3.00</b>	5.00	0.14	<b>0.25</b>	0.36
		10%	1.00	<b>3.00</b>	5.00	0.16	<b>0.29</b>	0.42
D - MILLING	SEoT13T3AGSN-GG	100%	0.50	<b>2.50</b>	4.50	0.10	<b>0.18</b>	0.26
		30%	0.50	<b>2.50</b>	4.50	0.12	<b>0.22</b>	0.32
		10%	0.50	<b>2.50</b>	4.50	0.14	<b>0.26</b>	0.38
E - DRILLING	SEoT13T3AGSN-GH	100%	1.00	<b>3.00</b>	5.00	0.13	<b>0.23</b>	0.33
		30%	1.00	<b>3.00</b>	5.00	0.16	<b>0.28</b>	0.40
		10%	1.00	<b>3.00</b>	5.00	0.19	<b>0.33</b>	0.47
F - ACCESSORIES	SEEW13T3AGSN	100%	1.00	<b>3.00</b>	5.00	0.14	<b>0.24</b>	0.34
		30%	1.00	<b>3.00</b>	5.00	0.18	<b>0.30</b>	0.42
		10%	1.00	<b>3.00</b>	5.00	0.21	<b>0.35</b>	0.49
G - SPARE PARTS	SEET13T3AGFN-AL	100%	0.50	<b>2.50</b>	4.50	0.06	<b>0.11</b>	0.16
		30%	0.50	<b>2.50</b>	4.50	0.08	<b>0.14</b>	0.20
		10%	0.50	<b>2.50</b>	4.50	0.09	<b>0.16</b>	0.23
	SEET13T3-WU	100%	0.50	<b>1.00</b>	1.50	0.06	<b>0.13</b>	0.20
		30%	0.50	<b>1.00</b>	1.50	0.08	<b>0.16</b>	0.24
		10%	0.50	<b>1.00</b>	1.50	0.09	<b>0.18</b>	0.27

Catalogue Preview - AMB 2022

# OKTOPLUS

Multi-edge face mill to optimize production economy

## APPLICATION

- Finishing / semi-finishing / rough face milling
- Removal of the crusted surfaces
- General milling of interrupted surfaces

## ISO APPLICATION FIELDS

**P M K N S**

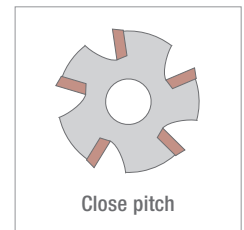
## ADVANTAGES AND CHARACTERISTICS

- Super-positive cutter with a very gentle cutting action.
- Great performance even on circular interpolation milling.
- Excellent performance on difficult to machine materials (ISO M and ISO S).
- Extremely complete range of chipbreakers in both ground (E tolerance) and stamped (M tolerance) versions.



### • Cutter bodies

- Arbor type with coolant
- Dal D50 a D160



### • Inserts

- 8 cutting edges
- Edge length 06 with APMX = 4 mm
- Cemented carbide grades with CVD and PVD coatings
- Geometries: SC, GP, TE, AL, WU



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

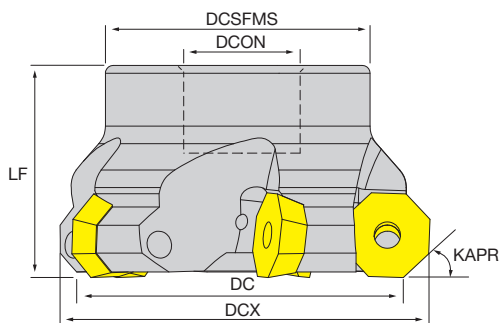
F - ACCESSORIES

G - SPARE PARTS

# NT-OD

## OktoPlus OD

- Positive general face milling cutters
- For octagonal inserts with 8 cutting edges
- Kapr 43°
- With coolant through



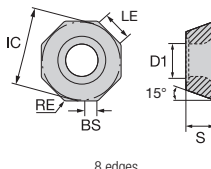
Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	DCX	WT	MIID
NT-OD06H D050-F22-Z04	●	50	4	22	40	-	48	-	60		OD∞0605
NT-OD06H D063-F22-Z05	●	63	5	22	40	-	50	-	73		OD∞0605
NT-OD06H D080-F27-Z06	●	80	6	27	50	-	60	-	90		OD∞0605
NT-OD06H D100-F32-Z07	●	100	7	32	50	-	70	-	110		OD∞0605
NT-OD06H D125-F40-Z08	●	125	8	40	63	-	80	-	135		OD∞0605
NT-OD06H D160-F40-Z10	●	160	10	40	63	-	85	-	170		OD∞0605


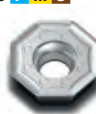



● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Insert screw	Flag wrench
NT-OD06H D∞∞-F∞∞-Z∞∞	 NT-ST50110T20	 NT-FTB20

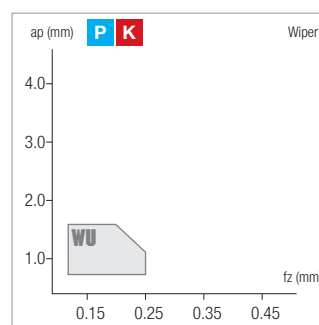
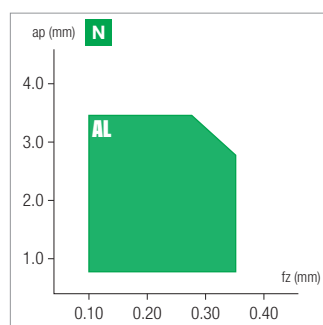
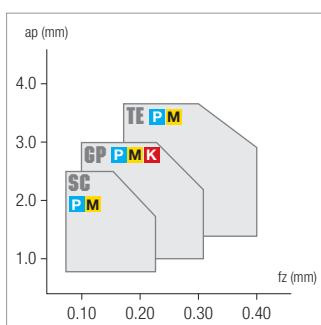
Catalogue Preview - AMB 2022



<h1>OD</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition						HC	HF	HF	HF	HF	HF					
	CVD						CVD	PVD	PVD	PVD	PVD	PVD	PVD				
<h2>OktoPlus OD</h2>							<b>JG7515</b>	<b>JP5520</b>	<b>JP5530</b>	<b>JP7525</b>	<b>JP9535</b>	<b>JU6520</b>					
<ul style="list-style-type: none"> <li>Positive general face milling inserts</li> <li>8 cutting edges</li> <li>Kapr 43°</li> <li>Diverse carbide grades with PVD and CVD coating grades available, covering a wide range of applications</li> <li>Sharp/universal/robust/wiper geometries available</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable						●	○				●					
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable						●	●	●	●	●	●					
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable								⚡	⚡	⚡						
	<b>Dimensions</b> 						<b>ISO</b>						<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
						<b>P</b>	80 250	60 230									
						<b>M</b>	60 160	60 150			60 200						
						<b>K</b>	120 350	100 200	100 240								
						<b>N</b>					500 1500						
						<b>S</b>					40 80						
						<b>H</b>											

Designation		BS	IC	S	D1	LE	Stock						
GENERAL	<b>GP P M K</b> 	1.8	15.875	3.56	5.5	5						▽	●
	ODKT060508-GP												
	ODMT060508-GP	1.8	15.875	3.56	5.5	5	●	▽	●	●	●		
LOW FORCE	<b>SC P M S</b> 	1.8	15.875	3.56	5.5	5			▽	▽		●	
	ODKT060508-SC	1.8	15.875	3.56	5.5	5							
REINFORCED	<b>TE P K</b> 	1.8	15.875	3.56	5.5	5			▽				
	ODKT060508-TE	1.8	15.875	3.56	5.5	5							
	ODMT060508-TE	1.8	15.875	3.56	5.5	5	○	▽	●	●			
ALUMINIUM	<b>AL N</b>  polished surface periphery ground	1.8	15.875	3.56	5.5	5							●
	ODKT060508-AL	1.8	15.875	3.56	5.5	5							
WIPER	<b>WU P K</b> 	6.4	15.875	3.56	5.5	5			▽	●	●		
	ODKW060508-WU	6.4	15.875	3.56	5.5	5							

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>NT-OF</h1>		
<h2>OktoPlus OF</h2>		
<ul style="list-style-type: none"> <li>• Positive general face milling cutters</li> <li>• For octagonal inserts with 8 cutting edges</li> <li>• Kapr 43°</li> <li>• With coolant through</li> </ul>		

Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	DCX	WT	MIID
NT-OF05H D050-F22-Z05	●	50	5	22	40	-	46.8	-	58		OFoo05T3
NT-OF05H D063-F22-Z06	●	63	6	22	40	-	56	-	71		OFoo05T3
NT-OF05H D080-F27-Z07	●	80	7	27	50	-	60	-	88		OFoo05T3
NT-OF05H D100-F32-Z08	▲	100	8	32	50	-	70	-	108		OFoo05T3

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

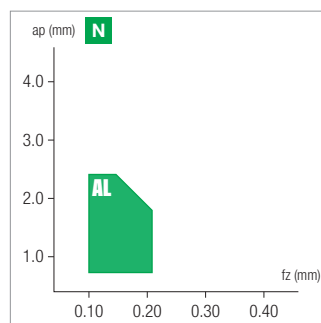
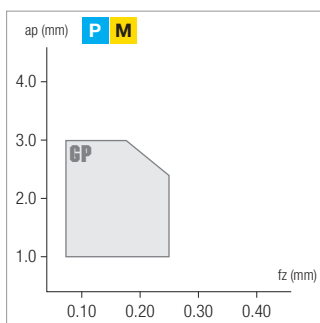
Spare parts	Insert screw	Flag wrench
NT-OF05H Dooo-Foo-Zoo	 NT-ST40110T15HQ	 NT-FTB15

Catalogue Preview - AMB 2022

<h1>OFKT</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition			HC	HF	HF			
				CVD	PVD				
OktoPlus OF				<b>JC7530</b>	<b>JP5540</b>	<b>JU6520</b>			
<ul style="list-style-type: none"> <li>Positive general face milling inserts</li> <li>8 cutting edges</li> <li>Kapr 43°</li> <li>Diverse carbide grades with PVD and CVD coating grades available, covering a wide range of applications</li> <li>Sharp/universal/robust/wiper geometries available</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable				●			
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	○	●				
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice ⚡ suitable	⚡	⚡					
<b>Dimensions</b>		<b>ISO</b>						<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
		<b>P</b>	60	220					
		<b>M</b>	60	200					
		<b>K</b>	100	300					
		<b>N</b>	500	1500					
		<b>S</b>	40	100					
	<b>H</b>								

Designation		BS	IC	S	D1	LE	Stock	
GENERAL	GP <b>P M K</b>							
	 OFKT05T305-GP 1.1 12.7 3.97 4.4 4 ▽ ●							
ALUMINIUM	<b>AL N</b>							
	 OFKT05T305-AL 1.1 12.7 3.97 4.4 4 ● <b>polished surface</b> periphery ground							

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5530			JP5540					
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	100	140	180	80	120	160			
				30%	160	200	240	120	160	200			
				10%	220	240	260	180	200	220			
	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	80	120	160	60	100	140			
				30%	120	160	200	100	140	180			
				10%	180	200	220	160	180	200			
	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	60	90	120						
				30%	100	130	160						
				10%	140	170	200						
B - THREADING	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5530			JP5540			JP9535		
					min	start	max	min	start	max	min	start	max
C - GROOVING	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	60	100	140	60	100	140	80	120	160
				30%	80	130	180	80	130	180	100	150	200
				10%	100	160	220	100	160	220	120	180	240
	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%				50	80	110	60	90	120
				30%				60	90	120	70	100	130
				10%				70	100	130	80	110	140
	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	60	90	120	60	90	120	80	110	140
				30%	80	120	160	80	120	160	100	140	180
				10%	100	140	180	100	140	180	120	160	200
D - MILLING	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%				60	90	120	70	100	130
				30%				70	100	130	80	110	140
				10%				80	110	140	90	120	150
E - DRILLING	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC7515			JP7525					
					min	start	max	min	start	max			
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	180	230	280	140	180	220			
				30%	200	260	320	160	210	260			
				10%	220	290	360	180	240	300			
	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	180	240	100	140	180			
				30%	160	220	280	120	170	220			
				10%	200	260	320	140	200	260			
	K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	100	140	180	90	120	150			
				30%	140	180	220	120	150	180			
				10%	180	220	260	150	180	210			
F - ACCESSORIES	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JU6520								
					min	start	max						
	N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	300	400	500						
				30%	400	600	800						
				10%	500	800	1100						
	N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		100%	200	250	300						
				30%	300	350	400						
				10%	400	450	500						
G - SPARE PARTS	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5540			JP9535					
					min	start	max	min	start	max			
	S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	20	25	30	20	30	40			
				30%	30	35	40	30	40	50			
				10%	40	45	50	40	50	60			
	S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%	30	40	50	40	50	60			
				30%	40	50	60	50	60	70			
				10%	50	60	70	60	70	80			

DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
OFKT05T305-GP	100%	1.00	<b>2.00</b>	3.00	0.08	<b>0.12</b>	0.16
	30%	1.00	<b>2.00</b>	3.00	0.10	<b>0.15</b>	0.20
	10%	1.00	<b>2.00</b>	3.00	0.12	<b>0.18</b>	0.24
ODoT060508-GP	100%	1.00	<b>2.50</b>	4.00	0.10	<b>0.18</b>	0.26
	30%	1.00	<b>2.50</b>	4.00	0.12	<b>0.22</b>	0.32
	10%	1.00	<b>2.50</b>	4.00	0.14	<b>0.26</b>	0.38
ODKT060508-SC	100%	0.50	<b>2.00</b>	3.50	0.08	<b>0.14</b>	0.20
	30%	0.50	<b>2.00</b>	3.50	0.10	<b>0.17</b>	0.24
	10%	0.50	<b>2.00</b>	3.50	0.12	<b>0.20</b>	0.28
ODoT060508-TE	100%	1.00	<b>2.50</b>	4.00	0.12	<b>0.21</b>	0.30
	30%	1.00	<b>2.50</b>	4.00	0.14	<b>0.26</b>	0.38
	10%	1.00	<b>2.50</b>	4.00	0.16	<b>0.30</b>	0.44
OFKT05T305-AL	100%	0.50	<b>1.50</b>	2.50	0.08	<b>0.11</b>	0.14
	30%	0.50	<b>1.50</b>	2.50	0.10	<b>0.14</b>	0.18
	10%	0.50	<b>1.50</b>	2.50	0.12	<b>0.17</b>	0.22
ODKT060508-AL	100%	0.50	<b>2.00</b>	3.50	0.08	<b>0.14</b>	0.20
	30%	0.50	<b>2.00</b>	3.50	0.10	<b>0.17</b>	0.24
	10%	0.50	<b>2.00</b>	3.50	0.12	<b>0.20</b>	0.28
ODKW060508-WU	100%	0.50	<b>1.00</b>	1.50	0.06	<b>0.13</b>	0.20
	30%	0.50	<b>1.00</b>	1.50	0.08	<b>0.16</b>	0.24
	10%	0.50	<b>1.00</b>	1.50	0.09	<b>0.18</b>	0.27

Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING**
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# DOUBLE4FACE

First choice for high productivity face milling

## APPLICATION

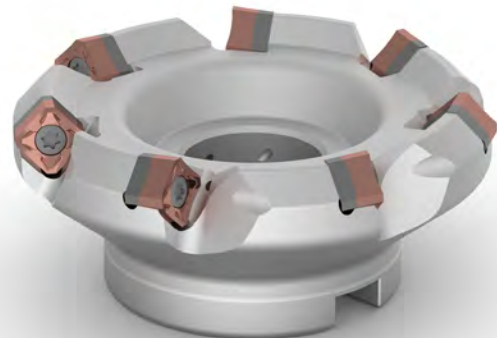
- Finishing / semi-finishing / rough face milling
- Removal of the crusted surfaces
- General milling of interrupted surfaces

## ISO APPLICATION FIELDS

**P M K N S**

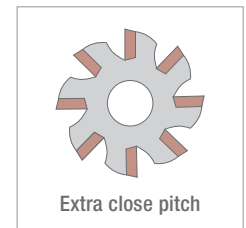
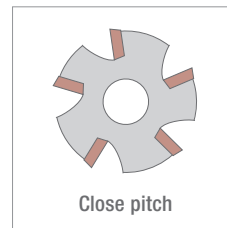
## ADVANTAGES AND CHARACTERISTICS

- Curved geometry generates low cutting force and smooth cutting process.
- Shim style cutter of the entire range guarantees high stability and operational.
- Complete grades covering ISO P, M, K, N, S materials (with both PVD and CVD coating).
- Accurate inserts in tolerance E or pressed inserts in tolerance M - available both high precision and high economical solutions.



### • Cutter bodies

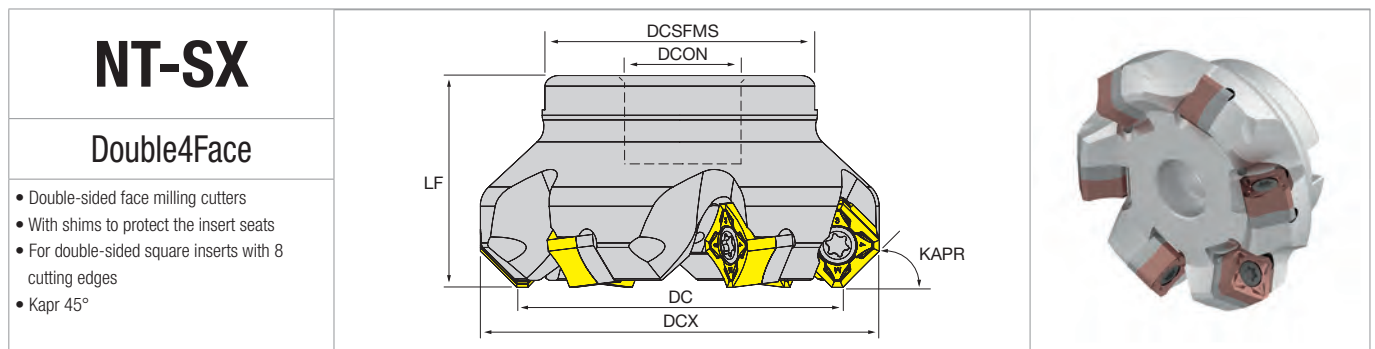
- Arbor type with shim
- From D50 to D160



### • Inserts

- 8 cutting edges
- Edge length 12 with APMX = 3 mm
- Cemented carbide grades with CVD and PVD coatings
- Geometries: SC, GP, TE, AL, WU wiper





Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	DCX	WT	MIID
NT-SX12H D050-F22-Z04	●	50	4	22	40	-	48	-	64		SNoX1205
NT-SX12H D050-F22-Z05	●	50	5	22	40	-	48	-	64		SNoX1205
NT-SX12H D063-F22-Z05	●	63	5	22	50	-	52	-	77		SNoX1205
NT-SX12H D063-F22-Z06	●	63	6	22	50	-	52	-	77		SNoX1205
NT-SX12H D080-F27-Z06	●	80	6	27	50	-	60	-	94		SNoX1205
NT-SX12H D080-F27-Z07	●	80	7	27	50	-	60	-	94		SNoX1205
NT-SX12H D080-F27-Z08	●	80	8	27	50	-	60	-	94		SNoX1205
NT-SX12H D100-F32-Z07	●	100	7	32	50	-	70	-	114		SNoX1205
NT-SX12H D100-F32-Z08	●	100	8	32	50	-	70	-	114		SNoX1205
NT-SX12H D100-F32-Z09	●	100	9	32	50	-	70	-	114		SNoX1205
NT-SX12H D125-F40-Z10	●	125	10	40	63	-	80	-	139		SNoX1205
NT-SX12H D160-F40-Z12	●	160	12	40	63	-	85	-	174		SNoX1205

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

Spare parts	Insert screw	Flag wrench	Shim	Shim screw	L wrench
NT-SX12H D○○○-F○○-Z○○	NT-ST40136T15	NT-FTB15	NT-SH009	NT-SR009	NT-WR040

Catalogue Preview - 2022

A - TURNING

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E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

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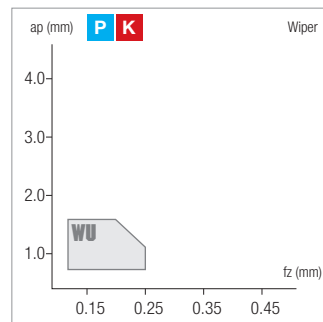
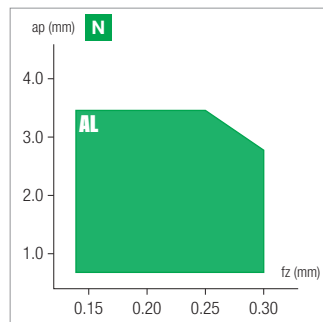
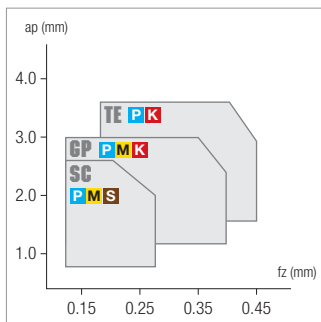
F - ACCESSORIES

G - SPARE PARTS

<h1>SN</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition												
	<h2>Double4Face</h2>												
<ul style="list-style-type: none"> <li>• Double-sided general face milling inserts</li> <li>• 8 cutting edges</li> <li>• Kapr 45°</li> <li>• Diverse carbide grades with PVD and CVD coating grades available, covering a wide range of applications</li> <li>• 3D geometries, sharp/ universal/ reinforced/ wiper types available</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable		General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable		Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable								
	<b>Dimensions</b>			<b>ISO</b>							<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>		
				<b>P</b>	150 350		80 250		60 230		80 280		
				<b>M</b>	140 260		60 160		60 150		60 200		
<b>K</b>				120 350		130 250		100 200		100 240			
<b>N</b>												500 1500	
<b>S</b>			40 100						40 80				
<b>H</b>													

Designation		BS	IC	S	D1	LE	Stock													
<b>GENERAL</b>		<b>GP P M K</b> SNEK1205ANEN-GP	1.6	12.7	6.35	5.9	9.1	●												
								●	●											
<b>LOW FORCE</b>		<b>SC P M S</b> SNEK1205ANEN-SC	1.6	12.7	6.35	5.9	9.1	●	●											
								●	●	●	▲	●	▲							
<b>REINFORCED</b>		<b>TE P K</b> SNEK1205ANSN-TE	1.6	12.7	6.35	5.9	9.1	●		▽	●	●								
								▲	●		●	●	●	▲						
<b>ALUMINIUM</b>		<b>AL N</b> SNEK1205ANFN-AL polished surface periphery ground	1.6	12.7	6.35	5.9	9.1													●
<b>WIPER</b>		<b>WU P K</b> SNEK1205-WU	5.1	12.7	6.35	5.9	9.1	●		▽	●	●								

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





ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC8520			JP5530			JP8725		
				min	start	max	min	start	max	min	start	max
<b>P1 - P2</b>	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	130	<b>180</b>	230	100	<b>140</b>	180	100	<b>150</b>	200
			30%	200	<b>240</b>	280	160	<b>200</b>	240	160	<b>210</b>	260
			10%	260	<b>280</b>	300	220	<b>240</b>	260	220	<b>250</b>	280
<b>P3 - P4</b>	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	100	<b>140</b>	180	80	<b>120</b>	160	90	<b>130</b>	170
			30%	160	<b>200</b>	240	120	<b>160</b>	200	130	<b>170</b>	210
			10%	220	<b>240</b>	260	180	<b>200</b>	220	190	<b>210</b>	230
<b>P5 - P6</b>	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	70	<b>100</b>	130	60	<b>90</b>	120	80	<b>110</b>	140
			30%	120	<b>160</b>	200	100	<b>130</b>	160	120	<b>150</b>	180
			10%	200	<b>220</b>	240	140	<b>170</b>	200	160	<b>190</b>	220
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC9540			JP5530			JP9535		
min	start	max	min	start	max	min	start	max	min	start	max	
<b>P7</b>	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	90	<b>130</b>	170	60	<b>100</b>	140	80	<b>120</b>	160
			30%	110	<b>160</b>	210	80	<b>130</b>	180	100	<b>150</b>	200
			10%	130	<b>190</b>	250	100	<b>160</b>	220	120	<b>180</b>	240
<b>P8</b>	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	70	<b>100</b>	130				60	<b>90</b>	120
			30%	80	<b>110</b>	140				70	<b>100</b>	130
			10%	90	<b>120</b>	150				80	<b>110</b>	140
<b>M1</b>	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	90	<b>120</b>	150	60	<b>90</b>	120	80	<b>110</b>	140
			30%	110	<b>150</b>	190	80	<b>120</b>	160	100	<b>140</b>	180
			10%	130	<b>170</b>	210	100	<b>140</b>	180	120	<b>160</b>	200
<b>M2 - M3</b>	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	80	<b>110</b>	140				70	<b>100</b>	130
			30%	90	<b>120</b>	150				80	<b>110</b>	140
			10%	100	<b>130</b>	160				90	<b>120</b>	150
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC7515			JC8520			JP7525		
min	start	max	min	start	max	min	start	max	min	start	max	
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	180	<b>230</b>	280	160	<b>200</b>	240	140	<b>180</b>	220
			30%	200	<b>260</b>	320	180	<b>230</b>	280	160	<b>210</b>	260
			10%	220	<b>290</b>	360	200	<b>260</b>	320	180	<b>240</b>	300
<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	<b>180</b>	240	120	<b>160</b>	200	100	<b>140</b>	180
			30%	160	<b>220</b>	280	140	<b>190</b>	240	120	<b>170</b>	220
			10%	200	<b>260</b>	320	160	<b>220</b>	280	140	<b>200</b>	260
<b>K3 - K4</b>	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	100	<b>140</b>	180	100	<b>130</b>	160	90	<b>120</b>	150
			30%	140	<b>180</b>	220	120	<b>160</b>	200	120	<b>150</b>	180
			10%	180	<b>220</b>	260	140	<b>190</b>	240	150	<b>180</b>	210
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JU6520								
min	start	max	min	start	max							
<b>N1</b>	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	300	<b>400</b>	500						
			30%	400	<b>600</b>	800						
			10%	500	<b>800</b>	1100						
<b>N2</b>	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		100%	200	<b>250</b>	300						
			30%	300	<b>350</b>	400						
			10%	400	<b>450</b>	500						
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC9540			JP9535					
min	start	max	min	start	max	min	start	max				
<b>S1 - S2 - S3</b>	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	30	<b>40</b>	50	20	<b>30</b>	40			
			30%	40	<b>50</b>	60	30	<b>40</b>	50			
			10%	50	<b>60</b>	70	40	<b>50</b>	60			
<b>S4 - S5</b>	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%				40	<b>50</b>	60			
			30%				50	<b>60</b>	70			
			10%				60	<b>70</b>	80			

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
			ap (mm)			fn (mm/rev)		
			min	start	max	min	start	max
A - TURNING	SNxX1205ANEN-GP	100%	1.00	<b>2.00</b>	3.00	0.13	<b>0.21</b>	0.29
		30%	1.00	<b>2.00</b>	3.00	0.16	<b>0.26</b>	0.36
		10%	1.00	<b>2.00</b>	3.00	0.20	<b>0.31</b>	0.42
B - THREADING	SNEX1205ANEN-SC	100%	0.50	<b>1.50</b>	2.50	0.06	<b>0.12</b>	0.18
		30%	0.50	<b>1.50</b>	2.50	0.08	<b>0.15</b>	0.22
		10%	0.50	<b>1.50</b>	2.50	0.10	<b>0.18</b>	0.26
B - THREADING	SNxX1205ANSN-TE	100%	1.00	<b>2.00</b>	3.00	0.16	<b>0.25</b>	0.34
		30%	1.00	<b>2.00</b>	3.00	0.20	<b>0.32</b>	0.44
		10%	1.00	<b>2.00</b>	3.00	0.24	<b>0.38</b>	0.52
B - THREADING	SNEX1205ANFN-AL	100%	0.50	<b>1.50</b>	2.50	0.10	<b>0.20</b>	0.30
		30%	0.50	<b>1.50</b>	2.50	0.12	<b>0.25</b>	0.38
		10%	0.50	<b>1.50</b>	2.50	0.14	<b>0.28</b>	0.42
C - GROOVING	SNEX1205-WU	100%	0.50	<b>1.00</b>	1.50	0.06	<b>0.13</b>	0.20
		30%	0.50	<b>1.00</b>	1.50	0.08	<b>0.16</b>	0.24
		10%	0.50	<b>1.00</b>	1.50	0.10	<b>0.19</b>	0.28

Catalogue Preview - AMB 2022

# DOUBLEHEX

Safe and high economical milling system of cast iron

## APPLICATION

- Roughing or semi-finishing of cast iron face milling
- Adapted for interrupted surfaces
- Adapted for taking off the casted hard skins

## ISO APPLICATION FIELDS

**K**

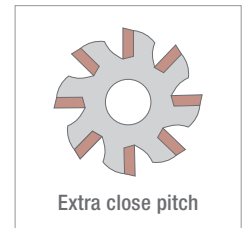
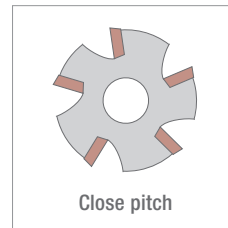
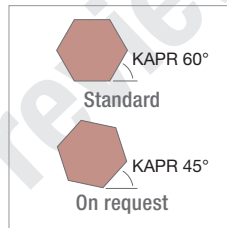
## ADVANTAGES AND CHARACTERISTICS

- Fine pitch and extra-fine pitch type cutters available. Dense teeth in the cutter body allows higher table feeds with exceptional productivity.
- Precise inserts in tol.E or in tol.M, high precision or high economical solutions available.
- 3 different chip breakers combined with both PVD and CVD grades.
- Inserts also available in solid PCBN and Silicon Nitride.
- Extremely competitive cost per cutting edge.



## • Cutter bodies

- Arbor type
- From D80 to D160



## • Inserts

- 12 edges
- Edge length 09 with APMX = 8 mm
- Carbide grades with PVD and CVD coatings, solid PCBN and ceramic
- Geometries: GG, GL, GH, Advanced



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

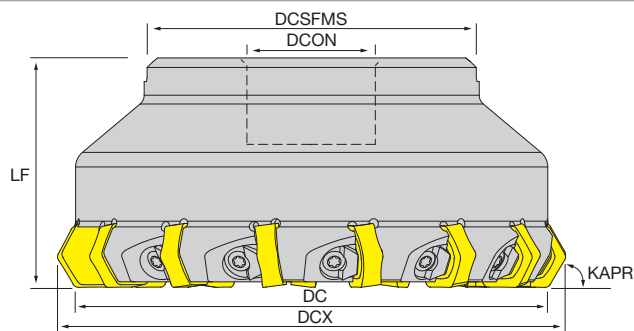
F - ACCESSORIES

G - SPARE PARTS

# NT-HN

## DoubleHex

- Double-sided face milling cutters specially for cast iron
- For hexagonal inserts with 12 cutting edges
- Kapr 60° and 45° upon request
- Extra fine pitch available



Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	DCX	WT	MIID
KAPR 60°											
NT-HN09 D080-F27-Z08	●	80	8	27	50	-	60	-	90		HNxX0905
NT-HN09 D080-F27-Z10	●	80	10	27	50	-	60	-	90		HNxX0905
NT-HN09 D100-F32-Z10	●	100	10	32	50	-	80	-	110		HNxX0905
NT-HN09 D100-F32-Z14	●	100	14	32	50	-	80	-	110		HNxX0905
NT-HN09 D125-F40-Z12	●	125	12	40	63	-	88	-	135		HNxX0905
NT-HN09 D125-F40-Z15	●	125	15	40	63	-	88	-	135		HNxX0905
NT-HN09 D160-F40-Z15	●	160	15	40	63	-	120	-	170		HNxX0905
NT-HN09 D160-F40-Z20	●	160	20	40	63	-	120	-	170		HNxX0905
KAPR 45°											
NT-HN0945 D080-F27-Z10	▲	80	10	27	50	-	60	-			HNxX0905

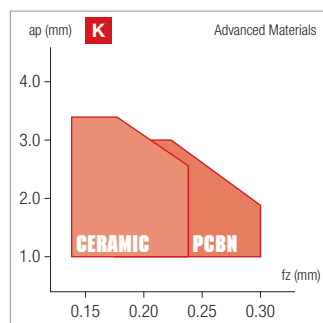
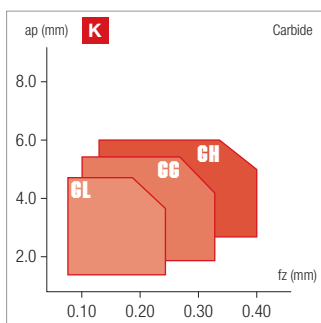
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Wedge	Wedge screw	L wrench
NT-HN09 D <sub>000</sub> -F <sub>00</sub> -Z <sub>00</sub>	NT-WD090	NT-SC090	NT-WR030

<h1>HN</h1>	HC: Coated carbide HF: Micrograin carbide BH: High volume CBN CN: Silicon nitride ceramic Si3N4 CVD: Chemical vapour deposition PVD: Physical vapour deposition				HC CVD	HF PVD	BH	CN
	<h2>DoubleHex</h2>				<b>JC7515</b>	<b>JP7525</b>	<b>NBHS500</b>	<b>MSN400</b>
<ul style="list-style-type: none"> <li>• Double-sided general face milling inserts</li> <li>• Hexagonal inserts with 12 cutting edges</li> <li>• Coated carbide, CBN and ceramic grades available, covering a wide range of applications</li> <li>• Geometries featuring different applications on cast iron, also wiper type available upon request</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	●				●	
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	●	●	
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice ⚡ suitable		⚡	⚡			
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
<p>120° 12 edges</p>		<b>P</b>						
		<b>M</b>						
		<b>K</b>	120 350	100 240	800 2000	600 1200		
		<b>N</b>						
		<b>S</b>						
		<b>H</b>						

Designation		RE	IC	S	LE	AN	Stock					
<b>GENERAL</b>	<b>GG K</b> 	HNEX090520-GG	2	16.2	5.56	9.35	0°	●	●			
		HNMX090520-GG	2	16.2	5.56	9.35	0°	●	●			
<b>LOW FORCE</b>	<b>GL K</b> 	HNEX090510-GL	1	16.2	5.56	9.35	0°	●	●			
		HNEX090520-GL	2	16.2	5.56	9.35	0°	●	●			
<b>REINFORCED</b>	<b>GH K</b> 	HNEX090516-GH	1.6	16.2	5.56	9.35	0°	●	●			
		HNEX090530-GH	3	16.2	5.56	9.35	0°	●	●			
		HNMX090516-GH	1.6	16.2	5.56	9.35	0°	●	●			
<b>ADVANCED</b>	<b>UE K</b>  PCBN full solid	HNEN090520S-UE	2	16.2	5.56	9.35	0°			●		
<b>ADVANCED</b>	<b>UE K</b>  CERAMIC silicon nitride	HNEN090520T-UE	2	16.2	5.56	9.35	0°				●	
		HNEN090530T-UE	3	16.2	5.56	9.35	0°					●

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JG7515			JP7525			
				min	start	max	min	start	max	
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	180	<b>230</b>	280	140	<b>180</b>	220	
			30%	200	<b>260</b>	320	160	<b>210</b>	260	
			10%	220	<b>290</b>	360	180	<b>240</b>	300	
<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	<b>180</b>	240	100	<b>140</b>	180	
			30%	160	<b>220</b>	280	120	<b>170</b>	220	
			10%	200	<b>260</b>	320	140	<b>200</b>	260	
<b>K3 - K4</b>	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	100	<b>140</b>	180	90	<b>120</b>	150	
			30%	140	<b>180</b>	220	120	<b>150</b>	180	
			10%	180	<b>220</b>	260	150	<b>180</b>	210	

B - THREADING

C - GROOVING

ISO 513	MATERIAL	HARDNESS HB	ae/Dc	NBH550U			NSN400			
				min	start	max	min	start	max	
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	800	<b>1000</b>	1200	400	<b>600</b>	800	
			30%	1000	<b>1300</b>	1600	550	<b>750</b>	950	
			10%	1200	<b>1600</b>	2000	800	<b>900</b>	1000	

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - April 2024

DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
HNx090520-GG	100%	1.00	<b>3.00</b>	5.00	0.10	<b>0.25</b>	0.40
	30%	1.00	<b>3.00</b>	5.00	0.13	<b>0.32</b>	0.51
	10%	1.00	<b>3.00</b>	5.00	0.16	<b>0.38</b>	0.60
HNEX090500-GL	100%	0.50	<b>2.50</b>	4.50	0.08	<b>0.22</b>	0.36
	30%	0.50	<b>2.50</b>	4.50	0.10	<b>0.27</b>	0.44
	10%	0.50	<b>2.50</b>	4.50	0.12	<b>0.32</b>	0.52
HNx090500-GH	100%	1.00	<b>3.50</b>	6.00	0.13	<b>0.31</b>	0.50
	30%	1.00	<b>3.50</b>	6.00	0.16	<b>0.39</b>	0.62
	10%	1.00	<b>3.50</b>	6.00	0.19	<b>0.46</b>	0.73
HNEN090500-UE	100%	1.00	<b>2.00</b>	3.00	0.13	<b>0.28</b>	0.43
	30%	1.00	<b>2.00</b>	3.00	0.16	<b>0.35</b>	0.54
	10%	1.00	<b>2.00</b>	3.00	0.20	<b>0.41</b>	0.62

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

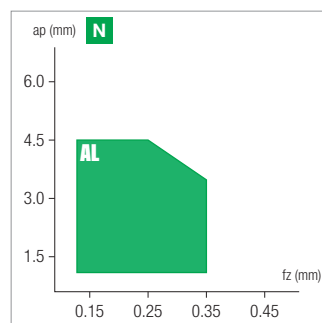
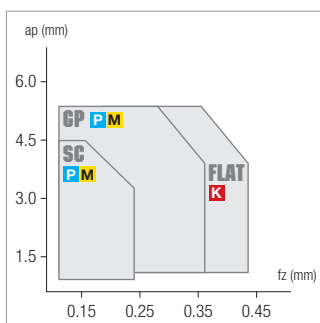
G - SPARE PARTS

A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

<h1>SEHX</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition					HC	HF	HF	HT	HF	
	CVD					CVD	PVD	PVD			
ISO						<b>JC7530</b>	<b>JP8725</b>	<b>JP9525</b>	<b>JU4525</b>	<b>JU6520</b>	
<ul style="list-style-type: none"> <li>Positive type general face milling inserts</li> <li>4 cutting edges</li> <li>Kapr 45°</li> <li>Diverse carbide grades with PVD and CVD coating grades available, covering a wide range of applications</li> <li>3D geometries, sharp/universal/ reinforced types available</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable					○			●	●	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable					●	●	●		●	
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable					⚡					
	Dimensions ISO					Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)					
					<b>P</b>	80	160				
						280	350				
					<b>M</b>		70	100			
							220	240			
					<b>K</b>	100		160			
						300		380			
<b>N</b>			500								
			1500								
<b>S</b>											
<b>H</b>											

Designation		BS	IC	D1	LE	AN	Stock						
<b>GENERAL</b>	<b>GP M</b> 	SEHX1204AFSN-GP	1.6	12.7	5.5	8.2	20°		▽				
<b>LOW FORCE</b>	<b>SC P</b> 	SEHX1204AFEN-SC	1.6	12.7	5.5	8.2	20°	●		●			
<b>REINFORCED</b>	<b>Flat K</b>  flat type	SEHX1204AFSN	1.6	12.7	5.5	8.2	20°	▽					
<b>ALUMINIUM</b>	<b>AL N</b>  polished surface periphery ground	SEHX1204AFFN-AL	2.5	12.7	5.5	8.2	20°					▽	

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





ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP8525			JU4525			
				min	start	max	min	start	max	
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	100	140	180	130	180	230	
			30%	160	200	240	200	240	280	
			10%	220	240	260	260	280	300	
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	80	120	160	120	150	180	
			30%	120	160	200	180	210	240	
			10%	180	200	220	230	250	270	
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	60	90	120	90	120	150	
			30%	100	130	160	150	180	210	
			10%	140	170	200	190	220	250	
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP9525						
				min	start	max				
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	80	120	160				
			30%	100	150	200				
			10%	120	180	240				
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	60	90	120				
			30%	70	100	130				
			10%	80	110	140				
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	80	110	140				
			30%	100	140	180				
			10%	120	160	200				
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC7530						
				min	start	max				
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	160	200	240				
			30%	180	230	280				
			10%	200	260	320				
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	160	200				
			30%	140	190	240				
			10%	160	220	280				
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JU6520						
				min	start	max				
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	300	400	500				
			30%	400	600	800				
			10%	500	800	1100				
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AISI12)		100%	200	250	300				
			30%	300	350	400				
			10%	400	450	500				

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

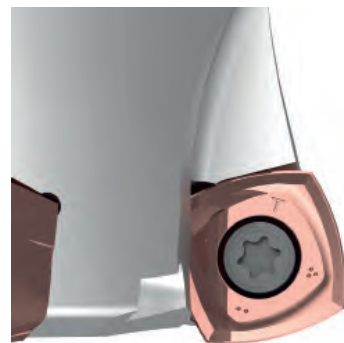
G - SPARE PARTS

Calc

	DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
			ap (mm)			fn (mm/rev)		
			min	start	max	min	start	max
A - TURNING	SEHX1204AFSN-GP	100%	1.00	<b>2.50</b>	4.00	0.08	<b>0.15</b>	0.22
		30%	1.00	<b>2.50</b>	4.00	0.10	<b>0.19</b>	0.28
		10%	1.00	<b>2.50</b>	4.00	0.12	<b>0.22</b>	0.32
	SEHX1204AFEN-SC	100%	0.50	<b>2.00</b>	3.50	0.06	<b>0.11</b>	0.16
		30%	0.50	<b>2.00</b>	3.50	0.08	<b>0.14</b>	0.20
		10%	0.50	<b>2.00</b>	3.50	0.09	<b>0.16</b>	0.23
B - THREADING	SEHX1204AFSN	100%	1.50	<b>3.00</b>	4.50	0.14	<b>0.24</b>	0.34
		30%	1.50	<b>3.00</b>	4.50	0.18	<b>0.30</b>	0.42
		10%	1.50	<b>3.00</b>	4.50	0.21	<b>0.35</b>	0.49
	SEHX1204AFFN-AL	100%	0.50	<b>2.50</b>	4.50	0.08	<b>0.17</b>	0.28
		30%	0.50	<b>2.50</b>	4.50	0.10	<b>0.22</b>	0.34
		10%	0.50	<b>2.50</b>	4.50	0.12	<b>0.26</b>	0.40
C - GROOVING								
D - MILLING								
E - DRILLING								
F - ACCESSORIES								
G - SPARE PARTS								

Catalogue Preview - AMB 2022

Catalogue Preview - AMB 2022













## MILLING High Feed

Quick guide .D74

**HF4PLUS** .D75

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING**
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

	HF4PLUS SP	HF4PLUS SD
	<input type="checkbox"/> D78	<input type="checkbox"/> D76
	 KAPR  APMX	 CYLINDRICAL  SCREW-IN  ARBOR
<b>KAPR</b>	13°	13°
<b>Insert sizes</b>	07	10 / 12 / 15
<b>APMX</b>	1	1.5 / 2 / 3
<b>Tool diameter</b>	Ø20 - Ø52	Ø35 - Ø125
<b>Coolant holes</b>	✓	✓
<b>Workpiece material</b>	<b>P M K S</b>	<b>P M K S</b>
<b>No. of corners</b>	4	4
<b>No. of geometries</b>	2	4
<b>Special features</b>	-	special geometry for ISO S
<b>Face Milling</b> 	✓	✓
<b>Long Overhang</b> 	✓	✓
<b>Ramping</b> 	✓	✓
<b>Pocketing</b> 	✓	✓
<b>Helical Interpolation</b> 	✓	✓
<b>Machine load</b>	■ ■ ■ □ □	■ ■ ■ □ □
<b>Strength</b>	■ ■ ■ □ □	■ ■ ■ ■ ■
<b>Precision</b>		
<b>Finishing</b>		
<b>Range</b>	■ ■ ■ □ □	■ ■ ■ ■ □

# HF4PLUS

High productivity high feed milling system available from big to small diameters

## APPLICATION

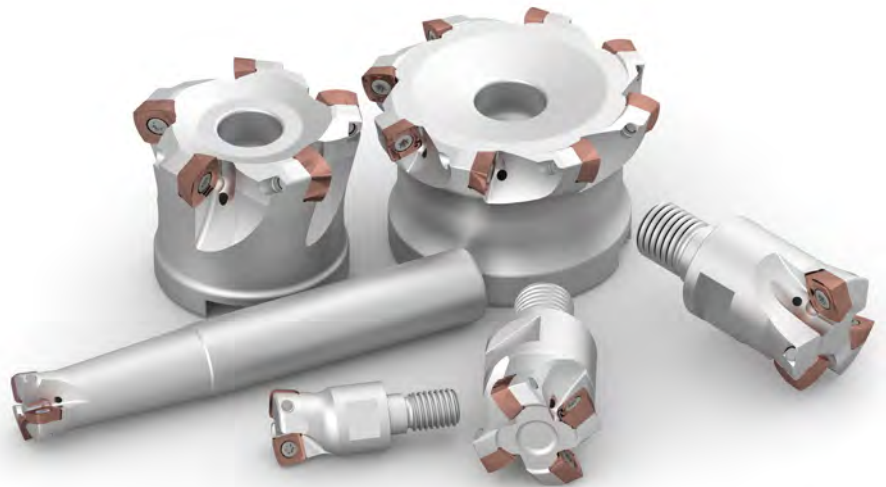
- Semi-finishing or roughing of surfaces
- Profiling and contouring
- Linear or trochoidal ramping
- Pocketing

## ISO APPLICATION FIELDS

**P M K S**

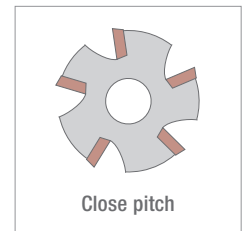
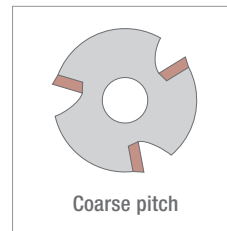
## ADVANTAGES AND CHARACTERISTICS

- High feed machining that effectively reduce cycle time and efficiency
- Versatile in operations and simplify the process (can do face milling, ramping, helical pocketing, counterbore and countersink, combines roughing and semi finishing)
- Multiple-curve edge design improves robustness and reliability
- Available from mini size 07 to frequent 12 and large size 15



## • Cutter bodies

- Arbor type
- Cylindrical type
- Threaded type
- Extensive sleeves (steel/carbide 10xD)
- From D20 to D125



## • Inserts

- 4 edges
- Edge length 07, 10, 12 and 15
- Cemented carbide grades with PVD and CVD coatings
- Geometries: SC, GP, SS, TE



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

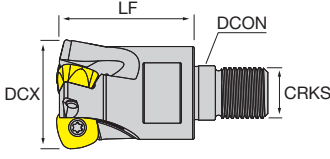
A - TURNING  
B - THREADING  
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# NT-SD

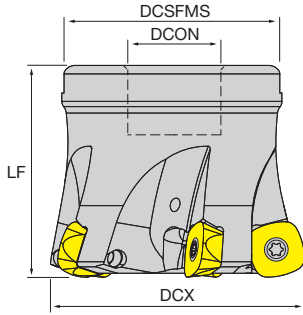
## HF4Plus SD



- High feed milling system with positive square inserts
- Diverse combination of diameters and teeth available with different insert sizes
- All with coolant through
- Tolerance of tool diameter (with Nikko inserts installed) 0/-0.2

Screw-in



Arbor



Designation	Stock	DCX	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
<b>SCREW-IN</b>											
NT-SD10HF D035-M16-Z04	●	35	4	17	40	-	-	M16			SDMT1004
NT-SD10HF D042-M16-Z05	●	42	5	17	40	-	-	M16			SDMT1004
NT-SD12HF D032-M16-Z02	●	32	2	17	43	-	-	M16			SDMT1205
NT-SD12HF D035-M16-Z03	●	35	3	17	43	-	-	M16			SDMT1205
NT-SD12HF D040-M16-Z04	●	40	4	17	43	-	-	M16			SDMT1205
NT-SD12HF D042-M16-Z04	●	42	4	17	43	-	-	M16			SDMT1205
<b>ARBOR</b>											
NT-SD10HF D050-F22-Z06	●	50	6	22	50	-	47	-			SDMT1004
NT-SD10HF D052-F22-Z06	●	52	6	22	50	-	47	-			SDMT1004
NT-SD10HF D063-F27-Z07	●	63	7	27	50	-	58	-			SDMT1004
NT-SD10HF D066-F27-Z07	●	66	7	27	50	-	60	-			SDMT1004
NT-SD10HF D080-F27-Z08	●	80	8	27	50	-	65	-			SDMT1004
NT-SD12HF D042-F16-Z04	●	42	4	16	40	-	35	-			SDMT1205
NT-SD12HF D050-F22-Z04	●	50	4	22	50	-	47	-			SDMT1205
NT-SD12HF D050-F22-Z05	●	50	5	22	50	-	47	-			SDMT1205
NT-SD12HF D052-F22-Z04	●	52	4	22	50	-	47	-			SDMT1205
NT-SD12HF D052-F22-Z05	●	52	5	22	50	-	47	-			SDMT1205
NT-SD12HF D063-F22-Z04	●	63	4	22	50	-	52	-			SDMT1205
NT-SD12HF D063-F22-Z05	●	63	5	22	50	-	52	-			SDMT1205
NT-SD12HF D063-F27-Z04	●	63	4	27	50	-	52	-			SDMT1205
NT-SD12HF D063-F27-Z05	●	63	5	27	50	-	52	-			SDMT1205
NT-SD12HF D066-F27-Z06	●	66	6	27	50	-	60	-			SDMT1205
NT-SD12HF D080-F27-Z06	●	80	6	27	50	-	65	-			SDMT1205
NT-SD12HF D080-F27-Z07	●	80	7	27	50	-	65	-			SDMT1205
NT-SD12HF D100-F32-Z07	●	100	7	32	50	-	70	-			SDMT1205
NT-SD15HF D080-F27-Z05	▲	80	5	27	50	-	-	-			SDMT1505
NT-SD15HF D080-F27-Z06	▲	80	6	27	50	-	-	-			SDMT1505
NT-SD15HF D100-F32-Z06	▲	100	6	32	50	-	70	-			SDMT1505
NT-SD15HF D125-F40-Z07	▲	125	7	40	63	-	90	-			SDMT1505

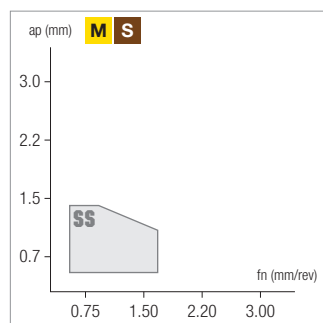
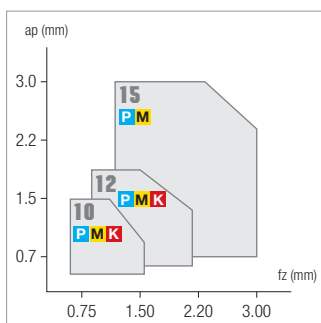
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Insert screw	Flag wrench
NT-SD10HF D000-000-Z00	NT-ST35095T15HQ	NT-FTB15
NT-SD12HF D000-000-Z00	NT-ST40110T15HQ	NT-FTB15
NT-SD15HF D000-000-Z00	NT-ST50110T20	NT-FTB20

<h1>SDMT</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition							
	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	
<h2>HF4Plus SD</h2>	<b>JC8520</b>	<b>JC9540</b>	<b>JP5530</b>	<b>JP7525</b>	<b>JP8725</b>	<b>JP9535</b>	<b>JP9545</b>	
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use</li> <li>SC and SS geometries are for are sharper, for M and S materials</li> <li>TE edge is reinforced and stronger</li> <li>Available with diverse carbide grades covering PMKNS applications</li> <li>For the program radius and various other parameters for CNC program please go to the technical instruction page, it differs with sizes and geometries</li> </ul>	Stable machining, light cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
	Unstable machining, heavy cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
	<b>Dimensions</b>	<b>ISO</b>						
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>						
<b>P</b>		150 350	60 230	80 280				
<b>M</b>		140 260	60 150		60 200	50 140		
<b>K</b>		130 250	100 200	100 240				
<b>N</b>								
<b>S</b>		40 100			40 80	40 60		
<b>H</b>								

	Designation	RE	IC	S	D1	AN	Stock									
GENERAL		SDMT100410R-GP	10	10	4.76	4	15°	●	●	●	●	●	●	●	●	●
		SDMT120512R-GP	12	12.7	5.56	4.4	15°	●	●	●	●	●	●	●	●	●
		SDMT150512R-GP	12	15.875	5.56	5.5	15°	▲	▲			▲	▲			
LOW FORCE		SDMT100410R-SC	10	10	4.76	4	15°									
SUPER SHARP		SDMT120512R-SS	12	12.7	5.56	4.4	15°									
REINFORCED		SDMT100410R-TE	10	10	4.76	4	15°			●	●	●				
		SDMT120512R-TE	12	12.7	5.56	4.4	15°	●	●	●						
		SDMT150512R-TE	12	15.875	5.56	5.5	15°	▲				▲				

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

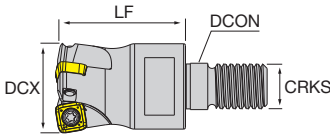
A - TURNING  
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D - MILLING  
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F - ACCESSORIES  
G - SPARE PARTS


# NT-SP

## HF4Plus SP

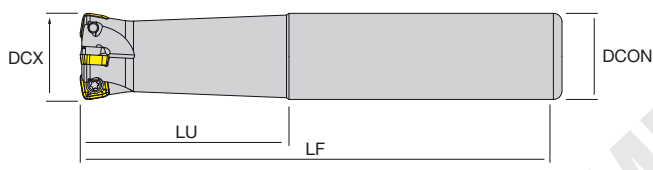
- High feed milling system with positive square inserts
- Diverse combination of diameters and teeth available, focusing on smaller diameters
- All with coolant through
- Tolerance of tool diameter (with Nikko inserts installed) 0/-0.2


Screw-in



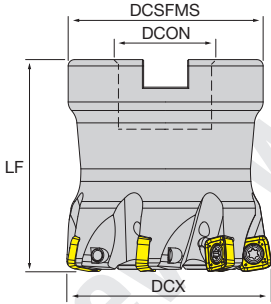



Cylindrical





Arbor





Designation	Stock	DCX	CICT	DCON	LF	DCSFMS		CRKS		WT	MIID
<b>SCREW-IN</b>											
NT-SP07HF D020-M10-Z02	●	20	2	10.5	30	-		M10			SPMT07T2
NT-SP07HF D020-M10-Z03	●	20	3	10.5	30	-		M10			SPMT07T2
NT-SP07HF D025-M12-Z03	●	25	3	12.5	35	-		M12			SPMT07T2
NT-SP07HF D025-M12-Z04	●	25	4	12.5	35	-		M12			SPMT07T2
NT-SP07HF D032-M16-Z04	●	32	4	17	40	-		M16			SPMT07T2
NT-SP07HF D032-M16-Z05	●	32	5	17	40	-		M16			SPMT07T2
NT-SP07HF D035-M16-Z05	●	35	5	17	40	-		M16			SPMT07T2
NT-SP07HF D042-M16-Z06	●	42	6	17	40	-		M16			SPMT07T2
<b>CYLINDRICAL</b>											
NT-SP07HF D020-S20-Z03	●	20	3	20	130	-		-			SPMT07T2
NT-SP07HF D025-S25-Z03	●	25	3	25	140	-		-			SPMT07T2
NT-SP07HF D025-S25-Z04	●	25	4	25	140	-		-			SPMT07T2
NT-SP07HF D032-S32-Z05	●	32	5	32	150	-		-			SPMT07T2
<b>ARBOR</b>											
NT-SP07HF D040-F16-Z05	●	40	5	16	40	35		-			SPMT07T2
NT-SP07HF D040-F16-Z06	●	40	6	16	40	35		-			SPMT07T2
NT-SP07HF D042-F16-Z05	●	42	5	16	40	35		-			SPMT07T2
NT-SP07HF D042-F16-Z06	●	42	6	16	40	35		-			SPMT07T2
NT-SP07HF D050-F22-Z07	●	50	7	22	50	46		-			SPMT07T2
NT-SP07HF D052-F22-Z07	●	52	7	22	50	46		-			SPMT07T2

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

Spare parts	Insert screw	Flag wrench
NT-SP07HF D000-000-Z00	NT-ST30070T10HQ	NT-FTB10

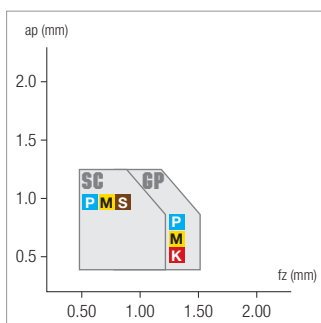


<h1>SPMT</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition	HC	HC	HF	HF	HF	HF	HF	HF
		CVD	CVD	PVD	PVD	PVD	PVD	PVD	PVD
<h2>HF4Plus SP</h2>		<b>JC8520</b>	<b>JC9540</b>	<b>JP5530</b>	<b>JP7525</b>	<b>JP8725</b>	<b>JP9535</b>	<b>JP9545</b>	
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use</li> <li>SC is sharper for M and S materials</li> <li>Available with diverse carbide grades covering PMKS applications</li> <li>For the program radius and various other parameters for CNC program please go to the technical instruction page</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●					○		
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	○	●	●	●	●	●	○	
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	▲	▼	▲	▲	▲	▲	▲	▲
	<b>Dimensions</b>		<b>ISO</b>						
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
		<b>P</b>	150 350	60 230	80 280				
		<b>M</b>	140 260	60 150		60 200	50 140		
		<b>K</b>	130 250	100 200	100 240				
		<b>N</b>							
		<b>S</b>	40 100			40 80	40 60		
		<b>H</b>							

	Designation	RE	IC	S	D1	AN	Stock											
GENERAL	GP <b>P M K</b> 	1	7.8	2.8	3.5	11°	●	●	●	●	●	●	●	●	●	●	●	●
LOW FORCE	SC <b>P M S</b> 	1	7.8	2.8	3.5	11°												

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

Catalogue Preview - AMB



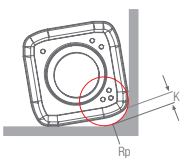
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JC8520			JP5530			JP8725		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	130	<b>180</b>	230	100	<b>140</b>	180	100	<b>150</b>	200
				30%	200	<b>240</b>	280	160	<b>200</b>	240	160	<b>210</b>	260
				10%	260	<b>280</b>	300	220	<b>240</b>	260	220	<b>250</b>	280
B - THREADING	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	100	<b>140</b>	180	80	<b>120</b>	160	90	<b>130</b>	170
				30%	160	<b>200</b>	240	120	<b>160</b>	200	130	<b>170</b>	210
				10%	220	<b>240</b>	260	180	<b>200</b>	220	190	<b>210</b>	230
C - GROOVING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	70	<b>100</b>	130	60	<b>90</b>	120	80	<b>110</b>	140
				30%	120	<b>160</b>	200	100	<b>130</b>	160	120	<b>150</b>	180
				10%	200	<b>220</b>	240	140	<b>170</b>	200	160	<b>190</b>	220
D - MILLING	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	90	<b>130</b>	170	80	<b>120</b>	160	60	<b>100</b>	140
				30%	110	<b>160</b>	210	100	<b>150</b>	200	80	<b>130</b>	180
				10%	130	<b>190</b>	250	120	<b>180</b>	240	100	<b>160</b>	220
E - DRILLING	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	70	<b>100</b>	130	60	<b>90</b>	120	50	<b>80</b>	110
				30%	80	<b>110</b>	140	70	<b>100</b>	130	60	<b>90</b>	120
				10%	90	<b>120</b>	150	80	<b>110</b>	140	70	<b>100</b>	130
F - ACCESSORIES	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	90	<b>120</b>	150	80	<b>110</b>	140	60	<b>90</b>	120
				30%	110	<b>150</b>	190	100	<b>140</b>	180	80	<b>120</b>	160
				10%	130	<b>170</b>	210	120	<b>160</b>	200	100	<b>140</b>	180
G - SPARE PARTS	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	80	<b>110</b>	140	70	<b>100</b>	130	60	<b>90</b>	120
				30%	90	<b>120</b>	150	80	<b>110</b>	140	70	<b>100</b>	130
				10%	100	<b>130</b>	160	90	<b>120</b>	150	80	<b>110</b>	140
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	160	<b>200</b>	240	140	<b>180</b>	220			
				30%	180	<b>230</b>	280	160	<b>210</b>	260			
				10%	200	<b>260</b>	320	180	<b>240</b>	300			
	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	<b>160</b>	200	100	<b>140</b>	180			
				30%	140	<b>190</b>	240	120	<b>170</b>	220			
				10%	160	<b>220</b>	280	140	<b>200</b>	260			
	K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	100	<b>130</b>	160	90	<b>120</b>	150			
				30%	120	<b>160</b>	200	120	<b>150</b>	180			
				10%	140	<b>190</b>	240	150	<b>180</b>	210			
	S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	30	<b>40</b>	50	20	<b>30</b>	40	20	<b>25</b>	30
				30%	40	<b>50</b>	60	30	<b>40</b>	50	30	<b>35</b>	40
				10%	50	<b>60</b>	70	40	<b>50</b>	60	40	<b>45</b>	50
	S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%				40	<b>50</b>	60	30	<b>40</b>	50
				30%				50	<b>60</b>	70	40	<b>50</b>	60
				10%				60	<b>70</b>	80	50	<b>60</b>	70

DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
SPMT07T210R-GP	100%	0.20	<b>0.60</b>	1.00	0.40	<b>0.70</b>	1.00
	30%	0.20	<b>0.60</b>	1.00	0.50	<b>0.90</b>	1.30
	10%	0.20	<b>0.60</b>	1.00	0.60	<b>1.10</b>	1.60
SDMT100410R-GP	100%	0.30	<b>0.90</b>	1.50	0.40	<b>0.75</b>	1.10
	30%	0.30	<b>0.90</b>	1.50	0.50	<b>1.00</b>	1.50
	10%	0.30	<b>0.90</b>	1.50	0.60	<b>1.20</b>	1.60
SDMT120512R-GP	100%	0.40	<b>1.20</b>	2.00	0.60	<b>0.90</b>	1.20
	30%	0.40	<b>1.20</b>	2.00	0.70	<b>1.10</b>	1.50
	10%	0.40	<b>1.20</b>	2.00	0.80	<b>1.30</b>	1.80
SDMT150512R-GP	100%	0.60	<b>1.80</b>	3.00	0.60	<b>1.00</b>	1.40
	30%	0.60	<b>1.80</b>	3.00	0.80	<b>1.30</b>	1.80
	10%	0.60	<b>1.80</b>	3.00	0.90	<b>1.50</b>	2.10
SPMT07T210R-SC	100%	0.20	<b>0.60</b>	1.00	0.30	<b>0.60</b>	0.90
	30%	0.20	<b>0.60</b>	1.00	0.40	<b>0.80</b>	1.20
	10%	0.20	<b>0.60</b>	1.00	0.50	<b>0.90</b>	1.40
SDMT100410R-SC	100%	0.30	<b>0.90</b>	1.50	0.30	<b>0.70</b>	1.10
	30%	0.30	<b>0.90</b>	1.50	0.40	<b>0.90</b>	1.40
	10%	0.30	<b>0.90</b>	1.50	0.50	<b>1.00</b>	1.50


DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max
SDMT100410R-TE	100%	0.30	<b>0.90</b>	1.50	0.60	<b>0.90</b>	1.20
	30%	0.30	<b>0.90</b>	1.50	0.70	<b>1.20</b>	1.60
	10%	0.30	<b>0.90</b>	1.50	0.80	<b>1.40</b>	1.60
SDMT120512R-TE	100%	0.40	<b>1.20</b>	2.00	0.70	<b>1.00</b>	1.30
	30%	0.40	<b>1.20</b>	2.00	0.90	<b>1.30</b>	1.70
	10%	0.40	<b>1.20</b>	2.00	1.00	<b>1.50</b>	2.00
SDMT150512R-TE	100%	0.60	<b>1.80</b>	3.00	0.80	<b>1.20</b>	1.60
	30%	0.60	<b>1.80</b>	3.00	1.00	<b>1.50</b>	2.00
	10%	0.60	<b>1.80</b>	3.00	1.20	<b>1.80</b>	2.40
SDMT120512R-SS	100%	0.40	<b>0.70</b>	1.00	0.50	<b>0.80</b>	1.10
	30%	0.40	<b>0.70</b>	1.00	0.60	<b>1.00</b>	1.40
	10%	0.40	<b>0.70</b>	1.00	0.70	<b>1.20</b>	1.70

Approximate programming radius adjustment

	SPMT07			SDMT10			SDMT12 *			SDMT15		
	Rp	undercut K	overcut r	Rp	undercut K	overcut r	Rp	undercut K	overcut r	Rp	undercut K	overcut r
1.5	0.69	0	2	1.18	0	3	1.28	0				
<b>2</b>	<b>0.61</b>	<b>0</b>	<b>2.5</b>	<b>1.02</b>	<b>0</b>	<b>3.5</b>	<b>1.11</b>	<b>0</b>				
2.5	0.54	0.08	3	0.86	0.02	4	0.95	0.02				
3	0.46	0.24	3.5	0.70	0.13	4.5	0.79	0.14				

\*for SDMT12-SS programming radius adjustment please see next page.

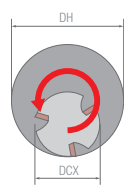
Guide for ramping

	SPMT07			SDMT10			SDMT12 *			SDMT15		
	DCX	RMPX	L	DCX	RMPX	L	DCX	RMPX	L	DCX	RMPX	L
20	3.5°	2.5	35	1.6°	2	32	4.0°	4.5				
25	3.0°	1.6	42	1.5°	1.7	40	2.4°	3.4				
32	1.2°	1.4	50	0.8°	1.5	42	2.1°	3.2				
35	1.2°	1.5	52	1.0°	2	50	1.5°	2.9				
40	1.0°	1.3	63	0.6°	1.8	52	1.0°	2				
42	0.9°	1.3	66	0.6°	1.8	63	1.0°	2.5				
52	0.6°	1.2	80	0.4°	1.6	66	0.9°	2.5				
						80	0.7°	2.2				

\*for SDMT12-SS guide for ramping please see next page.

RMPX: max. ramping angle; L: max. ramping path

Guide for helical milling

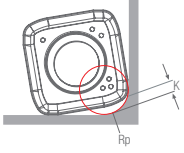
	SPMT07			SDMT10			SDMT12 *			SDMT15		
	DCX	DH min.	DH max.	DCX	DH min.	DH max.	DCX	DH min.	DH max.	DCX	DH min.	DH max.
20	28	40	35	54	70	32	46	64				
25	38	50	42	68	84	40	62	80				
32	52	64	50	84	100	42	66	84				
35	58	70	52	88	104	50	82	100				
40	68	80	63	110	126	52	86	104				
42	72	84	66	116	132	63	108	126				
52	92	104	80	144	160	66	114	132				
						80	142	160				

\*for SDMT12-SS guide for helical milling please see next page.

DH min.: min. cutting dia.; DH max.: max. cutting dia.

Approximate programming radius adjustment

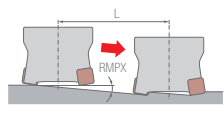
Rp	SDMT12-SS				
	undercut K	overcut r			
3	1.52	0			
<b>3.5</b>	<b>1.40</b>	<b>0</b>			
4	1.28	0.07			



A - TURNING

Guide for ramping

DCX	SDMT12-SS				
	RMPX	L			
32	5.5°	6			
40	3.7°	5.2			
42	3.3°	5			
50	2.4°	4.4			
52	2.2°	4.2			
63	1.5°	3.7			
66	1.4°	3.5			
80	1.0°	3.3			



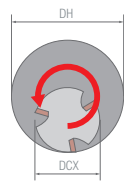
B - THREADING

C - GROOVING

RMPX: max. ramping angle; L: max. ramping path

Guide for helical milling

DCX	SDMT12-SS				
	DH min.	DH max.			
32	42	64			
40	58	80			
42	62	84			
50	78	100			
52	82	104			
63	104	126			
66	110	132			
80	138	160			



D - MILLING

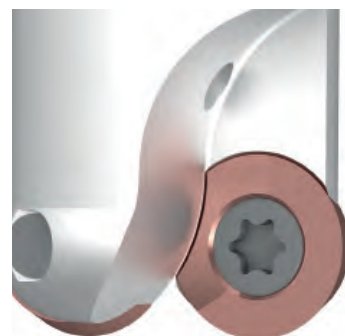
E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

DH min.: min. cutting dia.; DH max.: max. cutting dia.

Catalogue Preview - AMB 2022



## MILLING Profiling

Quick guide .D84

**ROUNDPLUS** .D85

A - TURNING
B - THREADING
C - GROOVING
D - MILLING
E - DRILLING
F - ACCESSORIES
G - SPARE PARTS

	ROUNDPLUS RC	ROUNDPLUS RD	ROUNDPLUS RP
	<input type="checkbox"/> D86	<input type="checkbox"/> D88	<input type="checkbox"/> D92
KAPR		CYLINDRICAL	
APMX		SCREW-IN	
	ARBOR	ARBOR	ARBOR
KAPR	variable	variable	variable
Insert sizes	12 / 16 / 20	05 / 07 / 10 / 12 / 16	12
APMX	3 / 4 / 5	1.25 / 1.75 / 2.5 / 3 / 4	3
Tool diameter	Ø069 - Ø160	Ø10 - Ø125	Ø42 - Ø80
Coolant holes	✓	✓	✓
Workpiece material	<b>P M S</b>	<b>P M K S</b>	<b>P M S</b>
No. of corners	variable	variable	variable
No. of geometries	1	3	3
Special features	indexing faces	-	-
Face Milling	✓	✓	✓
Profiling	✓	✓	✓
Long Overhang	✓	✓	✓
Ramping	✓	✓	✓
Pocketing	✓	✓	✓
Helical Interpolation	✓	✓	✓
Machine load	■ ■ ■ □ □	■ ■ ■ □ □	■ ■ □ □ □
Strength	■ ■ ■ ■ □	■ ■ ■ ■ □	■ ■ ■ □ □
Precision	■ ■ ■ □ □	■ ■ ■ □ □	■ ■ ■ □ □
Finishing	■ ■ ■ □ □	■ ■ ■ □ □	■ ■ ■ □ □
Range	■ ■ ■ □ □	■ ■ ■ ■ ■	■ ■ □ □ □

# ROUNDPLUS

Facing and Profiling milling cutters for multi-functional application

## APPLICATION

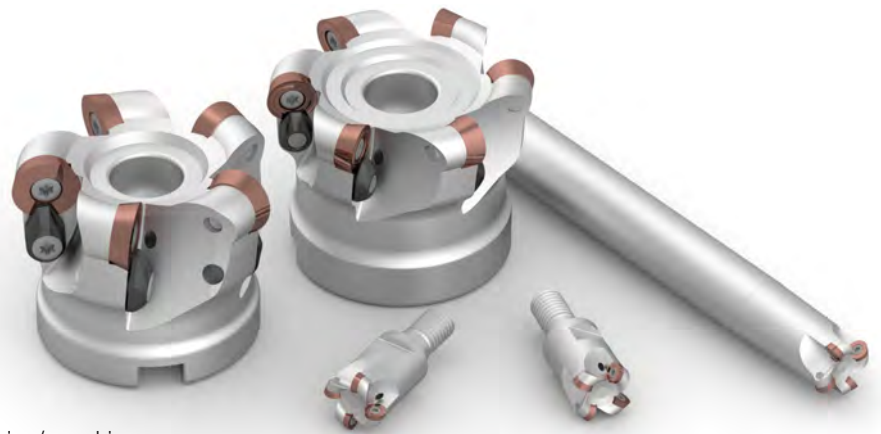
- Profiling of finishing/ semi-finishing/ roughing
- Face milling of finishing/ semi-finishing/ roughing
- Possible to do ramping and pocket interpolation

## ISO APPLICATION FIELDS

**P M K S**

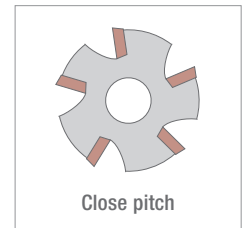
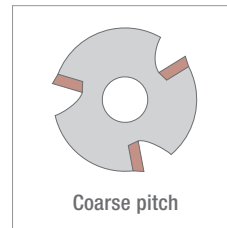
## ADVANTAGES AND CHARACTERISTICS

- Insert geometries available for finishing/ semi-finishing/ roughing
- Cutters range from D09 all the way to D125
- Low cutting force with good robustness, allows long overhang working (up to 10xD)
- Multi-functional tool with good flexibilities in machining



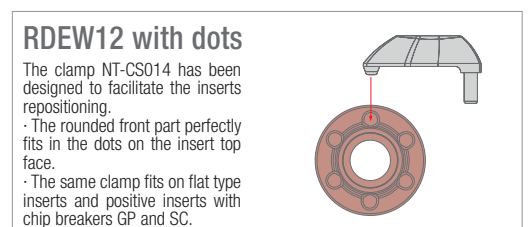
## ● Cutter bodies

- Arbor type
- Cylindrical type (up to 10xD)
- Threaded type
- Extensive sleeves (steel/carbide 10xD)
- From D9 to D160



## ● Inserts

- Multi-edges
- IC 05 / 07 / 10 / 12 / 16 / 20
- Cemented carbide grades with PVD and CVD coatings
- Geometries: SC, GP, Flat



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

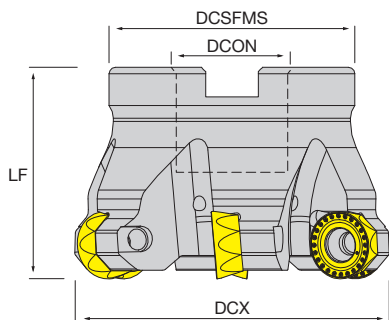
F - ACCESSORIES

G - SPARE PARTS

# NT-RC

## RoundPlus RC

- Positive general face milling cutters for RC inserts
- All with coolant through
- Very robust milling solution for massive chip removal application



Designation	Stock	DCX	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
NT-RC16H D063-F22-Z05	●	63	5	22	50	-	45	-			RCEX1606
NT-RC16H D080-F27-Z06	●	80	6	27	50	-	58	-			RCEX1606
NT-RC16H D100-F32-Z06	●	100	6	32	50	-	70	-			RCEX1606
NT-RC20H D100-F32-Z06	●	100	6	32	50	-	70	-			RCEX2006
NT-RC20H D125-F40-Z07	●	125	7	40	63	-	90	-			RCEX2006
NT-RC20H D160-F40-Z08	●	160	8	40	63	-	100	-			RCEX2006

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

Spare parts	Insert screw	Flag wrench
NT-RC16H D000-000-Z00	NT-ST50110T20	NT-FTB20
NT-RC20H D000-000-Z00	NT-ST60160T25	

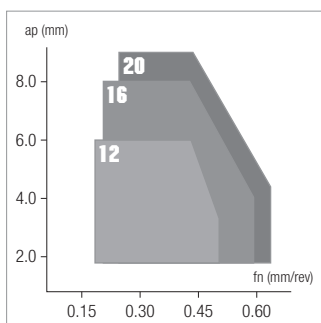
Catalogue Preview - AMB 2022



<h1>RC</h1> <h2>RoundPlus RC</h2> <ul style="list-style-type: none"> <li>GP geometry is for general purpose use</li> <li>8 index facets for seating</li> <li>Both PVD and CVD coated different carbide grades available</li> <li>Very reliable and cost efficient solution for massive metal removal operations</li> </ul>		HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition				HC	HC	HF	HF	
		CVD	CVD	PVD	PVD					
						<b>JC8520</b>	<b>JC9540</b>	<b>JP8725</b>	<b>JP9535</b>	
		Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable				●		○		
		General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable				○	●	●	●	
		Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable					▲		▲	
		<b>Dimensions</b>				<b>ISO</b>				
						<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
		<b>P</b>	150 350		80 280					
		<b>M</b>	140 260		60 200					
		<b>K</b>	130 250							
		<b>N</b>								
		<b>S</b>	40 100		40 80					
		<b>H</b>								
<b>Designation</b>		<b>RE</b>	<b>IC</b>	<b>S</b>	<b>D1</b>	<b>AN</b>	<b>Stock</b>			
GENERAL  with 8 indexes	<b>RCEX1204MOE-GP-8X</b>	6	12	4.76	4	7°		●		
	<b>RCEX1606MOE-GP-8X</b>	8	16	6.35	5.5	7°	●	●	●	●
	<b>RCEX2006MOE-GP-8X</b>	10	20	6.35	6.5	7°	●	●	●	●

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

Catalogue Preview - AMD



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

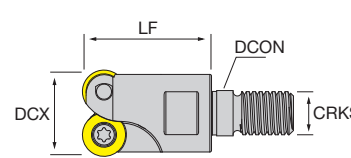
G - SPARE PARTS


## NT-RD

### RoundPlus RD


- Positive general face milling cutters for RD inserts
- With or without coolant through, various options available
- Very convenient multipurpose tool, at small depth of cut could be use as highfeed, at bigger depth of cut is robust with big radii, can also do profiling and copy milling
- Tolerance of tool diameter (with Nikko inserts installed) 0/-0.2


**Screw-in**



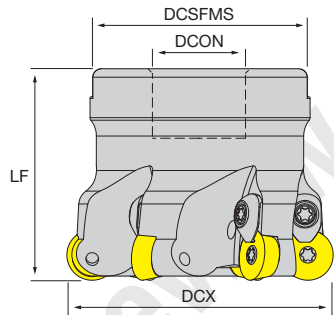



**Cylindrical**





**Arbor**





Designation	Stock	DCX	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
<b>SCREW-IN - WITHOUT COOLANT HOLES</b>											
NT-RD05 D012-M06-Z02	▽	12	2	6.5	18	-	-	M6			RD∞0501
NT-RD05 D012-M06-Z03	▽	12	3	6.5	18	-	-	M6			RD∞0501
NT-RD05 D013-M06-Z02	▽	13	2	6.5	18	-	-	M6			RD∞0501
NT-RD05 D013-M06-Z03	▽	13	3	6.5	18	-	-	M6			RD∞0501
NT-RD05 D016-M08-Z04	▽	16	4	8.5	23	-	-	M8			RD∞0501
NT-RD05 D017-M08-Z04	▽	17	4	8.5	23	-	-	M8			RD∞0501
NT-RD07 D016-M08-Z02	▽	16	2	8.5	23	-	-	M8			RD∞0702
NT-RD07 D017-M08-Z02	▽	17	2	8.5	23	-	-	M8			RD∞0702
NT-RD07 D017-M08-Z03	▽	17	3	8.5	23	-	-	M8			RD∞0702
NT-RD07 D021-M10-Z02	▽	21	2	10.5	30	-	-	M10			RD∞0702
NT-RD07 D021-M10-Z03	▽	21	3	10.5	30	-	-	M10			RD∞0702
NT-RD07 D025-M12-Z05	▽	25	5	12.5	35	-	-	M12			RD∞0702
NT-RD07 D026-M12-Z04	▽	26	4	12.5	35	-	-	M12			RD∞0702
NT-RD07 D026-M12-Z05	▽	26	5	12.5	35	-	-	M12			RD∞0702
NT-RD07 D035-M16-Z05	▽	35	5	17	43	-	-	M16			RD∞0702
NT-RD10 D021-M10-Z02	▽	21	2	10.5	30	-	-	M10			RD∞1003
<b>SCREW-IN - WITH COOLANT HOLES</b>											
NT-RD07H D016-M08-Z03	●	16	3	8.5	23	-	-	M8			RD∞0702
NT-RD07H D020-M10-Z03	●	20	3	10.5	30	-	-	M10			RD∞0702
NT-RD07H D025-M12-Z04	●	25	4	12.5	35	-	-	M12			RD∞0702
NT-RD07H D035-M16-Z06	●	35	6	17	43	-	-	M16			RD∞0702
NT-RD10H D020-M10-Z02	●	20	2	10.5	30	-	-	M10			RD∞1003
NT-RD10H D025-M12-Z03	●	25	3	12.5	35	-	-	M12			RD∞1003
NT-RD10H D026-M12-Z03	●	26	3	12.5	35	-	-	M12			RD∞1003
NT-RD10H D030-M12-Z03	●	30	3	12.5	35	-	-	M12			RD∞1003

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

Designation	Stock	DCX	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
NT-RD10H D032-M16-Z03	●	32	3	17	43	-	-	M16			RD001003
NT-RD10H D032-M16-Z04	●	32	4	17	43	-	-	M16			RD001003
NT-RD10H D035-M16-Z03	●	35	3	17	43	-	-	M16			RD001003
NT-RD10H D035-M16-Z04	●	35	4	17	43	-	-	M16			RD001003
NT-RD10H D040-M16-Z04	●	40	4	17	43	-	-	M16			RD001003
NT-RD10H D042-M16-Z05	●	42	5	17	43	-	-	M16			RD001003
CYLINDRICAL - WITHOUT COOLANT HOLES											
NT-RD05 D009-S08-Z02	▽	9	2	8	100	12	-	-			RD000501
NT-RD05 D011-S10-Z02	▽	11	2	10	100	15	-	-			RD000501
NT-RD05 D013-S12-Z03	▽	17	3	12	100	18	-	-			RD000501
NT-RD05 D017-S16-Z04	▽	17	4	16	150	20	-	-			RD000501
NT-RD07 D021-S20-Z03	▽	21	3	20	150	25	-	-			RD000702
NT-RD07 D026-S25-Z05	▽	26	5	25	150	25	-	-			RD000702
NT-RD07 D035-S32-Z06	▽	35	6	32	150	30	-	-			RD000702
CYLINDRICAL - WITH COOLANT HOLES											
NT-RD05H D010-S10-Z02	●	10	2	10	100	18	-	-			RD000501
NT-RD05H D012-S12-Z03	●	12	3	12	100	22	-	-			RD000501
NT-RD05H D016-S16-Z04	●	16	4	16	150	30	-	-			RD000501
NT-RD07H D016-S16-Z02	●	16	2	16	150	25	-	-			RD000702
NT-RD07H D017-S16-Z02	●	17	2	16	150	20	-	-			RD000702
NT-RD07H D020-S20-Z03	●	20	3	20	150	35	-	-			RD000702
NT-RD07H D025-S25-Z05	●	25	5	25	150	40	-	-			RD000702
NT-RD10H D020-S20-Z02	●	20	2	20	150	40	-	-			RD001003
NT-RD10H D021-S20-Z02	●	21	2	20	150	25	-	-			RD001003
NT-RD10H D025-S25-Z03	●	25	3	25	150	40	-	-			RD001003
NT-RD10H D026-S25-Z03	●	26	3	25	150	25	-	-			RD001003
NT-RD10H D030-S25-Z03	●	30	3	25	150	25	-	-			RD001003
NT-RD10H D032-S32-Z03	●	32	3	32	150	40	-	-			RD001003
NT-RD10H D035-S32-Z04	●	35	4	32	150	35	-	-			RD001003
ARBOR - WITHOUT COOLANT HOLES											
NT-RD16 D066-F22-Z05	▽	66	5	22	50	-	56	-			RD001604
ARBOR - WITH COOLANT HOLES											
NT-RD10H D042-F16-Z05	●	42	5	16	40	-	35	-			RD001003
NT-RD10H D052-F22-Z06	●	52	6	22	40	-	46	-			RD001003
NT-RD12H D040-F16-Z04	○	40	4	16	50	-	-	-			RD001204
NT-RD12H D042-F16-Z04	●	42	4	16	50	-	38	-			RD001204
NT-RD12H D050-F22-Z04	●	50	4	22	50	-	46	-			RD001204
NT-RD12H D050-F22-Z05	●	50	5	22	50	-	46	-			RD001204
NT-RD12H D052-F22-Z04	●	52	4	22	50	-	46	-			RD001204
NT-RD12H D052-F22-Z05	●	52	5	22	50	-	46	-			RD001204
NT-RD12H D063-F22-Z05	●	63	5	22	50	-	52	-			RD001204
NT-RD12H D063-F22-Z06	●	63	6	22	50	-	52	-			RD001204
NT-RD12H D066-F22-Z06	●	66	6	22	50	-	56	-			RD001204
NT-RD12H D080-F27-Z07	●	80	7	27	50	-	60	-			RD001204
NT-RD16H D063-F22-Z05	●	63	5	22	50	-	52	-			RD001604
NT-RD16H D066-F27-Z05	●	66	5	27	50	-	56	-			RD001604
NT-RD16H D080-F27-Z05	●	80	5	27	50	-	60	-			RD001604
NT-RD16H D080-F27-Z06	●	80	6	27	50	-	60	-			RD001604
NT-RD16H D100-F32-Z07	●	100	7	32	50	-	70	-			RD001604
NT-RD16H D125-F40-Z08	●	125	8	40	63	-	90	-			RD001604

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

Spare parts	Insert screw	Flag wrench	Clamping set
NT-RD05o DCX ≤ 10	NT-ST20033T06	NT-FTB06	-
NT-RD05o DCX ≥ 11	NT-ST20040T06	NT-FTB06	-
NT-RD07o D000-000-Z00	NT-ST25056T08HQ	NT-FTB08	-
NT-RD10o DCX ≤ 26	NT-ST35070T15	NT-FTB15	-

Spare parts	Insert screw	Flag wrench	Clamping set
NT-RD10o DCX = 30	NT-ST35095T15HQ	NT-FTB15	-
NT-RD10o DCX ≥ 32	NT-ST35095T15HQ	NT-FTB15	NT-CS013
NT-RD12H D000-000-Z00	NT-ST40110T15HQ	NT-FTB15	NT-CS014
NT-RD16H D000-000-Z00	NT-ST45110T20	NT-FTB20	NT-CS021

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

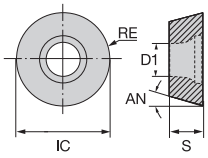
C - GROOVING






D - MILLING

E - DRILLING

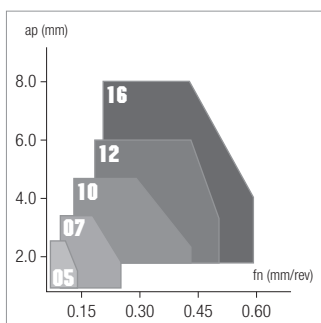
F - ACCESSORIES

G - SPARE PARTS

<h1>RD</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition							
	<h2>RoundPlus RD</h2>	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HT
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is sharper</li> <li>Reinforced with chamfer edge type available in multiple sizes</li> <li>Both PVD and CVD coated different carbide grades available</li> <li>Different dots fits with the same universal-clamp on our cutters</li> <li>Very reliable and cost efficient solution for multiple purpose and massive metal removal operations</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	○					●	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	●	●	●	●	●	
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable	⚡		⚡	⚡			⚡
	<b>Dimensions</b>	<b>ISO</b>						
	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
	<b>P</b>	80 250	60 230		80 280	160 350		
	<b>M</b>	140 260	60 160	60 150		60 200	100 240	
	<b>K</b>			100 200	100 240		160 380	
	<b>N</b>							
	<b>S</b>	40 100				40 80		
	<b>H</b>							

	Designation	RE	IC	S	D1	AN	Stock							
<b>GENERAL</b> 	RDET0803MOE-GP	4	8	3.18	2.9	15°		○						
	RDET1003MOE-GP	5	10	3.18	4.4	15°	●	●	▲	●				
	RDET10T3MOE-GP	5	10	3.97	4.4	15°		○	○					
	RDET1204MOE-GP	6	12	4.76	4.4	15°	●	●	▲	●				
	RDMT1204MOE-GP	6	12	4.76	4.4	15°		●						
	RDET1604MOE-GP	8	16	4.76	5.5	15°		○	●	●				
<b>LOW FORCE</b> 	RDET1204MOE-SC	6	12	4.76	4.4	15°		○						
	RDET1604MOE-SC	8	16	4.76	5.5	15°	●	●	▲					
<b>REINFORCED</b> 	RDEW0501MOE	2.5	5	1.51	2.2	15°		●	●	●	○			
	RDEW0702MOE	3.5	7	2.38	2.8	15°					●	▽		
<b>REINFORCED</b> 	RDEW0702MOT	3.5	7	2.38	2.8	15°	●	●	●	▲				
	RDEW1003MOT	5	10	3.18	4.4	15°		●	●	●				
	RDEW10T3MOT	5	10	3.97	4.4	15°	▽	●						
	RDEW1204MOT	6	12	4.76	4.4	15°		●	○	●				
	RDEW1604MOT	8	16	4.76	5.5	15°		●	●	●				
<b>REINFORCED</b> 	RDMW1604MOT	8	16	4.76	5.5	15°		●	●					
	RDEW1204MOT-D6	6	12	4.76	4.4	15°		○						
	RDMW1204MOT-D6	6	12	4.76	4.4	15°				●				
	RDEW1605MOT-D6	8	16	5.66	5.5	15°	▽							

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

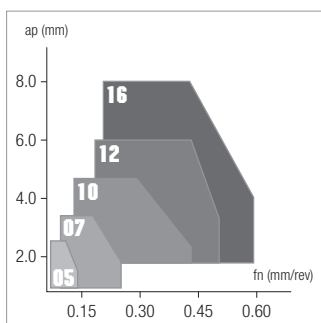


<h1>RD</h1>	HC: Coated carbide HF: Micrograin carbide HT: Cermet CVD: Chemical vapour deposition PVD: Physical vapour deposition							HC	HF	HF	HF	HF	HF	HT
								CVD	PVD	PVD	PVD	PVD	PVD	
RoundPlus RD								<b>JC9540</b>	<b>JP5520</b>	<b>JP5530</b>	<b>JP7525</b>	<b>JP8725</b>	<b>JP9535</b>	<b>JU4525</b>
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is sharper</li> <li>Reinforced with chamfer edge type available in multiple sizes</li> <li>Both PVD and CVD coated different carbide grades available</li> <li>Different dots fits with the same universal-clamp on our cutters</li> <li>Very reliable and cost efficient solution for multiple purpose and massive metal removal operations</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable											
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable											
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice	⚡ suitable											
	<b>Dimensions</b>			<b>ISO</b>										
			<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>											
			<b>P</b>	80 250	60 230	80 280	160 350							
			<b>M</b>	140 260	60 160	60 150	60 200	100 240						
			<b>K</b>		100 200	100 240		160 380						
			<b>N</b>											
			<b>S</b>	40 100					40 80					
			<b>H</b>											

REINFORCED	MOT <b>P</b>	Designation	RE	IC	S	D1	AN	Stock						
								●	○	▲	▽			
flat type - 8 dots chamfered edge	RDEW12T3MOT-D8	6	12	3.97	4.4	15°	●	○	▲					
	RDEW1204MOT-D8	6	12	4.76	4.4	15°		○						
	RDMW1204MOT-D8	6	12	4.76	4.4	15°		○						
	RDMW1605MOT-D8	8	16	5.66	5.5	15°		●						

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

Catalogue Preview - AMP



- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

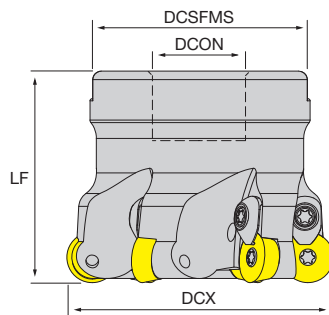
F - ACCESSORIES

G - SPARE PARTS

# NT-RP

## RoundPlus RP

- Positive general face milling cutters for RP inserts
- All with coolant through
- Big clearance on the flank face especially useful for M and S material roughing



Designation	Stock	DCX	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
NT-RP12H D042-F16-Z04	●	42	4	16	50	-	38	-			RPoo1204
NT-RP12H D050-F22-Z05	●	50	5	22	50	-	46	-			RPoo1204
NT-RP12H D052-F22-Z05	●	52	5	22	50	-	46	-			RPoo1204
NT-RP12H D063-F22-Z06	●	63	6	22	50	-	52	-			RPoo1204
NT-RP12H D066-F22-Z06	●	66	6	22	50	-	56	-			RPoo1204
NT-RP12H D080-F27-Z07	●	80	7	27	50	-	60	-			RPoo1204

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

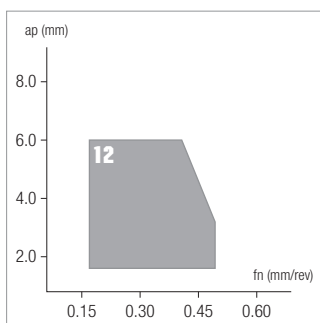
Spare parts	Insert screw	Flag wrench	Clamping set
NT-RP12H D000-F00-Z00	 NT-ST40110T15HQ	 NT-FTB15	 NT-CS013

Catalogue Preview - AMB 2022

<h1>RP</h1>	HC: Coated carbide HF: Micrograin carbide CVD: Chemical vapour deposition PVD: Physical vapour deposition				HC CVD	HF PVD	HF PVD	HF PVD		
	<h2>RoundPlus RP</h2>				<b>JP9540</b>	<b>JP5530</b>	<b>JP8725</b>	<b>JP9535</b>		
<ul style="list-style-type: none"> <li>Sharp / general purpose /reinforced with chamfer edge types available</li> <li>Flat top surface or with geometries all fit with the same universal-clamp on our cutters</li> <li>Both PVD and CVD coated different carbide grades available</li> <li>Very reliable and cost efficient solution for roughing, especially on stainless or high temperature alloys</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable									
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable		● ● ● ●							
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable		▲ ▼							
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
		<b>P</b>		60 230		80 280				
		<b>M</b>		140 260		60 150		60 200		
		<b>K</b>				100 200				
		<b>N</b>								
		<b>S</b>		40 100				40 80		
		<b>H</b>								

Designation		RE	IC	S	D1	AN	Stock					
GENERAL	<b>GP P M S</b> 	RPET1204M0E-GP	6	12	4.76	4.4	11°		●	●		
		RPET1204M0T-GP	6	12	4.76	4.4	11°	●				
		RPMT1204M0E-GP	6	12	4.76	4.4	11°	●	●			
LOW FORCE	<b>SC P</b> 	RPET1204M0E-SC	6	12	4.76	4.4	11°		○			
REINFORCED	<b>MOT P</b> 	RPEW1204M0T	6	12	4.76	4.4	11°		●			
	flat type chamfered edge	RPMW1204M0T	6	12	4.76	4.4	11°		●	●		

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



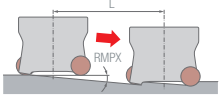
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5530			JP8725			JU4225		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	100	140	180	100	150	200	130	180	230
				30%	160	200	240	160	210	260	200	240	280
				10%	220	240	260	220	250	280	260	280	300
B - THREADING	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	80	120	160	90	130	170	120	150	180
				30%	120	160	200	130	170	210	180	210	240
				10%	180	200	220	190	210	230	230	250	270
C - GROOVING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	60	90	120	80	110	140	90	120	150
				30%	100	130	160	120	150	180	150	180	210
				10%	140	170	200	160	190	220	190	220	250
D - MILLING	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	90	130	170	60	100	140	80	120	160
				30%	110	160	210	80	130	180	100	150	200
				10%	130	190	250	100	160	220	120	180	240
E - DRILLING	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	70	100	130				60	90	120
				30%	80	110	140				70	100	130
				10%	90	120	150				80	110	140
F - ACCESSORIES	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	90	120	150	60	90	120	80	110	140
				30%	110	150	190	80	120	160	100	140	180
				10%	130	170	210	100	140	180	120	160	200
G - SPARE PARTS	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	80	110	140				70	100	130
				30%	90	120	150				80	110	140
				10%	100	130	160				90	120	150
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	140	180	220						
				30%	160	210	260						
				10%	180	240	300						
	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	100	140	180						
				30%	120	170	220						
				10%	140	200	260						
	K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	100%	90	120	150						
				30%	120	150	180						
				10%	150	180	210						
	S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	30	40	50	20	30	40			
				30%	40	50	60	30	40	50			
				10%	50	60	70	40	50	60			
	S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%				40	50	60			
				30%				50	60	70			
				10%				60	70	80			



DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE			DESIGNATION	ae/Dc	DEPTH OF CUT			FEED RATE		
		ap (mm)			fn (mm/rev)					ap (mm)			fn (mm/rev)		
		min	start	max	min	start	max			min	start	max	min	start	max
IC=10 GP chipbreaker	100%	0.50	<b>1.50</b>	2.50	0.10	<b>0.18</b>	0.26	IC=05 Flat	100%	0.25	<b>0.75</b>	1.25	0.04	<b>0.06</b>	0.08
	30%	1.00	<b>3.00</b>	5.00	0.12	<b>0.21</b>	0.30		30%	0.50	<b>1.50</b>	2.50	0.06	<b>0.08</b>	0.10
	10%	1.00	<b>3.00</b>	5.00	0.16	<b>0.28</b>	0.40		10%	0.50	<b>1.50</b>	2.50	0.08	<b>0.10</b>	0.12
IC=12 GP chipbreaker	100%	1.00	<b>2.00</b>	3.00	0.12	<b>0.23</b>	0.34	IC=07 Flat	100%	0.25	<b>1.00</b>	1.75	0.08	<b>0.12</b>	0.16
	30%	1.00	<b>3.50</b>	6.00	0.16	<b>0.28</b>	0.40		30%	0.50	<b>2.00</b>	3.50	0.10	<b>0.15</b>	0.20
	10%	1.00	<b>3.50</b>	6.00	0.20	<b>0.35</b>	0.50		10%	0.50	<b>2.00</b>	3.50	0.12	<b>0.18</b>	0.24
IC=16 GP chipbreaker	100%	1.00	<b>2.50</b>	4.00	0.16	<b>0.28</b>	0.40	IC=10 Flat	100%	0.50	<b>1.50</b>	2.50	0.12	<b>0.20</b>	0.28
	30%	1.00	<b>4.50</b>	8.00	0.20	<b>0.33</b>	0.46		30%	1.00	<b>3.00</b>	5.00	0.15	<b>0.25</b>	0.35
	10%	1.00	<b>4.50</b>	8.00	0.24	<b>0.42</b>	0.60		10%	1.00	<b>3.00</b>	5.00	0.18	<b>0.30</b>	0.42
IC=20 GP chipbreaker	100%	1.00	<b>3.00</b>	5.00	0.18	<b>0.33</b>	0.48	IC=12 Flat	100%	1.00	<b>2.00</b>	3.00	0.16	<b>0.27</b>	0.38
	30%	1.00	<b>5.50</b>	10.00	0.22	<b>0.40</b>	0.58		30%	1.00	<b>3.50</b>	6.00	0.20	<b>0.34</b>	0.48
	10%	1.00	<b>5.50</b>	10.00	0.30	<b>0.50</b>	0.70		10%	1.00	<b>3.50</b>	6.00	0.24	<b>0.40</b>	0.56
IC=12 SC chipbreaker	100%	1.00	<b>2.00</b>	3.00	0.12	<b>0.20</b>	0.28	IC=16 Flat	100%	1.00	<b>2.50</b>	4.00	0.19	<b>0.32</b>	0.45
	30%	1.00	<b>3.50</b>	6.00	0.14	<b>0.24</b>	0.34		30%	1.00	<b>4.50</b>	8.00	0.24	<b>0.40</b>	0.56
	10%	1.00	<b>3.50</b>	6.00	0.16	<b>0.28</b>	0.40		10%	1.00	<b>4.50</b>	8.00	0.28	<b>0.47</b>	0.66
IC=16 SC chipbreaker	100%	1.00	<b>2.50</b>	4.00	0.14	<b>0.25</b>	0.36								
	30%	1.00	<b>4.50</b>	8.00	0.18	<b>0.30</b>	0.42								
	10%	1.00	<b>4.50</b>	8.00	0.22	<b>0.35</b>	0.48								

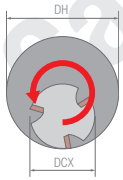
Guide for ramping



	NT-RD05H			NT-RD07H			NT-RD10H		
	DCX	RMPX	L	DCX	RMPX	L	DCX	RMPX	L
	10	6.2°	2.1	16	4.7°	2.6	20	9.4°	6.6
	12	4.4°	1.8	17	4.1°	2.4	21	6.6°	4.8
	13	3.6°	1.6	20	3.3°	2.2	25	4.4°	3.9
	16	2.0°	1.0	25	2.3°	2.0	26	4.3°	3.9
	17	2.0°	1.0	35	2.0°	1.0	30	3.2°	3.4
							32	1.2°	1.5
							35	1.0°	1.4
							40	0.9°	1.4
							42	0.8°	1.3
							52	0.6°	0.9

RMPX: max. ramping angle; L: max. ramping path

Guide for helical milling

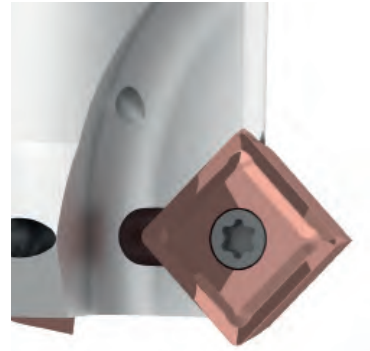


	NT-RD05H			NT-RD07H			NT-RD10H		
	DCX	DH min.	DH max.	DCX	DH min.	DH max.	DCX	DH min.	DH max.
	10	12	18	16	24	30	20	22	38
	12	16	22	17	26	32	21	24	40
	13	18	24	20	32	38	25	32	48
	16	24	30	25	42	48	26	34	50
	17	26	32	35	62	68	30	42	58
							32	46	62
							35	52	68
							40	62	78
							42	66	82
							52	86	102

DH min.: min. cutting dia.; DH max.: max. cutting dia.



Catalogue Preview - AMB 2022



## MILLING Chamfering

Quick guide .D98

**CHAMFERSQUARE** .D99

A - TURNING

B - THREADING

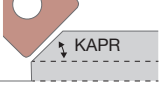
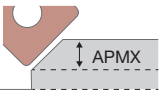



C - GROOVING

**D - MILLING**

E - DRILLING

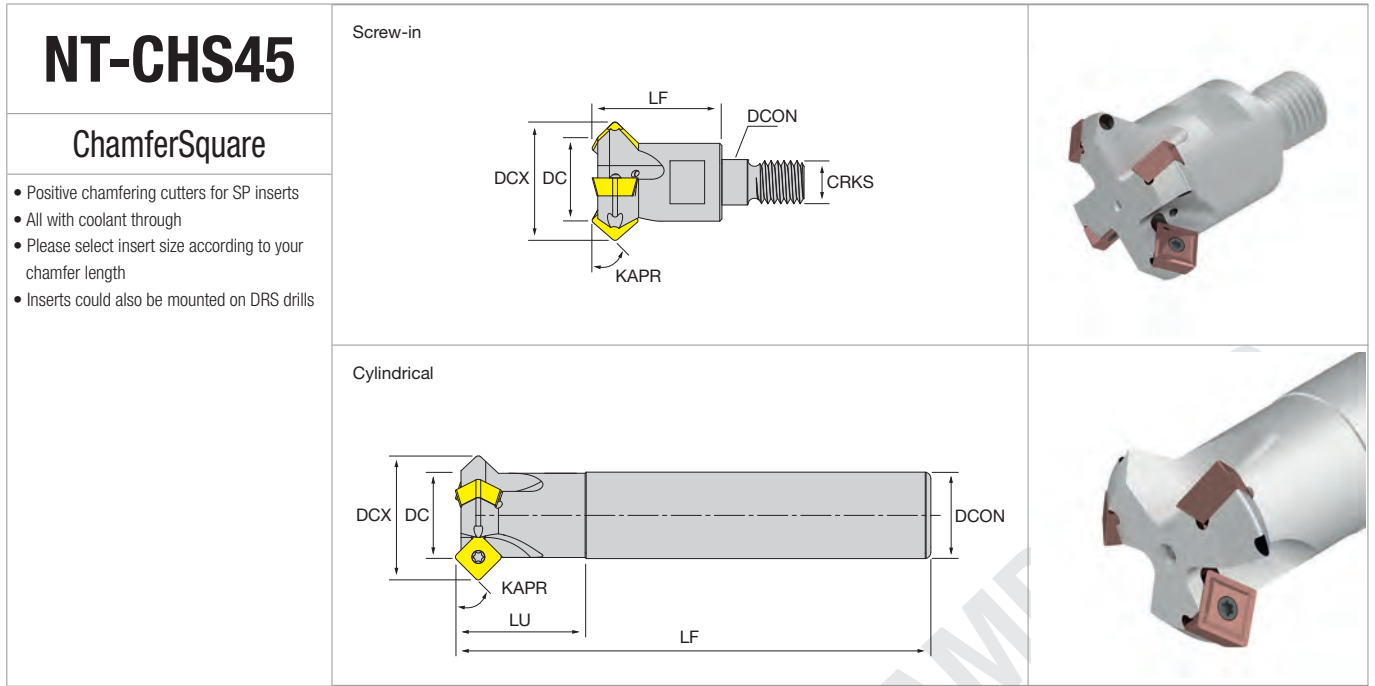
F - ACCESSORIES

G - SPARE PARTS

<b>CHAMFERSQUARE</b>	
<input type="checkbox"/> D99	
 	 <p>CYLINDRICAL</p>  <p>SCREW-IN</p>
KAPR	45°
Insert sizes	05 / 07 / 09
APMX	4.2 / 6.34 / 8.2
Tool diameter	Ø12 - Ø32
Coolant holes	✓
Workpiece material	<b>P M K N</b>
No. of corners	4
No. of geometries	2
Special features	-
Chamfering 	✓
Machine load	■ ■ □ □ □
Strength	■ ■ ■ □ □
Precision	■ ■ ■ □ □
Finishing	■ ■ ■ □ □
Range	■ ■ ■ ■ □

Review - AMB 2022

Catalog



Designation	Stock	DC	CICT	DCX	DCON	LF	LU	CRKS		WT	MIID
<b>SCREW-IN</b>											
NT-CHS45 D12/19-M06-Z3-05	●	12	3	19	6.5	20	-	M6			SPoX05
NT-CHS45 D16/22-M08-Z4-05	●	16	4	22	8.5	25	-	M8			SPoX05
NT-CHS45 D20/30-M10-Z3-07	●	20	3	30	10.5	30	-	M10			SPoX07
NT-CHS45 D25/37-M12-Z3-09	●	25	3	37	12.5	35	-	M12			SPoX09
NT-CHS45 D32/44-M16-Z4-09	●	32	4	44	17	40	-	M16			SPoX09
<b>CYLINDRICAL</b>											
NT-CHS45 D12/19-S12-Z3-05	●	12	3	19	12	80	20	-			SPoX05
NT-CHS45 D16/22-S16-Z4-05	●	16	4	22	16	100	25	-			SPoX05
NT-CHS45 D20/30-S20-Z3-07	●	20	3	30	20	110	30	-			SPoX07
NT-CHS45 D25/37-S25-Z3-09	●	25	3	37	25	120	35	-			SPoX09
NT-CHS45 D32/44-S32-Z4-09	●	32	4	44	32	130	40	-			SPoX09

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

Spare parts	Insert screw	Flag wrench
NT-CHS45 D <sub>00/00-000</sub> -Z <sub>0</sub> -05	NT-ST20043T06	NT-FTB06
NT-CHS45 D <sub>00/00-000</sub> -Z <sub>0</sub> -07	NT-ST25065T07	NT-FTB07
NT-CHS45 D <sub>00/00-000</sub> -Z <sub>0</sub> -09	NT-ST35051T15	NT-FTB15

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>SPoX</h1> <h2>ChamferSquare</h2>	HF: Micrograin carbide PVD: Physical vapour deposition					HF PVD	HF PVD	HF PVD	HF PVD	HF	
						<b>JP5530</b>	<b>JP8725</b>	<b>JP9535</b>	<b>JP9635</b>	<b>JU6520</b>	
<ul style="list-style-type: none"> <li>General purpose type or fine polished sharp geometries for aluminum or non-ferrous materials available</li> <li>Diverse PVD coated carbide grades available</li> <li>Inserts could also be mounted on DRS drills</li> </ul>		Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable									
		General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable									
		Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable									
		<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
		<b>P</b>		60 230		80 280					
		<b>M</b>		60 150		60 200		60 200			
		<b>K</b>		100 200							
		<b>N</b>						500 1500			
		<b>S</b>				40 80		40 80			
		<b>H</b>									

Designation		RE	IC	S	D1	LE	Stock												
<b>GENERAL</b> 	<b>GP</b> <b>P</b> <b>M</b> SPMX050204-GP	0.4	5	2.38	2.5	4.2	●	▲	●										
	SPMX077308-GP	0.8	7.94	3.97	2.8	6.34	●	●	●										
	SPMX090408-GP	0.8	9.8	4.3	4.2	8.2	●	●	▲	●									
<b>ALUMINIUM</b>  polished surface periphery ground	<b>AL</b> <b>N</b> SPGX050204-AL	0.4	5	2.38	2.5	4.2												●	
	SPGX077308-AL	0.8	7.94	3.97	2.8	6.34													●
	SPGX090408-AL	0.8	9.8	4.3	4.2	8.2													●

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

Catalogue Preview - AMB

ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5530			JP8725		
				min	start	max	min	start	max
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	100	140	180	100	150	200
			30%	160	200	240	160	210	260
			10%	220	240	260	220	250	280
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	80	120	160	90	130	170
			30%	120	160	200	130	170	210
			10%	180	200	220	190	210	230
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	60	90	120	80	110	140
			30%	100	130	160	120	150	180
			10%	140	170	200	160	190	220
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP5530			JP9535		
				min	start	max	min	start	max
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	60	100	140	80	120	160
			30%	80	130	180	100	150	200
			10%	100	160	220	120	180	240
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%				60	90	120
			30%				70	100	130
			10%				80	110	140
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	60	90	120	80	110	140
			30%	80	120	160	100	140	180
			10%	100	140	180	120	160	200
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%				70	100	130
			30%				80	110	140
				90	120	150			
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JU6520					
				min	start	max			
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		100%	300	400	500			
			30%	400	600	800			
			10%	500	800	1100			
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		100%	200	250	300			
			30%	300	350	400			
			10%	400	450	500			
ISO 513	MATERIAL	HARDNESS HB	ae/Dc	JP9535					
				min	start	max			
S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	20	30	40			
			30%	30	40	50			
			10%	40	50	60			
S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%	40	50	60			
			30%	50	60	70			
			10%	60	70	80			

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING
B - THREADING
C - GROOVING
D - MILLING
E - DRILLING
F - ACCESSORIES
G - SPARE PARTS

DESIGNATION	ae/Dc	FEED RATE		
		fn (mm/rev)		
		min	start	max
SPMX050204-GP	100%	0.08	<b>0.13</b>	0.18
	30%	0.10	<b>0.16</b>	0.22
	10%	0.12	<b>0.19</b>	0.26
SPMX07T308-GP	100%	0.10	<b>0.16</b>	<b>0.22</b>
	30%	0.12	<b>0.20</b>	<b>0.28</b>
	10%	0.14	<b>0.24</b>	<b>0.34</b>
SPMX090408-GP	100%	0.11	<b>0.19</b>	<b>0.27</b>
	30%	0.14	<b>0.24</b>	<b>0.34</b>
	10%	0.16	<b>0.28</b>	<b>0.40</b>
SPGX050204-AL	100%	0.06	<b>0.10</b>	<b>0.14</b>
	30%	0.08	<b>0.13</b>	<b>0.18</b>
	10%	0.09	<b>0.15</b>	<b>0.21</b>
SPGX07T308-AL	100%	0.08	<b>0.13</b>	<b>0.18</b>
	30%	0.10	<b>0.16</b>	<b>0.22</b>
	10%	0.12	<b>0.19</b>	<b>0.26</b>
SPGX090408-AL	100%	0.10	<b>0.16</b>	<b>0.22</b>
	30%	0.12	<b>0.19</b>	<b>0.26</b>
	10%	0.14	<b>0.23</b>	<b>0.32</b>

Catalogue Preview - AMB 2022



Catalogue Preview - AMB 2022



## MILLING Advanced

Quick guide .D104

**ROUND SERIES** .D106

**TANGENTIAL** .D108

**XP SERIES** .D110

**SQUARE SERIES** .D112

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING**
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

	ROUND	SQUARE	TANGENTIAL
	D106	D112	D108
NT-SN1288 			
NT-SN1275 			
NT-XP08 NT-SP12 		ARBOR 75°	
NT-RN12 		ARBOR 88°	
	ARBOR		ARBOR
KAPR	variable	75° / 88°	90°
Insert sizes	12	12	12
APMX	3		3 / 7
Tool diameter	Ø50 - Ø100	Ø50 - Ø125	Ø50 - Ø125
Coolant holes	✓	✓	✓
Workpiece material	<b>S H</b>	<b>K</b>	<b>K</b>
No. of corners	variable	8	8
No. of geometries	3	4	1
Special features		chipbreaker type available	
Face Milling	✓	✓	✓
Side Milling	✓	✓	✓
Ramping	✓	✗	✗
Machine load	■ ■ ■ ■ □	■ ■ ■ □ □	■ ■ ■ □ □
Strength	■ ■ ■ ■ ■	■ ■ ■ □ □	■ ■ ■ ■ □
Precision	■ ■ ■ □ □	■ ■ ■ □ □	■ ■ ■ □ □
Finishing	■ ■ ■ □ □	■ ■ ■ □ □	■ ■ ■ □ □
Range	■ ■ ■ □ □	■ ■ ■ ■ □	■ ■ ■ □ □

XP SERIES	
	<input type="checkbox"/> D110
NT-SN1288 	
NT-SN1275 	
NT-XP08 NT-SP12 	 ARBOR ALU
NT-RN12 	 ARBOR STEEL
KAPR	90°
Insert sizes	08
APMX	3 (PCD) / 1 (PCBN)
Tool diameter	Ø50 - Ø125
Coolant holes	-
Workpiece material	<b>K N</b>
No. of corners	1 (PCD) / 2 (PCBN)
No. of geometries	1
Special features	
Face Milling	✓
Side Milling	✓
Ramping	✗
Machine load	■ ■ □ □ □
Strength	■ ■ ■ □ □
Precision	■ ■ ■ ■ □
Finishing	■ ■ ■ ■ □
Range	■ ■ ■ □ □

Review - AMB 2022

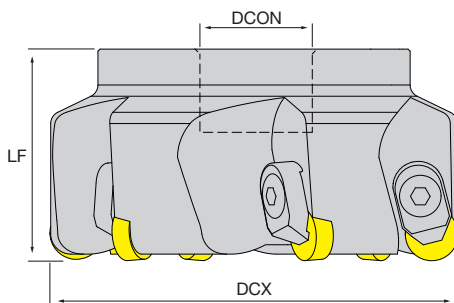
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

# NT-RN

## Round series

- Milling holder for doublesided solid round inserts without holes
- For dry cut milling
- Please select according to the thickness of the inserts



B - THREADING

Designation	Stock	DCX	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
<b>FOR RNGN120400</b>											
NT-RN12 D050-F22-Z04	●	50	4	22	50	-	45	-			RNGN1204
NT-RN12 D063-F22-Z04	●	63	4	22	50	-	45	-			RNGN1204
NT-RN12 D080-F27-Z05	●	80	5	27	50	-	58	-			RNGN1204
NT-RN12 D100-F32-Z06	●	100	6	32	50	-	75	-			RNGN1204
<b>FOR RNGN120700</b>											
NT-RN12X D050-F22-Z04	●	50	4	22	50	-	45	-			RNGN1207
NT-RN12X D063-F22-Z04	●	63	4	22	50	-	45	-			RNGN1207
NT-RN12X D080-F27-Z05	●	80	5	27	50	-	58	-			RNGN1207
NT-RN12X D100-F32-Z06	●	100	6	32	50	-	60	-			RNGN1207

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

C - GROOVING

D - MILLING

Spare parts	Clamp	Clamp screw	Spring	L wrench
NT-RN12o Dooo-Fooo-Zooo	 NT-CS028	 NT-SC035	 NT-SG028	 NT-WR030

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

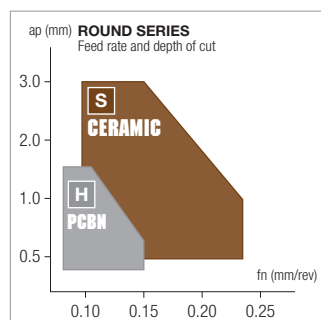
<h1>RN</h1>	BH: High volume CBN CN: Silicon nitride ceramic Si <sub>3</sub> N <sub>4</sub> PVD: Physical vapour deposition			BH	BH	CN
	Round series			<b>MBH9000</b>	<b>MBH9500</b>	<b>MSA6000</b>
<ul style="list-style-type: none"> <li>• Solid CBN and solid ceramic inserts for advanced milling</li> <li>• Different thickness and edge preparation available upon request</li> <li>• Very reliable and cost efficient solution for multiple purpose use on S/H materials</li> <li>• Wider range available on request</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	○	○	○		
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●		
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable	⚡	⚡	⚡		
	Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)			
	P M K N S H				800 1200	

Designation		RE	IC	S	AN				
PCBN	 UE <b>H1</b> full solid	RNGN120400S-UE	6.35	12.7	4.76	0°	●	●	
CERAMIC	 E <b>S1</b> SiAlON	RNGN120700E	6.35	12.7	7.94	0°		○	
CERAMIC	 CC <b>S1</b> SiAlON	RNGN120400-CC	6.35	12.7	4.76	0°		●	
		RNGN120700-CC	6.35	12.7	7.94	0°		●	

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

Catalogue Preview - AMB

S1	HRSA good machinability <25 HRC	800÷1200
S2	HRSA medium machinability 25÷35 HRC	800÷1200
S3	HRSA low machinability 25÷45 HRC	600÷1200
H1	Case-hardened steel	100÷300
H2	Bearing steel	200÷400
H3	Hardened tool steel	150÷350



A - TURNING  
 B - THREADING  
 C - GROOVING  
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 F - ACCESSORIES  
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A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

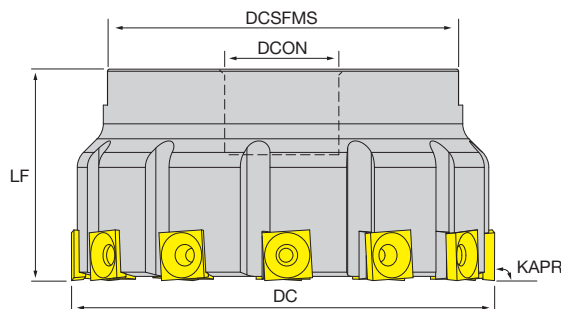
F - ACCESSORIES

G - SPARE PARTS

# NT-SP

## Tangential

- Milling holder for tangential solid square inserts
- For dry cut milling
- Kapr 90°
- More teeth density comparing to flat-mount type



Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
NT-SP12-TAN D050-F22-Z05	●	50	5	22	50	-	45	-			SPHX1205
NT-SP12-TAN D063-F22-Z07	●	63	7	22	50	-	50	-			SPHX1205
NT-SP12-TAN D080-F27-Z08	●	80	8	27	50	-	60	-			SPHX1205
NT-SP12-TAN D100-F32-Z12	●	100	12	32	50	-	85	-			SPHX1205
NT-SP12-TAN D125-F40-Z15	●	125	15	40	50	-	85	-			SPHX1205

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

Spare parts	Insert screw	Flag wrench
NT-SP12-TAN D <sub>000</sub> -F <sub>00</sub> -Z <sub>00</sub>	NT-ST40101T15	NT-FTB15

Catalogue Preview - AMB 2022

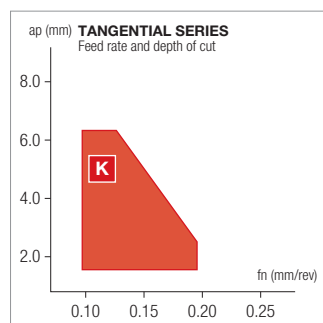
<h1>SPHX</h1>	CN: Silicon nitride ceramic Si3N4		CN	CN																																						
	Tangential		<b>NSN350</b>	<b>NSN400</b>																																						
<ul style="list-style-type: none"> <li>Tangentially mounted positive ceramic for advanced milling</li> <li>8 cutting edges available</li> <li>Very robust and reliable solution for cast iron advanced milling</li> <li>Better surface quality with tangential solution when the clamping isn't ideal</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	●	●																																						
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	○	●																																						
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice ◁ suitable																																								
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																																							
<p>8 edges</p>	<b>P</b>	<table border="1"> <tr><td><b>M</b></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td><b>K</b></td><td>600</td><td>600</td><td>1200</td><td>1200</td><td></td><td></td></tr> <tr><td><b>N</b></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td><b>S</b></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td><b>H</b></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>						<b>M</b>							<b>K</b>	600	600	1200	1200			<b>N</b>							<b>S</b>							<b>H</b>						
	<b>M</b>																																									
	<b>K</b>							600	600	1200	1200																															
	<b>N</b>																																									
	<b>S</b>																																									
<b>H</b>																																										
<b>C</b>																																										
<b>F</b>																																										
<b>G</b>																																										
<b>H</b>																																										

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

**TANGENTIAL SERIES**  
cutting speed (m/min)

K1	Gray cast iron
----	----------------

**CERAMIC NSN** 600-1200  
roughing and finishing



Catalogue Preview - AMB

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

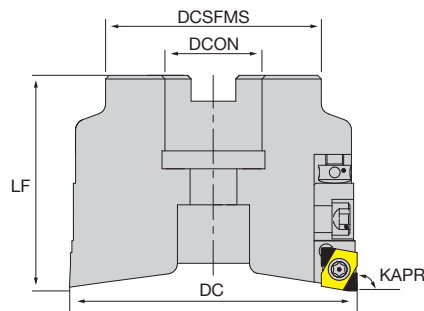
G - SPARE PARTS

# NT-XP

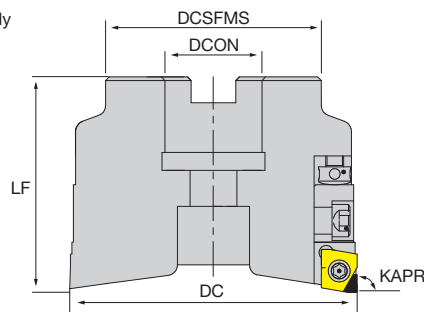
## XP series

- Milling holder for brazed tip XP type inserts
- For dry cut milling
- Kapr 90°
- Both aluminum light body and robust steel body available

Steel body



Aluminium body



Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
<b>STEEL BODY</b>											
NT-XP08-ST D050-F16-Z05	●	50	5	16	50	-	32	-			XPGo0802
NT-XP08-ST D063-F22-Z06	●	63	6	22	50	-	44	-			XPGo0802
NT-XP08-ST D080-F27-Z07	●	80	7	27	50	-	60	-			XPGo0802
NT-XP08-ST D100-F32-Z08	●	100	8	32	50	-	80	-			XPGo0802
<b>ALUMINIUM BODY</b>											
NT-XP08-AL D063-F22-Z05	●	63	5	22	50	-	44	-			XPGo0802
NT-XP08-AL D080-F27-Z07	●	80	7	27	50	-	60	-			XPGo0802
NT-XP08-AL D100-F32-Z08	●	100	8	32	50	-	80	-			XPGo0802
NT-XP08-AL D125-F40-Z10	●	125	10	40	63	-	105	-			XPGo0802

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

Spare parts	Cartridge	Cartridge screw	L wrench	Adjusting screw	Chip cover	Insert screw	Insert screw
NT-XP08-AL D <sub>ooo</sub> -F <sub>oo</sub> -Z <sub>oo</sub>	NT-CRD-XP08	NT-CW040	NT-WR040	NT-AD040	NT-CH030	NT-ST40100T15	NT-ST30070T10HQ
NT-XP08-ST D <sub>ooo</sub> -F <sub>oo</sub> -Z <sub>oo</sub>	NT-CRD-XP08	NT-CW040	NT-WR040	NT-AD040	-	-	NT-ST30070T10HQ



<h1>XP</h1>	BH: High volume CBN DP: Polycrystalline diamond			BH	DP	DP
	<b>XP series</b>			<b>NBH450U</b>	<b>ND120</b>	<b>ND150</b>
<ul style="list-style-type: none"> <li>Brazed-tip type insert available in both PCBN and PCD</li> <li>2 cutting edges for PCBN, 1 cutting edge for PCD</li> <li>Edge length/RE/BS can be tailor made upon requests</li> <li>Different grades and edge preparation also available upon requests</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	○	
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable	⊕			
	<b>Dimensions</b>		<b>ISO</b>			
	<p>DIAMOND 1 edge - PCBN 2 edges</p>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>P</b>				
		<b>M</b>				
		<b>K</b>	500 2000			
		<b>N</b>	500 2000	500 2500		
		<b>S</b>				
		<b>H</b>				

Designation		RE	IC	S	D1	BS	Stock		
PCBN	<b>UE K</b>  chamfer+hone	0.4	7.91	2.38	3.6	2.5	●		
	XPGW080204S-UE-2C	0.4	7.91	2.38	3.6	2.5	●		
DIAMOND	<b>FN</b>  sharp edge	0.4	7.91	2.38	3.6	2.5	●	●	
	XPGT080204F-1C	0.4	7.91	2.38	3.6	2.5	●	○	

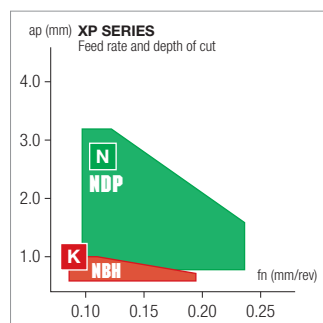
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Catalogue Preview - AMB

**XP SERIES cutting speed (m/min)**

<b>K1</b>	Gray cast iron	500÷2000
<b>N1</b>	Aluminium alloy Si ≤ 12	1000÷3000
<b>N2</b>	Aluminium alloy Si > 12	300÷1000

**K** PCBN NBH only finishing  
**N** DIAMOND NDP roughing and finishing



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

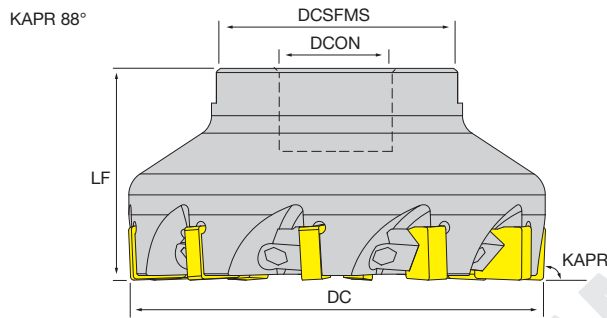
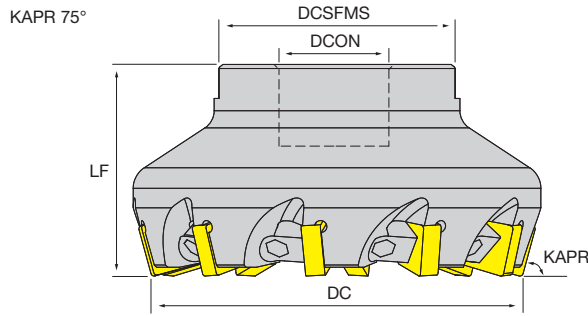
F - ACCESSORIES

G - SPARE PARTS

# NT-SN

## Square series

- Milling holder for doublesided solid square inserts without holes
- For dry cut milling
- Kapr 75° and 88° available
- Wider range available on request



Designation	Stock	DC	CICT	DCON	LF	LU	DCSFMS	CRKS		WT	MIID
<b>KAPR 75°</b>											
NT-SN1275 D050-F22-Z05	●	50	5	22	50	-	45	-			SNoN1204
NT-SN1275 D063-F22-Z06	●	63	6	22	50	-	45	-			SNoN1204
NT-SN1275 D080-F27-Z08	●	80	8	27	50	-	58	-			SNoN1204
NT-SN1275 D100-F32-Z10	●	100	10	32	50	-	60	-			SNoN1204
NT-SN1275 D125-F40-Z12	●	125	12	40	50	-	85	-			SNoN1204
<b>KAPR 88°</b>											
NT-SN1288 D063-F22-Z06	●	63	6	22	50	-	45	-			SNoN1204
NT-SN1288 D080-F27-Z08	●	80	8	27	50	-	58	-			SNoN1204
NT-SN1288 D100-F32-Z10	●	100	10	32	50	-	60	-			SNoN1204
NT-SN1288 D125-F40-Z12	●	125	12	40	50	-	85	-			SNoN1204

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

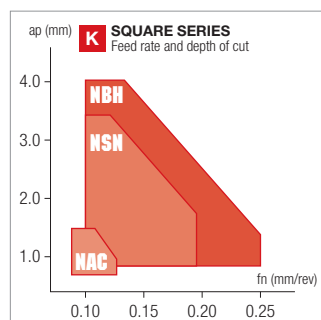
Spare parts	Wedge	Wedge screw	L wrench
NT-SN1200 D000-F00-Z00	 NT-WD070	 NT-SC060	 NT-WR030

<h1>SN</h1>	CM: Mixed ceramic Al2O3 BH: High volume CBN CN: Silicon nitride ceramic Si3N4 PVD: Physical vapour deposition				CM	BH	BH	CN	
	Square series	<b>MAC200</b>	<b>NBH550U</b>	<b>NBH900U</b>	<b>NSN400</b>				
<ul style="list-style-type: none"> <li>• Solid square-shape CBN and solid ceramic inserts for advanced milling</li> <li>• Different sizes and edge preparation available upon request</li> <li>• Very reliable and cost efficient solution for multiple purpose use on K/H materials</li> <li>• Wider range available on request</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○	●	
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	○	●	○	●	○	●	
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	▲	▼	▲	▼	▲	▼	▲	
	<b>Dimensions</b>	<b>ISO</b>				<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>P</b>							
	<b>M</b>								
	<b>K</b>	40 800	800 2000	800 1500	600 1200				
	<b>N</b>								
	<b>S</b>								
	<b>H</b>								

Designation		RE	IC	S	BS	AN	Stock				
PCBN	<b>UE K</b>  full solid	1.2	12.7	4.76	-	0°					●
PCBN	<b>EN K</b>  full solid for 75° milling cutters	-	12.7	4.76	1.4	0°					●
PCBN	<b>HN K</b>  full solid for 88° milling cutters	-	12.7	4.76	1.8	0°					●
PCBN	<b>CB K</b>  full solid	1.2	12.7	4.76	-	0°					●

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

SQUARE SERIES cutting speed (m/min)	
K1	Gray cast iron
PCBN NBH	800-2000 roughing and finishing
CERAMIC NSN	600-1200 roughing and finishing
CERAMIC NAC	400-800 only finishing



A - TURNING

B - THREADING

C - GROOVING

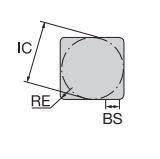
D - MILLING





E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

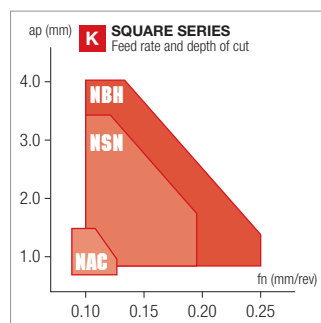
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<h1>SN</h1>	CM: Mixed ceramic Al <sub>2</sub> O <sub>3</sub> BH: High volume CBN CN: Silicon nitride ceramic Si <sub>3</sub> N <sub>4</sub> PVD: Physical vapour deposition	CM	BH	BH	CN
Square series		<b>MAC200</b>	<b>NBH550U</b>	<b>NBH900U</b>	<b>NSN400</b>
<ul style="list-style-type: none"> <li>• Solid square-shape CBN and solid ceramic inserts for advanced milling</li> <li>• Different sizes and edge preparation available upon request</li> <li>• Very reliable and cost efficient solution for multiple purpose use on K/H materials</li> <li>• Wider range available on request</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	●	○	○	●
		●	●	●	●
		▲	▲		
Dimensions 	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)			
	<b>P</b>				
	<b>M</b>				
	<b>K</b>	300 600	800 2000	800 1500	600 1200
	<b>N</b>				
	<b>S</b>				
	<b>H</b>				

Designation		RE	IC	S	BS	AN	Stock				
CERAMIC	 <b>GP K</b> Si <sub>3</sub> N <sub>4</sub> SNGN120412-GP	1.2	12.7	4.76	-	0°					●
CERAMIC	 <b>EN K</b> Si <sub>3</sub> N <sub>4</sub> or mixed Al <sub>2</sub> O <sub>3</sub> for 75° milling cutters SNXN1204EN	-	12.7	4.76	1.4	0°	●				●
CERAMIC	 <b>HN K</b> Si <sub>3</sub> N <sub>4</sub> or mixed Al <sub>2</sub> O <sub>3</sub> for 88° milling cutters SNXN1204HN	-	12.7	4.76	1.8	0°	●				●
CERAMIC	 <b>CB K</b> Si <sub>3</sub> N <sub>4</sub> SNXN120412-CB	1.2	12.7	4.76	-	0°					●

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

SQUARE SERIES cutting speed (m/min)	
K1	Gray cast iron
<b>PCBN NBH</b>	800-2000 roughing and finishing
<b>CERAMIC NSN</b>	600-1200 roughing and finishing
<b>CERAMIC NAC</b>	400-800 only finishing





AMB 2022

## DRILLING

- Grade table .E2
- Grade details .E3
- Quick guide .E4
- Indexable drill - DRS .E6
- Modular heads - DEX .E25
- Combined series - DXP .E53
- Milti operation - SPOT DRILL .E63
- Iso Trigon - ISO WCMX .E86
- Carbide drills - NCD .E68

A - TURNING	ISO 513	CARBIDE					
		PVD COATED			UNCOATED		
		DEX	DXP	DRS	DRS		
B - THREADING	P	P01					
		P10					
		P20	JP5630	JP5725			
		P30		JP5725	JP5530	JP8725	
		P40					
C - GROOVING	Steel						
	M	M01					
		M10					
		M20	JP5630		JP5530	JP9535	
		M30					
D - MILLING	Stainless steel						
		M40					
	K	K01					
	E - DRILLING	Cast iron	K10	JP7625	JP5725		
			K20		JP5725		
		K30			JP5530		
F - ACCESSORIES	N	N01					
		N10					
		N20				JU6520	
		N30					
	G - SPARE PARTS	S	S01				
		S10					
		S20			JP9535		
		S30					
		Heat resistance					

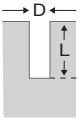















NEW - AMB 2022

GRADE	SYSTEM	HARDNESS HV	COATING		APPLICATION	FEATURES
			TECHNOLOGY	COMPOSITION		
<b>JP5725</b>	DEX - DXP	1.840	PVD	AlTiN	<b>P</b> P15 P30	High performance grade for steel drilling with a perfect combination between toughness and wear resistance. A very good choice even for nodular cast iron machining.
					<b>K</b> K10 K30	
<b>JP5730</b>	DEX	1.700	PVD	TiSiN	<b>P</b> P30	First choice for stainless steel and free-cutting steels. Tough substrate and special coating with low friction coefficient specifically developed for sticky materials.
					<b>M</b> M30	
<b>JP7625</b>	DEX	1.840	PVD	TiAlCrN	<b>K</b> K10 K30	Very hard coating film specifically studied for abrasive materials machining. First choice for gray cast iron in combination with TE chamfered geometry.
<b>JP5530</b>	DRS	1.840	PVD	TiAlN	<b>P</b> P20 P40	Universal grade mainly for steel application but also available for ISO M and ISO K machining.
					<b>M</b> M25 M30	
					<b>K</b> K25 K30	
<b>JP8725</b>	DRS	1.840	PVD	AlCrN	<b>P</b> P15 P30	First choice for steel application. The new substrate contribute to a great performance increase compared to conventional product.
<b>JP9535</b>	DRS	1.640	PVD	TiAlN	<b>M</b> M20 M35	First choice for stainless steel machining under general cutting conditions. Also applicable on titanium thanks to a great stability at high temperature.
					<b>S</b> S15 S25	
<b>JU6520</b>	DRS	1.560	-	-	<b>N</b> N10 N30	Uncoated grade for non ferrous materials. The micrograin substrate toughness allows the production of very sharp grinded cutting edges.

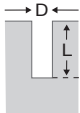
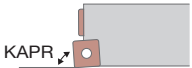
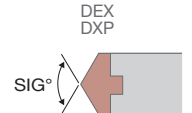
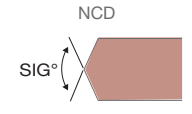
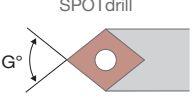



















Catalogue P1

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING
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- F - ACCESSORIES
- G - SPARE PARTS

	DRS	DRS PILOT	DEX
	E6	E18	E25
 DRSpilot  KAPR  DEX DXP SIG°  NCD SIG°  SPOTdrill SIG°			
Tool diameter	Ø12.50 - Ø50.00	Ø18.00 - Ø30.00	Ø10.00 - Ø26.00
L / D	2 - 3 - 4 - 5	6 - 9	3 - 5 (8 - 12 upon request)
Coolant holes	✓	✓	✓
Effective cutting edge	1	1	2
Point angle	KAPR 85°	SIG pilot 118° - KAPR 87.5°	SIG 140°
Workpiece material	<b>P M K N</b>	<b>P M K N</b>	<b>P M K</b>
No. of corners	4	4	1
No. of geometries	2	peripheral 2 - pilot 1	3 + 2 upon request
Special features	-	HSS center pilot	-
Plain Surface 	✓	✓	✓
Slant Surface 	✓	✗	✗
Concave Surface 	✓	✓	✓
Convex Surface 	✓	✓	✓
Stacked Plates 	✗	✗	✓
Pipes 	✓	✓	✓
Half Hole 	✓	✗	✗
Hole Expansion 	✓	✗	✗
Precision	■ ■ □ □ □	■ ■ □ □ □	■ ■ ■ □ □
Productivity	■ ■ ■ □ □	■ ■ ■ □ □	■ ■ ■ ■ ■
Cost per hole	■ ■ □ □ □	■ ■ ■ □ □	■ ■ ■ ■ □
Range	■ ■ ■ ■ □	■ ■ ■ □ □	■ ■ ■ ■ □



 DRSpilot  KAPR  DEX DXP  NCD  SPOTdrill	DXP	NCD	SPOTDRILL
	 E53	 000	 E63
			 CYLINDRICAL  SCREW-IN
Tool diameter	Ø30.00 - Ø60.00	Ø3.00 - Ø20.00	Ø14.00
L / D	3 - 6 - 8 - 10	3 - 5 (8 upon request)	-
Coolant holes	✓	both	✗
Effective cutting edge	2	2	2
Point angle	SIG pilot 140°	SIG 140°	SIG 90°
Workpiece material	<b>P K</b>	<b>P M K S</b>	<b>P M K N</b>
No. of corners	peripheral 2 / 3	1	4
No. of geometries	1	2	2
Special features	Chip split chipbreaker	-	-
Plain Surface 	✓	✓	Spotting 
Slant Surface 	✗	✗	
Concave Surface 	✓	✓	Engraving 
Convex Surface 	✓	✓	
Stacked Plates 	✗	✓	V-Grooving 
Pipes 	✓	✓	
Half Hole 	✗	✗	Chamfering 
Hole Expansion 	✗	✗	
Precision	■ ■ ■ □ □	■ ■ ■ ■ ■	
Productivity	■ ■ ■ ■ □	■ ■ ■ ■ □	
Cost per hole	■ ■ ■ ■ □	■ ■ ■ □ □	
Range	■ ■ ■ ■ ■	■ ■ ■ ■ □	

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# DRS DRILLS

High performance universal indexable drilling system with inserts

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

## APPLICATION



## ISO APPLICATION FIELDS

**P M K N**

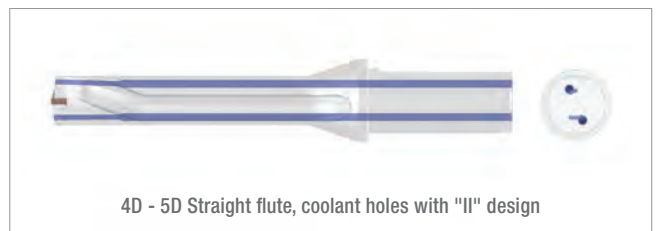
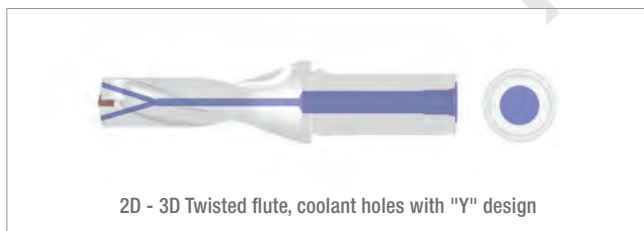
## ADVANTAGES AND CHARACTERISTICS

- Highly universal drilling system suitable for diverse conditions
- Best cost-efficient system
- Twisted flute style available in 2xD and 3xD, straight flute style in 4xD and 5xD to improve chip evacuation



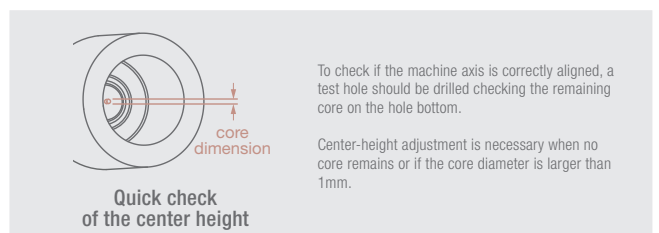
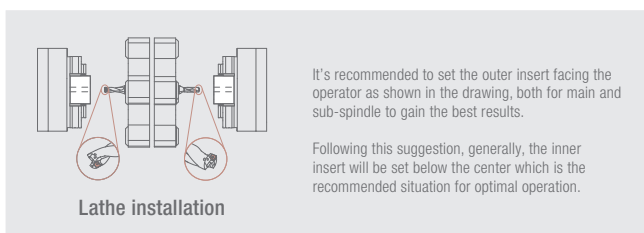
## • Drilling bodies

- Weldon shank with internal coolant
- 2/ 3/ 4/ 5xD available from D13 to D50
- Special length and stepped body available upon request



## • Inserts

- Available 05/06/07/09/11/14
- Cemented carbide grades with PVD coatings or uncoated for N materials
- Geometries: GP, AL



<h1>2xD</h1>		
<p><b>DRS drill</b></p> <ul style="list-style-type: none"> <li>• 2xD indexable drill body for SP inserts with helical flutes</li> <li>• All with coolant through</li> <li>• Please select insert size according to the drill diameter</li> </ul>		

Designation	Stock	DC	DCON	OAL	LF	LB	PL	ADJLX		MIID
NT-DRS-2D D12.50-S20-05	▽	12.5	20	94	44	26	0.4	0.5		SPoX05
NT-DRS-2D D13.00-S20-05	●	13	20	94	44	26	0.4	0.5		SPoX05
NT-DRS-2D D14.00-S20-05	●	14	20	96	46	28	0.4	0.5		SPoX05
NT-DRS-2D D15.00-S20-05	●	15	20	99	49	30	0.4	0.5		SPoX05
NT-DRS-2D D16.00-S25-06	●	16	25	108	52	32	0.5	0.5		SPoX06
NT-DRS-2D D17.00-S25-06	●	17	25	110	54	34	0.5	0.5		SPoX06
NT-DRS-2D D18.00-S25-06	●	18	25	113	57	36	0.5	0.5		SPoX06
NT-DRS-2D D19.00-S25-06	●	19	25	115	59	38	0.5	0.5		SPoX06
NT-DRS-2D D20.00-S25-06	●	20	25	119	63	40	0.5	0.5		SPoX06
NT-DRS-2D D21.00-S25-06	●	21	25	121	65	42	0.5	0.25		SPoX06
NT-DRS-2D D22.00-S25-07	●	22	25	123	67	44	0.5	0.5		SPoX07
NT-DRS-2D D23.00-S32-07	●	23	32	131	71	46	0.5	0.5		SPoX07
NT-DRS-2D D24.00-S32-07	●	24	32	134	74	48	0.5	0.5		SPoX07
NT-DRS-2D D25.00-S32-07	●	25	32	137	77	50	0.5	0.5		SPoX07
NT-DRS-2D D26.00-S32-07	●	26	32	139	79	52	0.6	0.25		SPoX07
NT-DRS-2D D27.00-S32-07	●	27	32	141	81	54	0.6	0.25		SPoX07
NT-DRS-2D D28.00-S32-09	●	28	32	144	84	56	0.8	0.5		SPoX09
NT-DRS-2D D29.00-S32-09	●	29	32	146	86	58	0.8	0.5		SPoX09
NT-DRS-2D D30.00-S32-09	●	30	32	151	91	60	0.8	0.5		SPoX09
NT-DRS-2D D31.00-S32-09	●	31	32	154	94	62	0.8	0.25		SPoX09
NT-DRS-2D D32.00-S32-09	●	32	32	156	96	64	0.8	0.25		SPoX09
NT-DRS-2D D33.00-S32-09	●	33	32	159	99	66	0.8	0.25		SPoX09
NT-DRS-2D D34.00-S40-11	●	34	40	171	101	68	0.9	0.5		SPoX11
NT-DRS-2D D35.00-S40-11	●	35	40	174	104	70	0.9	0.5		SPoX11
NT-DRS-2D D36.00-S40-11	●	36	40	177	107	72	0.9	0.5		SPoX11
NT-DRS-2D D37.00-S40-11	●	37	40	180	110	74	0.9	0.5		SPoX11
NT-DRS-2D D38.00-S40-11	●	38	40	183	113	76	0.9	0.5		SPoX11
NT-DRS-2D D39.00-S40-11	●	39	40	185	115	78	0.9	0.5		SPoX11
NT-DRS-2D D40.00-S40-11	●	40	40	188	118	80	0.9	0.25		SPoX11
NT-DRS-2D D41.00-S40-11	●	41	40	191	121	82	0.9	0.25		SPoX11
NT-DRS-2D D42.00-S40-14	●	42	40	193	123	84	1	0.5		SPoX14
NT-DRS-2D D43.00-S40-14	●	43	40	196	126	86	1	0.5		SPoX14
NT-DRS-2D D44.00-S40-14	●	44	40	198	128	88	1	0.5		SPoX14
NT-DRS-2D D45.00-S40-14	●	45	40	202	132	90	1	0.5		SPoX14
NT-DRS-2D D46.00-S40-14	●	46	40	205	135	92	1	0.5		SPoX14
NT-DRS-2D D47.00-S40-14	●	47	40	207	137	94	1	0.5		SPoX14
NT-DRS-2D D48.00-S40-14	●	48	40	210	140	96	1	0.25		SPoX14
NT-DRS-2D D49.00-S40-14	●	49	40	212	142	98	1	0.25		SPoX14
NT-DRS-2D D50.00-S40-14	●	50	40	215	145	100	1	0.25		SPoX14

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

Spare parts	Insert screw	Flag wrench	Spare parts	Insert screw	Flag wrench
NT-DRS-2D D00.00-S00-05	NT-ST20043T06	NT-FTB06	NT-DRS-2D D00.00-S00-09	NT-ST35080T15	NT-FTB15
NT-DRS-2D D00.00-S00-06	NT-ST22055T06	NT-FTB06	NT-DRS-2D D00.00-S00-11	NT-ST40100T15	NT-FTB15
NT-DRS-2D D00.00-S00-07	NT-ST25065T07	NT-FTB07	NT-DRS-2D D00.00-S00-14	NT-ST50108T20	NT-FTB20

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

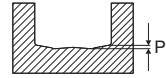
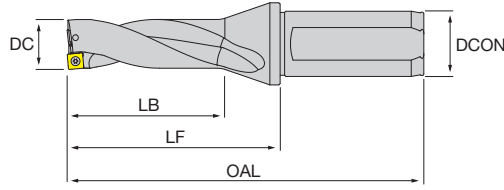
F - ACCESSORIES

G - SPARE PARTS

# 3xD

## DRS drill

- 3xD indexable drill body for SP inserts with helical flutes
- All with coolant through
- Please select insert size according to the drill diameter





Designation	Stock	DC	DCON	OAL	LF	LB	PL	ADJLX		MIID
NT-DRS-3D D12.50-S20-05	●	12.5	20	107	57	39	0.4	0.5		SPoX05
NT-DRS-3D D13.00-S20-05	●	13	20	107	57	39	0.4	0.5		SPoX05
NT-DRS-3D D13.50-S20-05	●	13.5	20	110	60	42	0.4	0.5		SPoX05
NT-DRS-3D D14.00-S20-05	●	14	20	110	60	42	0.4	0.5		SPoX05
NT-DRS-3D D14.50-S20-05	●	14.5	20	114	64	45	0.4	0.5		SPoX05
NT-DRS-3D D15.00-S20-05	●	15	20	114	64	45	0.4	0.5		SPoX05
NT-DRS-3D D15.50-S25-06	●	15.5	25	124	68	48	0.5	0.5		SPoX06
NT-DRS-3D D16.00-S25-06	●	16	25	124	68	48	0.5	0.5		SPoX06
NT-DRS-3D D16.50-S25-06	●	16.5	25	127	71	51	0.5	0.5		SPoX06
NT-DRS-3D D17.00-S25-06	●	17	25	127	71	51	0.5	0.5		SPoX06
NT-DRS-3D D17.50-S25-06	●	17.5	25	131	75	54	0.5	0.5		SPoX06
NT-DRS-3D D18.00-S25-06	●	18	25	131	75	54	0.5	0.5		SPoX06
NT-DRS-3D D18.50-S25-06	●	18.5	25	134	78	57	0.5	0.5		SPoX06
NT-DRS-3D D19.00-S25-06	●	19	25	134	78	57	0.5	0.5		SPoX06
NT-DRS-3D D19.50-S25-06	●	19.5	25	139	83	60	0.5	0.5		SPoX06
NT-DRS-3D D20.00-S25-06	●	20	25	139	83	60	0.5	0.5		SPoX06
NT-DRS-3D D20.50-S25-06	●	20.5	25	142	86	63	0.5	0.25		SPoX06
NT-DRS-3D D21.00-S25-06	●	21	25	142	86	63	0.5	0.25		SPoX06
NT-DRS-3D D21.50-S25-06	●	21.5	25	145	89	66	0.5	0.25		SPoX06
NT-DRS-3D D22.00-S25-07	●	22	25	145	89	66	0.5	0.5		SPoX07
NT-DRS-3D D22.50-S32-07	●	22.5	32	154	94	69	0.5	0.5		SPoX07
NT-DRS-3D D23.00-S32-07	●	23	32	154	94	69	0.5	0.5		SPoX07
NT-DRS-3D D23.50-S32-07	●	23.5	32	158	98	72	0.5	0.5		SPoX07
NT-DRS-3D D24.00-S32-07	●	24	32	158	98	72	0.5	0.5		SPoX07
NT-DRS-3D D24.50-S32-07	●	24.5	32	162	102	75	0.5	0.5		SPoX07
NT-DRS-3D D25.00-S32-07	●	25	32	162	102	75	0.5	0.5		SPoX07
NT-DRS-3D D25.50-S32-07	●	25.5	32	165	105	78	0.6	0.5		SPoX07
NT-DRS-3D D26.00-S32-07	●	26	32	165	105	78	0.6	0.25		SPoX07
NT-DRS-3D D26.50-S32-07	●	26.5	32	168	108	81	0.6	0.25		SPoX07
NT-DRS-3D D27.00-S32-07	●	27	32	168	108	81	0.6	0.25		SPoX07
NT-DRS-3D D27.50-S32-07	●	27.5	32	172	112	84	0.6	0.25		SPoX07
NT-DRS-3D D28.00-S32-09	●	28	32	172	112	84	0.8	0.5		SPoX09
NT-DRS-3D D28.50-S32-09	●	28.5	32	175	115	87	0.8	0.5		SPoX09
NT-DRS-3D D29.00-S32-09	●	29	32	175	115	87	0.8	0.5		SPoX09
NT-DRS-3D D29.50-S32-09	●	29.5	32	181	121	90	0.8	0.5		SPoX09
NT-DRS-3D D30.00-S32-09	●	30	32	181	121	90	0.8	0.5		SPoX09
NT-DRS-3D D31.00-S32-09	●	31	32	185	125	93	0.8	0.25		SPoX09
NT-DRS-3D D32.00-S32-09	●	32	32	188	128	96	0.8	0.25		SPoX09
NT-DRS-3D D33.00-S32-09	●	33	32	192	132	99	0.8	0.25		SPoX09
NT-DRS-3D D34.00-S40-11	●	34	40	205	135	102	0.9	0.5		SPoX11
NT-DRS-3D D35.00-S40-11	●	35	40	209	139	105	0.9	0.5		SPoX11
NT-DRS-3D D36.00-S40-11	●	36	40	213	143	108	0.9	0.5		SPoX11
NT-DRS-3D D37.00-S40-11	●	37	40	217	147	111	0.9	0.5		SPoX11
NT-DRS-3D D38.00-S40-11	●	38	40	221	151	114	0.9	0.5		SPoX11
NT-DRS-3D D39.00-S40-11	●	39	40	224	154	117	0.9	0.25		SPoX11
NT-DRS-3D D40.00-S40-11	●	40	40	228	158	120	0.9	0.25		SPoX11
NT-DRS-3D D41.00-S40-11	●	41	40	232	162	123	0.9	0.5		SPoX11

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

Designation	Stock	DC	DCON	OAL	LF	LB	PL	ADJLX			MIID
NT-DRS-3D D42.00-S40-14	●	42	40	235	165	126	1	0.5			SPoX14
NT-DRS-3D D43.00-S40-14	●	43	40	239	169	129	1	0.5			SPoX14
NT-DRS-3D D44.00-S40-14	●	44	40	242	172	132	1	0.5			SPoX14
NT-DRS-3D D45.00-S40-14	●	45	40	247	177	135	1	0.5			SPoX14
NT-DRS-3D D46.00-S40-14	●	46	40	251	181	138	1	0.5			SPoX14
NT-DRS-3D D47.00-S40-14	●	47	40	254	184	141	1	0.5			SPoX14
NT-DRS-3D D48.00-S40-14	●	48	40	258	188	144	1	0.25			SPoX14
NT-DRS-3D D49.00-S40-14	●	49	40	261	191	147	1	0.25			SPoX14
NT-DRS-3D D50.00-S40-14	●	50	40	265	195	150	1	0.25			SPoX14

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

Spare parts	Insert screw	Flag wrench
NT-DRS-3D D <sub>00.00</sub> -S <sub>00</sub> -05	 NT-ST20043T06	 NT-FTB06
NT-DRS-3D D <sub>00.00</sub> -S <sub>00</sub> -06	NT-ST22055T06	NT-FTB06
NT-DRS-3D D <sub>00.00</sub> -S <sub>00</sub> -07	NT-ST25065T07	NT-FTB07
NT-DRS-3D D <sub>00.00</sub> -S <sub>00</sub> -09	NT-ST35080T15	NT-FTB15
NT-DRS-3D D <sub>00.00</sub> -S <sub>00</sub> -11	NT-ST40100T15	NT-FTB15
NT-DRS-3D D <sub>00.00</sub> -S <sub>00</sub> -14	NT-ST50108T20	NT-FTB20

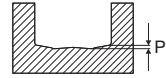
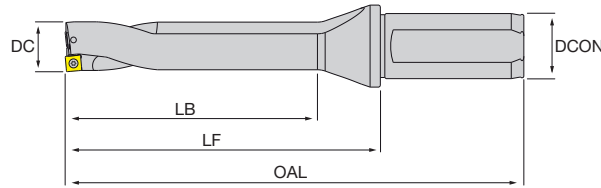
Catalogue Preview - AMB 2022

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

# 4xD

## DRS drill

- 4xD indexable drill body for SP inserts with straight flutes
- All with coolant through
- Please select insert size according to the drill diameter





Designation	Stock	DC	DCON	OAL	LF	LB	PL	ADJLX		MIID
NT-DRS-4D D12.50-S20-05	●	12.5	20	120	70	52	0.4	0.5		SPoX05
NT-DRS-4D D13.00-S20-05	●	13	20	120	70	52	0.4	0.5		SPoX05
NT-DRS-4D D13.50-S20-05	●	13.5	20	124	74	56	0.4	0.5		SPoX05
NT-DRS-4D D14.00-S20-05	●	14	20	124	74	56	0.4	0.5		SPoX05
NT-DRS-4D D14.50-S20-05	●	14.5	20	129	79	60	0.4	0.5		SPoX05
NT-DRS-4D D15.00-S20-05	●	15	20	129	79	60	0.4	0.5		SPoX05
NT-DRS-4D D15.50-S25-06	●	15.5	25	140	84	64	0.5	0.5		SPoX06
NT-DRS-4D D16.00-S25-06	●	16	25	140	84	64	0.5	0.5		SPoX06
NT-DRS-4D D16.50-S25-06	●	16.5	25	144	88	68	0.5	0.5		SPoX06
NT-DRS-4D D17.00-S25-06	●	17	25	144	88	68	0.5	0.5		SPoX06
NT-DRS-4D D17.50-S25-06	●	17.5	25	149	93	72	0.5	0.5		SPoX06
NT-DRS-4D D18.00-S25-06	●	18	25	149	93	72	0.5	0.5		SPoX06
NT-DRS-4D D18.50-S25-06	●	18.5	25	153	97	76	0.5	0.5		SPoX06
NT-DRS-4D D19.00-S25-06	●	19	25	153	97	76	0.5	0.5		SPoX06
NT-DRS-4D D19.50-S25-06	●	19.5	25	159	103	80	0.5	0.5		SPoX06
NT-DRS-4D D20.00-S25-06	●	20	25	159	103	80	0.5	0.5		SPoX06
NT-DRS-4D D20.50-S25-06	●	20.5	25	163	107	84	0.5	0.25		SPoX06
NT-DRS-4D D21.00-S25-06	●	21	25	163	107	84	0.5	0.25		SPoX06
NT-DRS-4D D21.50-S25-06	●	21.5	25	167	111	88	0.5	0.25		SPoX06
NT-DRS-4D D22.00-S25-07	●	22	25	167	111	88	0.5	0.5		SPoX07
NT-DRS-4D D22.50-S32-07	●	22.5	32	177	117	92	0.5	0.5		SPoX07
NT-DRS-4D D23.00-S32-07	●	23	32	177	117	92	0.5	0.5		SPoX07
NT-DRS-4D D23.50-S32-07	●	23.5	32	182	122	96	0.5	0.5		SPoX07
NT-DRS-4D D24.00-S32-07	●	24	32	182	122	96	0.5	0.5		SPoX07
NT-DRS-4D D24.50-S32-07	●	24.5	32	187	127	100	0.5	0.5		SPoX07
NT-DRS-4D D25.00-S32-07	●	25	32	187	127	100	0.5	0.5		SPoX07
NT-DRS-4D D25.50-S32-07	●	25.5	32	191	131	104	0.6	0.5		SPoX07
NT-DRS-4D D26.00-S32-07	●	26	32	191	131	104	0.6	0.25		SPoX07
NT-DRS-4D D26.50-S32-07	●	26.5	32	195	135	108	0.6	0.25		SPoX07
NT-DRS-4D D27.00-S32-07	●	27	32	195	135	108	0.6	0.25		SPoX07
NT-DRS-4D D27.50-S32-07	●	27.5	32	200	140	112	0.6	0.25		SPoX07
NT-DRS-4D D28.00-S32-09	●	28	32	200	140	112	0.8	0.5		SPoX09
NT-DRS-4D D28.50-S32-09	●	28.5	32	204	144	116	0.8	0.5		SPoX09
NT-DRS-4D D29.00-S32-09	●	29	32	204	144	116	0.8	0.5		SPoX09
NT-DRS-4D D29.50-S32-09	●	29.5	32	211	151	120	0.8	0.5		SPoX09
NT-DRS-4D D30.00-S32-09	●	30	32	211	151	120	0.8	0.5		SPoX09
NT-DRS-4D D31.00-S32-09	●	31	32	216	156	124	0.8	0.25		SPoX09
NT-DRS-4D D32.00-S32-09	●	32	32	220	160	128	0.8	0.25		SPoX09
NT-DRS-4D D33.00-S32-09	●	33	32	225	165	132	0.8	0.25		SPoX09
NT-DRS-4D D34.00-S40-11	●	34	40	239	169	136	0.9	0.5		SPoX11
NT-DRS-4D D35.00-S40-11	●	35	40	244	174	140	0.9	0.5		SPoX11
NT-DRS-4D D36.00-S40-11	●	36	40	249	179	144	0.9	0.5		SPoX11
NT-DRS-4D D37.00-S40-11	●	37	40	254	184	148	0.9	0.5		SPoX11
NT-DRS-4D D38.00-S40-11	●	38	40	259	189	152	0.9	0.5		SPoX11
NT-DRS-4D D39.00-S40-11	●	39	40	263	193	156	0.9	0.25		SPoX11
NT-DRS-4D D40.00-S40-11	●	40	40	268	198	160	0.9	0.25		SPoX11
NT-DRS-4D D41.00-S40-11	▲	41	40	273	203	164	0.9	0.5		SPoX11

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

Designation	Stock	DC	DCON	OAL	LF	LB	PL	ADJLX			MIID
NT-DRS-4D D42.00-S40-14	●	42	40	277	207	168	1	0.5			SPoX14
NT-DRS-4D D43.00-S40-14	●	43	40	282	212	172	1	0.5			SPoX14
NT-DRS-4D D44.00-S40-14	●	44	40	286	216	176	1	0.5			SPoX14
NT-DRS-4D D45.00-S40-14	●	45	40	292	222	180	1	0.5			SPoX14
NT-DRS-4D D46.00-S40-14	●	46	40	297	227	184	1	0.5			SPoX14
NT-DRS-4D D47.00-S40-14	●	47	40	301	231	188	1	0.5			SPoX14
NT-DRS-4D D48.00-S40-14	●	48	40	306	236	192	1	0.25			SPoX14
NT-DRS-4D D49.00-S40-14	▲	49	40	310	240	196	1	0.25			SPoX14
NT-DRS-4D D50.00-S40-14	●	50	40	315	245	200	1	0.25			SPoX14

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

Spare parts	Insert screw	Flag wrench
NT-DRS-4D D00.00-S00-05	 NT-ST20043T06	 NT-FTB06
NT-DRS-4D D00.00-S00-06	NT-ST22055T06	NT-FTB06
NT-DRS-4D D00.00-S00-07	NT-ST25065T07	NT-FTB07
NT-DRS-4D D00.00-S00-09	NT-ST35080T15	NT-FTB15
NT-DRS-4D D00.00-S00-11	NT-ST40100T15	NT-FTB15
NT-DRS-4D D00.00-S00-14	NT-ST50108T20	NT-FTB20

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

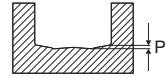
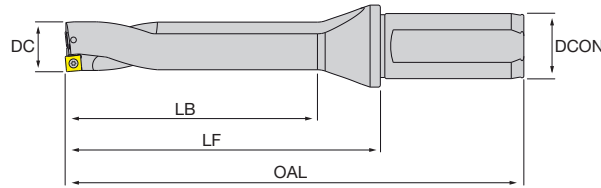
G - SPARE PARTS



# 5xD

## DRS drill

- 5xD indexable drill body for SP inserts with straight flutes
- All with coolant through
- Please select insert size according to the drill diameter



Designation	Stock	DC	DCON	OAL	LF	LB	PL	ADJLX		MIID
NT-DRS-5D D13.00-S20-05	●	13	20	133	83	65	0.4	0.5		SPoX05
NT-DRS-5D D14.00-S20-05	●	14	20	138	88	70	0.4	0.5		SPoX05
NT-DRS-5D D15.00-S20-05	●	15	20	144	94	75	0.4	0.5		SPoX05
NT-DRS-5D D16.00-S25-06	●	16	25	156	100	80	0.5	0.5		SPoX06
NT-DRS-5D D17.00-S25-06	●	17	25	161	105	85	0.5	0.5		SPoX06
NT-DRS-5D D18.00-S25-06	●	18	25	167	111	90	0.5	0.5		SPoX06
NT-DRS-5D D19.00-S25-06	●	19	25	172	116	95	0.5	0.5		SPoX06
NT-DRS-5D D20.00-S25-06	●	20	25	179	123	100	0.5	0.5		SPoX06
NT-DRS-5D D21.00-S25-06	●	21	25	184	128	105	0.5	0.25		SPoX06
NT-DRS-5D D22.00-S25-07	●	22	25	189	133	110	0.5	0.5		SPoX07
NT-DRS-5D D23.00-S32-07	●	23	32	200	140	115	0.5	0.5		SPoX07
NT-DRS-5D D24.00-S32-07	●	24	32	206	146	120	0.5	0.5		SPoX07
NT-DRS-5D D25.00-S32-07	●	25	32	212	152	125	0.5	0.5		SPoX07
NT-DRS-5D D26.00-S32-07	●	26	32	217	157	130	0.6	0.25		SPoX07
NT-DRS-5D D27.00-S32-07	●	27	32	222	162	135	0.6	0.25		SPoX07
NT-DRS-5D D28.00-S32-09	●	28	32	228	168	140	0.8	0.5		SPoX09
NT-DRS-5D D29.00-S32-09	●	29	32	233	173	145	0.8	0.5		SPoX09
NT-DRS-5D D30.00-S32-09	●	30	32	241	181	150	0.8	0.5		SPoX09
NT-DRS-5D D31.00-S32-09	●	31	32	247	187	155	0.8	0.25		SPoX09
NT-DRS-5D D32.00-S32-09	●	32	32	252	192	160	0.8	0.25		SPoX09
NT-DRS-5D D33.00-S32-09	●	33	32	258	198	165	0.8	0.25		SPoX09
NT-DRS-5D D34.00-S40-11	●	34	40	273	203	170	0.9	0.5		SPoX11
NT-DRS-5D D35.00-S40-11	●	35	40	279	209	175	0.9	0.5		SPoX11
NT-DRS-5D D36.00-S40-11	●	36	40	285	215	180	0.9	0.5		SPoX11
NT-DRS-5D D37.00-S40-11	●	37	40	291	221	185	0.9	0.5		SPoX11
NT-DRS-5D D38.00-S40-11	●	38	40	297	227	190	0.9	0.5		SPoX11
NT-DRS-5D D39.00-S40-11	●	39	40	302	232	195	0.9	0.5		SPoX11
NT-DRS-5D D40.00-S40-11	●	40	40	308	238	200	0.9	0.25		SPoX11
NT-DRS-5D D41.00-S40-11	●	41	40	314	244	205	0.9	0.25		SPoX11
NT-DRS-5D D42.00-S40-14	●	42	40	319	249	210	1	0.5		SPoX14
NT-DRS-5D D43.00-S40-14	●	43	40	325	255	215	1	0.5		SPoX14
NT-DRS-5D D44.00-S40-14	●	44	40	330	260	220	1	0.5		SPoX14
NT-DRS-5D D45.00-S40-14	●	45	40	337	267	225	1	0.5		SPoX14
NT-DRS-5D D46.00-S40-14	●	46	40	343	273	230	1	0.5		SPoX14
NT-DRS-5D D47.00-S40-14	●	47	40	348	278	235	1	0.5		SPoX14
NT-DRS-5D D48.00-S40-14	●	48	40	354	284	240	1	0.25		SPoX14
NT-DRS-5D D49.00-S40-14	●	49	40	359	289	245	1	0.25		SPoX14
NT-DRS-5D D50.00-S40-14	●	50	40	365	295	250	1	0.25		SPoX14

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

Spare parts	Insert screw	Flag wrench	Spare parts	Insert screw	Flag wrench
NT-DRS-5D D <sub>00.00</sub> -S <sub>00</sub> -05	NT-ST20043T06	NT-FTB06	NT-DRS-5D D <sub>00.00</sub> -S <sub>00</sub> -09	NT-ST35080T15	NT-FTB15
NT-DRS-5D D <sub>00.00</sub> -S <sub>00</sub> -06	NT-ST22055T06	NT-FTB06	NT-DRS-5D D <sub>00.00</sub> -S <sub>00</sub> -11	NT-ST40100T15	NT-FTB15
NT-DRS-5D D <sub>00.00</sub> -S <sub>00</sub> -07	NT-ST25065T07	NT-FTB07	NT-DRS-5D D <sub>00.00</sub> -S <sub>00</sub> -14	NT-ST50108T20	NT-FTB20



<h1>SPoX</h1>	HF: Micrograin carbide PVD: Physical vapour deposition						HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD					
	<h2>DRS drill</h2>						<b>JP5530</b>	<b>JP5625</b>	<b>JP8725</b>	<b>JP9535</b>	<b>JP9635</b>	<b>JU6520</b>					
<ul style="list-style-type: none"> <li>General purpose type or fine polished sharp geometries for aluminum or non-ferrous materials available</li> <li>Diverse PVD coated carbide grades available</li> <li>Inserts could also be mounted on DRS Pilot type and ChamferSquare milling bodies</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable						○	○			●						
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable						●	●	●	●	●	●					
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable						⚡			⚡	⚡						
<b>Dimensions</b>						<b>ISO</b>						<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
						<b>P</b>	80 240	80 240	80 240								
						<b>M</b>	40 130			60 160	60 160						
						<b>K</b>	100 180	100 180									
						<b>N</b>						160 400					
						<b>S</b>											
						<b>H</b>											

Designation		RE	IC	S	D1	LE	Stock										
<b>GENERAL</b> 	<b>GP P M K</b>	SPMX050204-GP	0.4	5	2.38	2.5	4.2	●	●	▲	●						
		SPMX060204-GP	0.4	6	2.38	2.8	5.2	●		●	●						
		SPMX077308-GP	0.8	7.94	3.97	2.8	6.34	●		●	●						
		SPMX090408-GP	0.8	9.8	4.3	4.2	8.2	●		●	▲	●					
		SPMX110408-GP	0.8	11.5	4.76	4.4	9.9	●		●	▲	●					
		SPMX140512-GP	1.2	14.3	5.2	5.5	11.9	●		●	▲	●					
<b>ALUMINIUM</b> <p>periphery ground polished surface</p>	<b>AL N</b>	SPGX050204-AL	0.4	5	2.38	2.5	4.2									●	
		SPGX060204-AL	0.4	6	2.38	2.8	5.2										●
		SPGX077308-AL	0.8	7.94	3.97	2.8	6.34										●
		SPGX090408-AL	0.8	9.8	4.3	4.2	8.2										●
		SPGX110408-AL	0.8	11.5	4.76	4.4	9.9										●
		SPGX140512-AL	1.2	14.3	5.2	5.5	11.9										●

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

Catalogue Preview - AMB

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5530			JP8725		
					min	start	max	min	start	max
A - TURNING	<b>P1 - P2</b>	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	2XD ÷ 5XD	120	<b>180</b>	240	120	<b>180</b>	240
	<b>P3 - P4</b>	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	2XD ÷ 5XD	100	<b>150</b>	200	100	<b>150</b>	200
	<b>P5 - P6</b>	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	2XD ÷ 5XD	80	<b>120</b>	160	80	<b>120</b>	160
B - THREADING	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5530			JP9535		
					min	start	max	min	start	max
	<b>P7</b>	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	2XD ÷ 5XD	50	<b>90</b>	130	80	<b>120</b>	160
	<b>P8</b>	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	2XD ÷ 5XD	-			60	<b>90</b>	120
C - GROOVING	<b>M1</b>	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	2XD ÷ 5XD	40	<b>70</b>	100	80	<b>120</b>	160
	<b>M2 - M3</b>	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		2XD ÷ 5XD	-			60	<b>100</b>	140
D - MILLING	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5530					
					min	start	max			
	<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	2XD ÷ 5XD	120	<b>150</b>	180			
	<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	2XD ÷ 5XD	100	<b>120</b>	140			
E - DRILLING	ISO 513	MATERIAL	HARDNESS HB	L/D	JU6520					
					min	start	max			
	<b>N1</b>	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		2XD ÷ 5XD	240	<b>320</b>	400			
	<b>N2</b>	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		2XD ÷ 5XD	160	<b>230</b>	300			
F - ACCESSORIES										
G - SPARE PARTS										

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	L/D	DC 12.50 ÷ 15.00			DC 15.50 ÷ 21.50			DC 22.00 ÷ 27.50		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	2xD - 3xD	0.05	<b>0.07</b>	0.09	0.05	<b>0.08</b>	0.11	0.05	<b>0.09</b>	0.13
				4xD	0.04	<b>0.06</b>	0.08	0.04	<b>0.07</b>	0.10	0.04	<b>0.08</b>	0.12
				5xD	0.04	<b>0.05</b>	0.06	0.04	<b>0.06</b>	0.08	0.04	<b>0.07</b>	0.10
B - THREADING	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	2xD - 3xD	0.07	<b>0.10</b>	0.13	0.07	<b>0.11</b>	0.15	0.09	<b>0.13</b>	0.17
				4xD	0.06	<b>0.09</b>	0.12	0.06	<b>0.10</b>	0.14	0.08	<b>0.12</b>	0.16
				5xD	0.06	<b>0.08</b>	0.10	0.06	<b>0.09</b>	0.12	0.08	<b>0.11</b>	0.14
C - GROOVING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	2xD - 3xD	0.07	<b>0.09</b>	0.11	0.07	<b>0.10</b>	0.13	0.09	<b>0.12</b>	0.15
				4xD	0.06	<b>0.08</b>	0.10	0.06	<b>0.09</b>	0.12	0.08	<b>0.11</b>	0.14
				5xD	0.06	<b>0.07</b>	0.08	0.06	<b>0.08</b>	0.10	0.08	<b>0.10</b>	0.12
D - MILLING	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	2xD - 3xD	0.06	<b>0.09</b>	0.12	0.06	<b>0.10</b>	0.14	0.06	<b>0.11</b>	0.16
				4xD	0.05	<b>0.08</b>	0.11	0.05	<b>0.09</b>	0.13	0.05	<b>0.10</b>	0.15
				5xD	0.05	<b>0.06</b>	0.07	0.05	<b>0.08</b>	0.11	0.05	<b>0.09</b>	0.13
E - DRILLING	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	2xD - 3xD	0.05	<b>0.08</b>	0.11	0.05	<b>0.09</b>	0.13	0.05	<b>0.10</b>	0.15
				4xD	0.04	<b>0.07</b>	0.10	0.04	<b>0.08</b>	0.12	0.04	<b>0.09</b>	0.14
				5xD	0.04	<b>0.06</b>	0.08	0.04	<b>0.07</b>	0.10	0.04	<b>0.08</b>	0.12
F - ACCESSORIES	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	2xD - 3xD	0.06	<b>0.08</b>	0.10	0.06	<b>0.09</b>	0.12	0.06	<b>0.10</b>	0.14
				4xD	0.05	<b>0.07</b>	0.09	0.05	<b>0.08</b>	0.11	0.05	<b>0.09</b>	0.13
				5xD	0.05	<b>0.06</b>	0.07	0.05	<b>0.06</b>	0.07	0.05	<b>0.08</b>	0.11
G - SPARE PARTS	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		2xD - 3xD	0.05	<b>0.07</b>	0.09	0.05	<b>0.08</b>	0.11	0.05	<b>0.09</b>	0.13
				4xD	0.04	<b>0.06</b>	0.08	0.04	<b>0.07</b>	0.10	0.04	<b>0.08</b>	0.12
				5xD	0.04	<b>0.05</b>	0.06	0.04	<b>0.06</b>	0.08	0.04	<b>0.07</b>	0.10
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	2xD - 3xD	0.07	<b>0.10</b>	0.13	0.09	<b>0.13</b>	0.17	0.11	<b>0.15</b>	0.19
				4xD	0.06	<b>0.09</b>	0.12	0.08	<b>0.12</b>	0.16	0.10	<b>0.14</b>	0.18
				5xD	0.06	<b>0.08</b>	0.10	0.08	<b>0.11</b>	0.14	0.10	<b>0.13</b>	0.16
	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	2xD - 3xD	0.07	<b>0.09</b>	0.11	0.08	<b>0.12</b>	0.16	0.09	<b>0.14</b>	0.19
				4xD	0.06	<b>0.08</b>	0.10	0.07	<b>0.11</b>	0.15	0.08	<b>0.13</b>	0.18
				5xD	0.06	<b>0.07</b>	0.08	0.07	<b>0.10</b>	0.13	0.08	<b>0.12</b>	0.16
	N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		2xD - 3xD	0.07	<b>0.11</b>	0.15	0.07	<b>0.12</b>	0.17	0.09	<b>0.14</b>	0.19
				4xD	0.06	<b>0.10</b>	0.14	0.06	<b>0.11</b>	0.16	0.08	<b>0.13</b>	0.18
				5xD	0.06	<b>0.09</b>	0.12	0.06	<b>0.10</b>	0.14	0.08	<b>0.12</b>	0.16
	N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		2xD - 3xD	0.07	<b>0.10</b>	0.13	0.07	<b>0.11</b>	0.15	0.09	<b>0.13</b>	0.17
				4xD	0.06	<b>0.09</b>	0.12	0.06	<b>0.10</b>	0.14	0.08	<b>0.12</b>	0.16
				5xD	0.06	<b>0.08</b>	0.10	0.06	<b>0.09</b>	0.12	0.08	<b>0.11</b>	0.14

Catal

DC 28.00 ÷ 33.00			DC 34.00 ÷ 41.00			DC 42.00 ÷ 50.00					
min	start	max	min	start	max	min	start	max			
0.06	<b>0.10</b>	0.14	0.07	<b>0.11</b>	0.15	0.07	<b>0.12</b>	0.17			
0.05	<b>0.09</b>	0.13	0.06	<b>0.10</b>	0.14	0.06	<b>0.11</b>	0.16			
0.05	<b>0.08</b>	0.11	0.06	<b>0.09</b>	0.12	0.06	<b>0.10</b>	0.14			
0.09	<b>0.14</b>	0.19	0.11	<b>0.16</b>	0.21	0.11	<b>0.17</b>	0.23			
0.08	<b>0.13</b>	0.18	0.10	<b>0.15</b>	0.20	0.10	<b>0.16</b>	0.22			
0.08	<b>0.12</b>	0.16	0.10	<b>0.14</b>	0.18	0.10	<b>0.15</b>	0.20			
0.09	<b>0.13</b>	0.17	0.09	<b>0.14</b>	0.19	0.11	<b>0.16</b>	0.21			
0.08	<b>0.12</b>	0.16	0.08	<b>0.13</b>	0.18	0.10	<b>0.15</b>	0.20			
0.08	<b>0.11</b>	0.14	0.08	<b>0.12</b>	0.16	0.10	<b>0.14</b>	0.18			
0.07	<b>0.12</b>	0.17	0.08	<b>0.12</b>	0.18	0.09	<b>0.14</b>	0.19			
0.06	<b>0.11</b>	0.16	0.07	<b>0.11</b>	0.17	0.08	<b>0.13</b>	0.18			
0.06	<b>0.10</b>	0.14	0.07	<b>0.10</b>	0.13	0.08	<b>0.12</b>	0.16			
0.06	<b>0.11</b>	0.16	0.07	<b>0.12</b>	0.17	0.09	<b>0.13</b>	0.17			
0.05	<b>0.10</b>	0.15	0.06	<b>0.11</b>	0.16	0.08	<b>0.12</b>	0.16			
0.05	<b>0.09</b>	0.13	0.06	<b>0.10</b>	0.14	0.08	<b>0.11</b>	0.14			
0.07	<b>0.11</b>	0.15	0.08	<b>0.12</b>	0.16	0.09	<b>0.13</b>	0.17			
0.06	<b>0.10</b>	0.14	0.07	<b>0.11</b>	0.15	0.08	<b>0.12</b>	0.16			
0.06	<b>0.09</b>	0.12	0.07	<b>0.10</b>	0.13	0.08	<b>0.11</b>	0.14			
0.06	<b>0.10</b>	0.14	0.07	<b>0.11</b>	0.15	0.09	<b>0.12</b>	0.15			
0.05	<b>0.09</b>	0.13	0.06	<b>0.10</b>	0.14	0.08	<b>0.11</b>	0.14			
0.05	<b>0.08</b>	0.11	0.06	<b>0.09</b>	0.12	0.08	<b>0.10</b>	0.12			
0.11	<b>0.17</b>	0.23	0.13	<b>0.19</b>	0.25	0.15	<b>0.21</b>	0.27			
0.10	<b>0.16</b>	0.22	0.12	<b>0.18</b>	0.24	0.14	<b>0.20</b>	0.26			
0.10	<b>0.15</b>	0.20	0.12	<b>0.17</b>	0.22	0.14	<b>0.19</b>	0.24			
0.11	<b>0.16</b>	0.21	0.13	<b>0.17</b>	0.21	0.15	<b>0.19</b>	0.23			
0.10	<b>0.15</b>	0.20	0.12	<b>0.16</b>	0.20	0.14	<b>0.18</b>	0.22			
0.10	<b>0.14</b>	0.18	0.12	<b>0.15</b>	0.18	0.14	<b>0.17</b>	0.20			
0.09	<b>0.15</b>	0.21	0.11	<b>0.17</b>	0.23	0.13	<b>0.18</b>	0.23			
0.08	<b>0.14</b>	0.20	0.10	<b>0.16</b>	0.22	0.12	<b>0.17</b>	0.22			
0.08	<b>0.13</b>	0.18	0.10	<b>0.15</b>	0.20	0.12	<b>0.16</b>	0.20			
0.09	<b>0.14</b>	0.19	0.11	<b>0.16</b>	0.21	0.13	<b>0.17</b>	0.21			
0.08	<b>0.13</b>	0.18	0.10	<b>0.15</b>	0.20	0.12	<b>0.16</b>	0.20			
0.08	<b>0.12</b>	0.16	0.10	<b>0.14</b>	0.18	0.12	<b>0.15</b>	0.18			

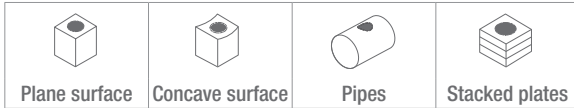
Catal

- A - TURNING
- B - THREADING
- C - GROOVING
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- F - ACCESSORIES
- G - SPARE PARTS

# DRS PILOT

For extra deep holes - High performance indexable drilling system

## APPLICATION



## ISO APPLICATION FIELDS

**P M K N**

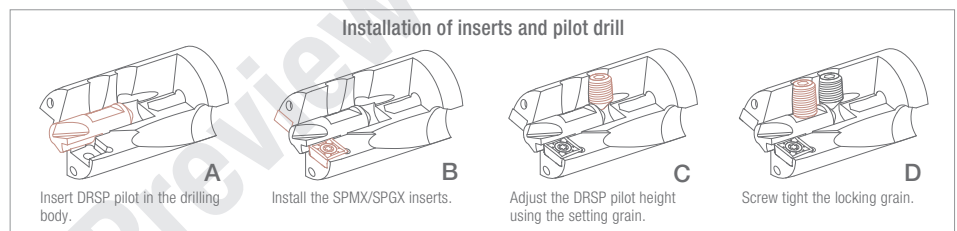
## ADVANTAGES AND CHARACTERISTICS

- Highly universal drilling system suitable for diverse conditions
- Best cost-efficient system for deep hole drilling
- The use of pilot provides better centering effect
- Straight flute design improves chip evacuation and strengthens the body



### ● Drilling bodies

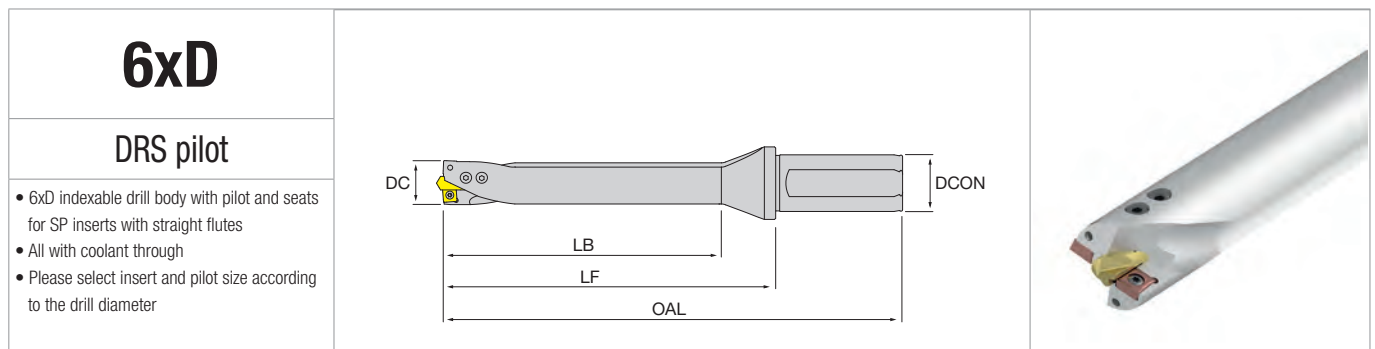
- Weldon shank with internal coolant
- 6xD and 9xD available from D18 to D30
- Special length and stepped body available upon request



### ● Inserts

- Available 05/06/07/09/11/14
- Cemented carbide grades with PVD coatings or uncoated for N materials
- Geometries: GP, AL
- Pilot drill made by premium HSS coated





Designation	Stock	DC	DCON	OAL	LF	LB				PILOT	MIID
NT-DRS-6D D18.00-S25-05P6	●	18	25	191	135	112				DRSP06	SPoX05
NT-DRS-6D D19.00-S25-05P6	●	19	25	197	141	118				DRSP06	SPoX05
NT-DRS-6D D20.00-S25-06P6	●	20	25	203	147	124				DRSP06	SPoX06
NT-DRS-6D D21.00-S25-06P6	●	21	25	209	153	130				DRSP06	SPoX06
NT-DRS-6D D22.00-S25-06P6	●	22	25	215	159	136				DRSP06	SPoX06
NT-DRS-6D D23.00-S32-06P6	●	23	32	228	168	142				DRSP06	SPoX06
NT-DRS-6D D24.00-S32-06P6	●	24	32	234	174	148				DRSP06	SPoX06
NT-DRS-6D D25.00-S32-06P6	●	25	32	240	180	154				DRSP06	SPoX06
NT-DRS-6D D26.00-S32-07P8	●	26	32	246	186	160				DRSP08	SPoX07
NT-DRS-6D D27.00-S32-07P8	●	27	32	252	192	166				DRSP08	SPoX07
NT-DRS-6D D28.00-S32-07P8	●	28	32	258	198	172				DRSP08	SPoX07
NT-DRS-6D D29.00-S32-07P8	●	29	32	264	204	178				DRSP08	SPoX07
NT-DRS-6D D30.00-S32-07P8	●	30	32	270	210	184				DRSP08	SPoX07

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

Spare parts	Insert screw	Flag wrench	Locking grain	Setting grain	L wrench
NT-DRS-6D (DC 18÷19)	NT-ST20043T06	NT-FTB06	NT-ST042	NT-ST043	NT-WR025
NT-DRS-6D (DC 20÷22)	NT-ST22055T06	NT-FTB06	NT-ST042	NT-ST043	NT-WR025
NT-DRS-6D (DC 23÷25)	NT-ST22055T06	NT-FTB06	NT-ST044	NT-ST045	NT-WR025
NT-DRS-6D (DC 26÷30)	NT-ST25065T07	NT-FTB07	NT-ST046	NT-ST047	NT-WR030

Catalogue Preview - AMB 2022

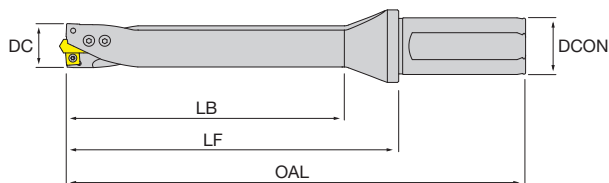
- A - TURNING
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A - TURNING

# 9xD

## DRS pilot

- 9xD indexable drill body with pilot and seats for SP inserts with straight flutes
- All with coolant through
- Please select insert and pilot size according to the drill diameter



B - THREADING

Designation	Stock	DC	DCON	OAL	LF	LB			PILOT	MIID
NT-DRS-9D D18.00-S25-05P6	●	18	25	245	189	166			DRSP06	SPoX05
NT-DRS-9D D19.00-S25-05P6	●	19	25	254	198	175			DRSP06	SPoX05
NT-DRS-9D D20.00-S25-06P6	●	20	25	263	207	184			DRSP06	SPoX06
NT-DRS-9D D21.00-S25-06P6	●	21	25	272	216	193			DRSP06	SPoX06
NT-DRS-9D D22.00-S25-06P6	●	22	25	281	225	202			DRSP06	SPoX06
NT-DRS-9D D23.00-S32-06P6	●	23	32	297	237	211			DRSP06	SPoX06
NT-DRS-9D D24.00-S32-06P6	●	24	32	306	246	220			DRSP06	SPoX06
NT-DRS-9D D25.00-S32-06P6	●	25	32	315	255	229			DRSP06	SPoX06
NT-DRS-9D D26.00-S32-07P8	●	26	32	324	264	238			DRSP08	SPoX07
NT-DRS-9D D27.00-S32-07P8	●	27	32	333	273	247			DRSP08	SPoX07
NT-DRS-9D D28.00-S32-07P8	●	28	32	342	282	256			DRSP08	SPoX07
NT-DRS-9D D29.00-S32-07P8	●	29	32	351	291	265			DRSP08	SPoX07
NT-DRS-9D D30.00-S32-07P8	●	30	32	360	300	274			DRSP08	SPoX07

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

C - GROOVING

D - MILLING

Spare parts	Insert screw	Flag wrench	Locking grain	Setting grain	L wrench
NT-DRS-6D (DC 18÷19)	NT-ST20043T06	NT-FTB06	NT-ST042	NT-ST043	NT-WR025
NT-DRS-6D (DC 20÷22)	NT-ST22055T06	NT-FTB06	NT-ST042	NT-ST043	NT-WR025
NT-DRS-6D (DC 23÷25)	NT-ST22055T06	NT-FTB06	NT-ST044	NT-ST045	NT-WR025
NT-DRS-6D (DC 26÷30)	NT-ST25065T07	NT-FTB07	NT-ST046	NT-ST047	NT-WR030

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



<h1>SPoX</h1> <h2>DRS pilot</h2>	HF: Micrograin carbide PVD: Physical vapour deposition					HF PVD	HF PVD	HF PVD	HF PVD	HF		
						<b>JP5530</b>	<b>JP5625</b>	<b>JP8725</b>	<b>JP9535</b>	<b>JU6520</b>		
<ul style="list-style-type: none"> <li>General purpose type or fine polished sharp geometries for aluminum or non-ferrous materials available</li> <li>Diverse PVD coated carbide grades available</li> <li>Inserts could also be mounted on Chamfer-Square milling bodies</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice	○ suitable									
	General machining, medium cut	● 1 <sup>st</sup> choice	○ suitable	●	●	●	●	●	●			
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice	⊖ suitable	⊕				⊕				
	<b>Dimensions</b>		<b>ISO</b>									<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
		<b>P</b>	55 200	55 200	55 200							
		<b>M</b>	30 120				50 130					
		<b>K</b>	70 150	70 150								
		<b>N</b>					100 320					
		<b>S</b>										
		<b>H</b>										

Designation		RE	IC	S	D1	LE	Stock				
GENERAL	GP <b>P M K</b>										
	SPMX050204-GP	0.4	5	2.38	2.5	4.2	●	●	▲	●	
	SPMX060204-GP	0.4	6	2.38	2.8	5.2	●		●	●	
	SPMX077308-GP	0.8	7.94	3.97	2.8	6.34	●		●	●	
ALUMINIUM	<b>AL N</b>										
	SPGX050204-AL	0.4	5	2.38	2.5	4.2				●	
	SPGX060204-AL	0.4	6	2.38	2.8	5.2				●	
	SPGX077308-AL <small>periphery ground polished surface</small>	0.8	7.94	3.97	2.8	6.34				●	

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

Catalogue Preview - AMB

- A - TURNING
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A - TURNING

B - THREADING

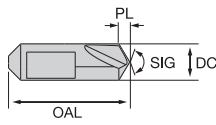

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Pilot</h1>	Hss: High speed steel PVD: Physical vapour deposition		Hss			
			PVD			
<h2>DRS pilot</h2>			<b>HSS TIN</b>			
<ul style="list-style-type: none"> <li>TIN coated HSS pilot for DRS PILOT drills</li> <li>1 Pilot is already pre-mounted on DRS Pilot drill body</li> <li>Universal use for PMKN materials</li> <li>Cannot be mounted on DEX Pilot</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable				
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●			
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice ▼ suitable	▲			
	<b>Dimensions</b>		<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>		
		<b>P</b>	55 200			
		<b>M</b>	50 130			
		<b>K</b>	70 150			
		<b>N</b>	100 320			
		<b>S</b>				
		<b>H</b>				
<b>GENERAL</b>	<b>GP</b> <b>P M K N</b>	<b>DC</b>	<b>OAL</b>	<b>PL</b>	<b>SIG</b>	<b>Stock</b>
	DRSPO6-GP	6	20	1.5	118°	●
	DRSPO8-GP	8	25	2.1	118°	●

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

Catalogue Preview - AMB

ISO 513	MATERIAL	HARDNESS HB	L/D	JP5530			JP8725		
				min	start	max	min	start	max
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	6XD	100	150	200	100	150	200
			9XD	90	130	170	90	130	170
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	6XD	80	120	160	80	120	160
			9XD	70	105	140	70	105	140
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	6XD	65	95	125	65	95	125
			9XD	55	85	115	55	85	115
ISO 513	MATERIAL	HARDNESS HB	L/D	JP5530			JP9535		
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	6XD	40	80	120	70	100	130
			9XD	30	60	90	50	80	110
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	6XD	-	-	-	60	80	100
			9XD	-	-	-	50	70	90
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	6XD	35	60	85	70	100	130
			9XD	30	50	70	50	80	110
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		6XD	-	-	-	60	90	120
			9XD	-	-	-	50	80	110
ISO 513	MATERIAL	HARDNESS HB	L/D	JP5530					
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	6XD	110	130	150			
			9XD	90	110	130			
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	6XD	80	100	120			
			9XD	70	90	110			
ISO 513	MATERIAL	HARDNESS HB	L/D	JU6520					
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		6XD	200	260	320			
			9XD	160	220	280			
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		6XD	120	180	240			
			9XD	100	150	200			

A - TURNING

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G - SPARE PARTS

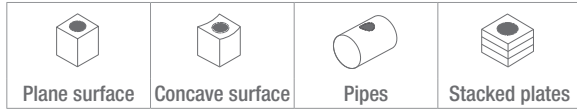
	ISO 513	MATERIAL	HARDNESS HB	L/D	DC 18.00 ÷ 19.00			DC 20.00 ÷ 25.00			DC 26.00 ÷ 30.00		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	6XD	0.04	<b>0.06</b>	0.08	0.04	<b>0.07</b>	0.10	0.05	<b>0.08</b>	0.11
				9XD	0.04	<b>0.05</b>	0.06	0.04	<b>0.06</b>	0.08	0.05	<b>0.07</b>	0.09
	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	6XD	0.06	<b>0.09</b>	0.12	0.08	<b>0.11</b>	0.14	0.08	<b>0.12</b>	0.16
				9XD	0.06	<b>0.08</b>	0.10	0.08	<b>0.10</b>	0.12	0.08	<b>0.11</b>	0.14
B - THREADING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	6XD	0.06	<b>0.08</b>	0.10	0.08	<b>0.10</b>	0.12	0.08	<b>0.11</b>	0.14
				9XD	0.06	<b>0.07</b>	0.08	0.08	<b>0.09</b>	0.10	0.08	<b>0.10</b>	0.12
	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	6XD	0.05	<b>0.08</b>	0.11	0.05	<b>0.09</b>	0.13	0.06	<b>0.10</b>	0.14
				9XD	0.05	<b>0.07</b>	0.09	0.05	<b>0.08</b>	0.11	0.06	<b>0.09</b>	0.12
	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	6XD	0.04	<b>0.07</b>	0.10	0.04	<b>0.08</b>	0.12	0.05	<b>0.09</b>	0.13
				9XD	0.04	<b>0.06</b>	0.08	0.04	<b>0.07</b>	0.10	0.05	<b>0.08</b>	0.11
C - GROOVING	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	6XD	0.05	<b>0.06</b>	0.07	0.05	<b>0.08</b>	0.11	0.06	<b>0.09</b>	0.12
				9XD	0.04	<b>0.05</b>	0.06	0.05	<b>0.07</b>	0.09	0.06	<b>0.08</b>	0.10
	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		6XD	0.04	<b>0.06</b>	0.08	0.04	<b>0.07</b>	0.10	0.05	<b>0.08</b>	0.11
				9XD	0.03	<b>0.05</b>	0.07	0.04	<b>0.06</b>	0.08	0.05	<b>0.07</b>	0.09
D - MILLING	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	6XD	0.08	<b>0.11</b>	0.14	0.10	<b>0.13</b>	0.16	0.10	<b>0.15</b>	0.20
				9XD	0.08	<b>0.10</b>	0.12	0.10	<b>0.12</b>	0.14	0.10	<b>0.14</b>	0.18
	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	6XD	0.07	<b>0.10</b>	0.13	0.08	<b>0.12</b>	0.16	0.10	<b>0.14</b>	0.18
				9XD	0.07	<b>0.08</b>	0.11	0.08	<b>0.11</b>	0.14	0.10	<b>0.13</b>	0.16
E - DRILLING	N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		6XD	0.06	<b>0.10</b>	0.14	0.08	<b>0.12</b>	0.16	0.08	<b>0.13</b>	0.18
				9XD	0.06	<b>0.09</b>	0.12	0.08	<b>0.11</b>	0.14	0.08	<b>0.12</b>	0.16
	N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AISI12)		6XD	0.06	<b>0.09</b>	0.12	0.08	<b>0.11</b>	0.14	0.08	<b>0.12</b>	0.16
				9XD	0.06	<b>0.08</b>	0.10	0.08	<b>0.10</b>	0.12	0.08	<b>0.11</b>	0.14

Catal

# DEX DRILLS

High productivity indexable drilling system with exchangeable heads

## APPLICATION



## ISO APPLICATION FIELDS

**P M K**

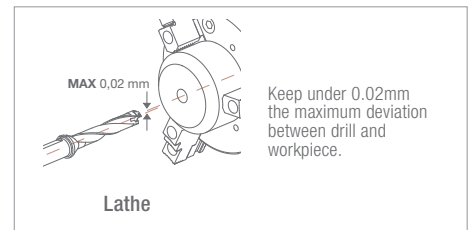
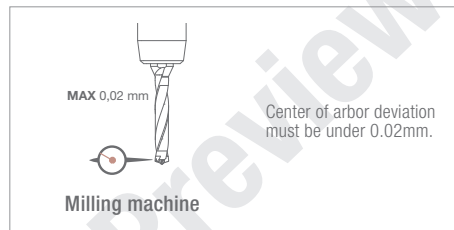
## ADVANTAGES AND CHARACTERISTICS

- High reliable quick change indexable drilling system
- Solid drill head with 3D geometry, adapted for high feedrate and provides high efficiency in machining
- Attracting cost efficiency per hole, good replacement for regrind solid carbide drills



## • Drilling bodies

- Weldon shank with internal coolant
- 3xD and 5xD available from D10 to D26
- Special length and stepped body available upon request



## • Inserts

- Available D10-26, can make special diameters or stepped type
- Cemented carbide grades with PVD coatings
- Geometries: SC, GP, TE, FT

### Chisel edge



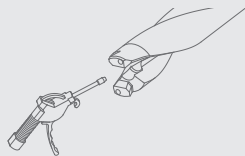
### Outer corner



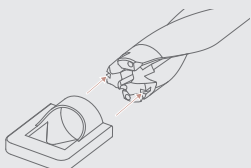
### Gash geometry



### DRILLING HEADS INSTALLATION



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



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

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

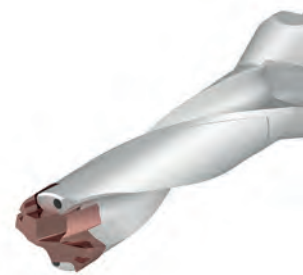
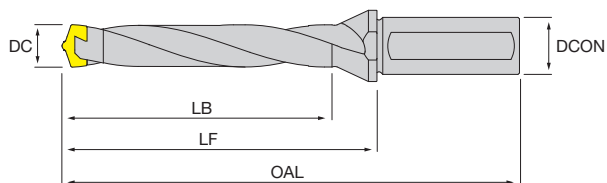
F - ACCESSORIES

G - SPARE PARTS

# 3xD

## DEX drill

- 3xD indexable drill body for DEX drill head
- All with coolant through
- Different drill heads can fit into the same body, please select according to the MIID column
- Special diameters or stepped type available upon requests



Designation	Stock	DC	DCON	OAL	LF	LB				MIID
NT-DEX-3D D10-S16F	●	10	16	95	47	38				DEX10 <sup>oo</sup>
NT-DEX-3D D11-S16F	●	11	16	98	50	39				DEX11 <sup>oo</sup>
NT-DEX-3D D12-S16F	●	12	16	104	56	44				DEX12 <sup>oo</sup>
NT-DEX-3D D13-S16F	●	13	16	108	60	47				DEX13 <sup>oo</sup>
NT-DEX-3D D14-S16F	●	14	16	112	64	50				DEX14 <sup>oo</sup>
NT-DEX-3D D15-S20F	●	15	20	118	68	53				DEX15 <sup>oo</sup>
NT-DEX-3D D16-S20F	●	16	20	122	72	56				DEX16 <sup>oo</sup>
NT-DEX-3D D17-S20F	●	17	20	126	76	59				DEX17 <sup>oo</sup>
NT-DEX-3D D18-S25F	●	18	25	136	80	62				DEX18 <sup>oo</sup>
NT-DEX-3D D19-S25F	●	19	25	140	84	65				DEX19 <sup>oo</sup>
NT-DEX-3D D20-S25F	●	20	25	144	88	68				DEX20 <sup>oo</sup>
NT-DEX-3D D21-S25F	●	21	25	152	96	75				DEX21 <sup>oo</sup>
NT-DEX-3D D22-S25F	●	22	25	157	101	81				DEX22 <sup>oo</sup>
NT-DEX-3D D23-S32F	●	23	32	165	105	82				DEX23 <sup>oo</sup>
NT-DEX-3D D24-S32F	●	24	32	170	110	86				DEX24 <sup>oo</sup>
NT-DEX-3D D25/26-S32F	●	25	32	175	115	89				DEX25/26 <sup>oo</sup>

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

Spare parts	Head wrench
NT-DEX-3D (DC 10÷11)	NT-WR1011
NT-DEX-3D (DC 12÷17)	NT-WR1217
NT-DEX-3D (DC 18÷20)	NT-WR1820
NT-DEX-3D (DC 21÷25)	NT-WR2126

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>5xD</h1>		
<h2>DEX drill</h2>		
<ul style="list-style-type: none"> <li>• 5xD indexable drill body for DEX drill head</li> <li>• All with coolant through</li> <li>• Different drill heads can fit into the same body, please select according to the MIID column</li> <li>• Special diameters or stepped type available upon requests</li> </ul>		

Designation	Stock	DC	DCON	OAL	LF	LB				MIID
NT-DEX-5D D10-S16F	●	10	16	116	68	59				DEX10 <sup>oo</sup>
NT-DEX-5D D11-S16F	●	11	16	121	73	62				DEX11 <sup>oo</sup>
NT-DEX-5D D12-S16F	●	12	16	130	82	70				DEX12 <sup>oo</sup>
NT-DEX-5D D13-S16F	●	13	16	136	88	75				DEX13 <sup>oo</sup>
NT-DEX-5D D14-S16F	●	14	16	142	94	80				DEX14 <sup>oo</sup>
NT-DEX-5D D15-S20F	●	15	20	150	100	85				DEX15 <sup>oo</sup>
NT-DEX-5D D16-S20F	●	16	20	156	106	90				DEX16 <sup>oo</sup>
NT-DEX-5D D17-S20F	●	17	20	162	112	95				DEX17 <sup>oo</sup>
NT-DEX-5D D18-S25F	●	18	25	174	118	100				DEX18 <sup>oo</sup>
NT-DEX-5D D19-S25F	●	19	25	180	124	105				DEX19 <sup>oo</sup>
NT-DEX-5D D20-S25F	●	20	25	186	130	110				DEX20 <sup>oo</sup>
NT-DEX-5D D21-S25F	●	21	25	194	138	117				DEX21 <sup>oo</sup>
NT-DEX-5D D22-S25F	●	22	25	201	145	125				DEX22 <sup>oo</sup>
NT-DEX-5D D23-S32F	●	23	32	211	151	128				DEX23 <sup>oo</sup>
NT-DEX-5D D24-S32F	●	24	32	218	158	134				DEX24 <sup>oo</sup>
NT-DEX-5D D25/26-S32F	●	25	32	225	165	139				DEX25/26 <sup>oo</sup>

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

Spare parts	Head wrench
NT-DEX-5D (DC 10÷11)	NT-WR1011
NT-DEX-5D (DC 12÷17)	NT-WR1217
NT-DEX-5D (DC 18÷20)	NT-WR1820
NT-DEX-5D (DC 21÷25)	NT-WR2126

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

Catalogue Preview - AMB 2022

# Heads

## DEX drill

- GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes
- Can fit with 3xD or 5xD DEX drill bodies
- Diameters out of catalogue can be made upon request
- Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests

HF: Micrograin carbide PVD: Physical vapour deposition		HF PVD	HF PVD	HF PVD	HF PVD
		<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>
Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	○	○	○
General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	●
Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable	⊖	⊖	⊖	⊖
<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
	<b>P</b>	30 160	55 160	30 160	
	<b>M</b>		20 100		
	<b>K</b>	60 140		60 140	70 160
	<b>N</b>				
	<b>S</b>				
	<b>H</b>				

Designation		DC	DC toll.	SIG	PL	LF	Stock		
GENERAL		GP 10∞ <b>P K</b>	DEX1000-GP	10	k6	140°	1.78	4.42	●
		DEX1010-GP	10.1	k6	140°	1.8	4.4	○	
		DEX1020-GP	10.2	k6	140°	1.82	4.38	●	
		DEX1030-GP	10.3	k6	140°	1.84	4.36	● ▲	
		DEX1040-GP	10.4	k6	140°	1.86	4.34	● ▲	
		DEX1050-GP	10.5	k6	140°	1.88	4.32	●	
		DEX1060-GP	10.6	k6	140°	1.9	4.3	○	
		DEX1070-GP	10.7	k6	140°	1.92	4.28	○	
		DEX1080-GP	10.8	k6	140°	1.94	4.26	○	
		DEX1090-GP	10.9	k6	140°	1.96	4.24	○	
GENERAL		GP 11∞ <b>P K</b>	DEX1100-GP	11	k6	140°	1.98	4.62	● ▲
		DEX1110-GP	11.1	k6	140°	2	4.6	○	
		DEX1120-GP	11.2	k6	140°	2.02	4.58	○	
		DEX1130-GP	11.3	k6	140°	2.04	4.56	● ▲	
		DEX1140-GP	11.4	k6	140°	2.06	4.54	○	
		DEX1150-GP	11.5	k6	140°	2.08	4.52	● ▲	
		DEX1160-GP	11.6	k6	140°	2.1	4.5	○	
		DEX1170-GP	11.7	k6	140°	2.12	4.48	○	
		DEX1180-GP	11.8	k6	140°	2.14	4.46	○	
		DEX1190-GP	11.9	k6	140°	2.16	4.44	○	

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

**GP - Chisel edge**

Big size chisel allows high feedrate machining and best centering features.

**GP - Outer corner**

Small chamfer for very good edge protection in general machining.

**GP - Gash geometry**

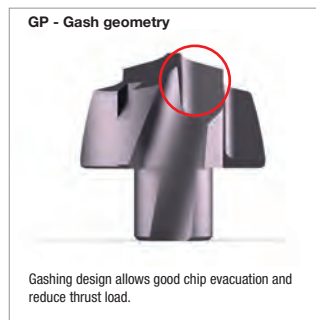
Gashing design allows good chip evacuation and reduce thrust load.



<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
					<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>
DEX drill	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable							
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
			<b>P</b> 30 160	<b>M</b> 20 100	<b>K</b> 60 140	<b>N</b>	<b>S</b>	<b>H</b>

Designation		DC	DC toll.	SIG	PL	LF	Stock	
GENERAL 	GP 12 <sub>00</sub> <b>P</b> <b>K</b>	DEX1200-GP	12	k6	140°	2.18	4.82	● ▲
		DEX1210-GP	12.1	k6	140°	2.2	4.8	● ▲
		DEX1220-GP	12.2	k6	140°	2.22	4.78	● ▲
		DEX1230-GP	12.3	k6	140°	2.24	4.76	● ▲
		DEX1240-GP	12.4	k6	140°	2.26	4.74	● ▲
		DEX1250-GP	12.5	k6	140°	2.27	4.73	● ▲
		DEX1260-GP	12.6	k6	140°	2.29	4.71	●
		DEX1270-GP	12.7	k6	140°	2.31	4.69	● ▲
		DEX1280-GP	12.8	k6	140°	2.33	4.67	● ▲
		DEX1290-GP	12.9	k6	140°	2.35	4.645	● ▲
GENERAL 	GP 13 <sub>00</sub> <b>P</b> <b>K</b>	DEX1300-GP	13	k6	140°	2.37	5.23	●
		DEX1310-GP	13.1	k6	140°	2.38	5.22	● ▲
		DEX1320-GP	13.2	k6	140°	2.4	5.2	●
		DEX1330-GP	13.3	k6	140°	2.42	5.18	● ▲
		DEX1340-GP	13.4	k6	140°	2.44	5.16	● ▲
		DEX1350-GP	13.5	k6	140°	2.46	5.14	●
		DEX1360-GP	13.6	k6	140°	2.47	5.13	● ▲
		DEX1370-GP	13.7	k6	140°	2.49	5.11	●
		DEX1380-GP	13.8	k6	140°	2.51	5.09	●
		DEX1390-GP	13.9	k6	140°	2.53	5.07	● ▲

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

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<h1>Heads</h1> <h2>DEX drill</h2> <ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD	HF PVD	HF PVD	HF PVD
	Stable machining, light cut <input type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable Unstable machining, heavy cut <input type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<b>JP5625</b> <b>JP5630</b> <b>JP5725</b> <b>JP7625</b>			
Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)			
	<b>P</b>	30 160	55 160	30 160	
	<b>M</b>		20 100		
	<b>K</b>	60 140		60 140	70 160
	<b>N</b>				
	<b>S</b>				
	<b>H</b>				

Designation		DC	DC toll.	SIG	PL	LF	Stock		
GENERAL	GP 14 <sub>00</sub> <b>P K</b>	DEX1400-GP	14	k6	140°	2.55	5.55	●	▲
		DEX1410-GP	14.1	k6	140°	2.57	5.53	●	▲
		DEX1420-GP	14.2	k6	140°	2.58	5.52	●	▲
		DEX1430-GP	14.3	k6	140°	2.6	5.5	●	▲
		DEX1440-GP	14.4	k6	140°	2.62	5.48	●	▲
		DEX1450-GP	14.5	k6	140°	2.64	5.46	●	▲
		DEX1460-GP	14.6	k6	140°	2.66	5.44	●	▲
		DEX1470-GP	14.7	k6	140°	2.68	5.42	●	▲
		DEX1480-GP	14.8	k6	140°	2.69	5.41	●	▲
		DEX1490-GP	14.9	k6	140°	2.71	5.39	●	▲
GENERAL	GP 15 <sub>00</sub> <b>P K</b>	DEX1500-GP	15	k6	140°	2.73	5.97	●	▲
		DEX1505-GP	15.05	k6	140°			○	
		DEX1510-GP	15.1	k6	140°	2.75	5.95	●	▲
		DEX1520-GP	15.2	k6	140°	2.77	5.93	●	▲
		DEX1530-GP	15.3	k6	140°	2.78	5.92	●	▲
		DEX1540-GP	15.4	k6	140°	2.8	5.9	●	▲
		DEX1550-GP	15.5	k6	140°	2.82	5.88	●	▲
		DEX1560-GP	15.6	k6	140°	2.84	5.86	●	▲
		DEX1570-GP	15.7	k6	140°	2.86	5.84	●	▲
		DEX1580-GP	15.8	k6	140°	2.88	5.82	●	▲
DEX1590-GP	15.9	k6	140°	2.89	5.81	●	▲		

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

**GP - Chisel edge**

Big size chisel allows high feedrate machining and best centering features.

**GP - Outer corner**

Small chamfer for very good edge protection in general machining.

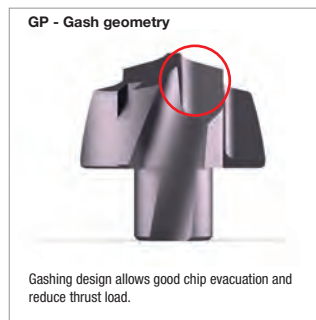
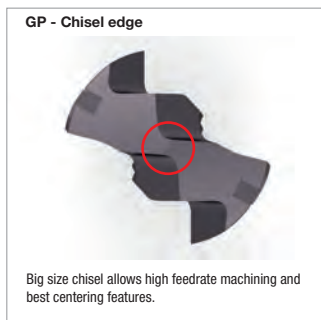
**GP - Gash geometry**

Gashing design allows good chip evacuation and reduce thrust load.

<h1>Heads</h1> <h2>DEX drill</h2> <ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD	HF PVD	HF PVD	HF PVD
	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚙ 1 <sup>st</sup> choice ⚙ suitable	<b>JP5625</b> <b>JP5630</b> <b>JP5725</b> <b>JP7625</b>			
Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)			
	<b>P</b>	30 160	55 160	30 160	
	<b>M</b>		20 100		
	<b>K</b>	60 140		60 140	70 160
	<b>N</b>				
	<b>S</b>				
	<b>H</b>				

Designation		DC	DC toll.	SIG	PL	LF	Stock		
GENERAL		DEX1600-GP	16	k6	140°	2.91	5.89	●	
		DEX1610-GP	16.1	k6	140°	2.93	5.87	●	
		DEX1620-GP	16.2	k6	140°	2.95	5.85	● ▲	
		DEX1630-GP	16.3	k6	140°	2.97	5.83	● ▲	
		DEX1640-GP	16.4	k6	140°	2.98	5.82	●	
		DEX1650-GP	16.5	k6	140°	3	5.8	●	
		DEX1660-GP	16.6	k6	140°	3.02	5.78	● ▲	
		DEX1670-GP	16.7	k6	140°	3.04	5.76	● ▲	
		DEX1680-GP	16.8	k6	140°	3.06	5.74	● ▲	
		DEX1690-GP	16.9	k6	140°	3.08	5.72	● ▲	
GENERAL		DEX1700-GP	17	k6	140°	3.09	6.81	●	
		DEX1710-GP	17.1	k6	140°	3.11	6.79	●	
		DEX1720-GP	17.2	k6	140°	3.13	6.77	●	
		DEX1730-GP	17.3	k6	140°	3.15	6.77	● ▲	
		DEX1740-GP	17.4	k6	140°	3.17	6.75	● ▲	
		DEX1750-GP	17.5	k6	140°	3.18	6.72	●	
		DEX1760-GP	17.6	k6	140°	3.2	6.7	●	
		DEX1770-GP	17.7	k6	140°	3.22	6.68	● ▲	
		DEX1780-GP	17.8	k6	140°	3.24	6.66	●	
		DEX1790-GP	17.9	k6	140°	3.26	6.64	● ▲	

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



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F - ACCESSORIES

G - SPARE PARTS

<h1>Heads</h1> <h2>DEX drill</h2> <ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD	HF PVD	HF PVD	HF PVD
	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable	<b>JP5625</b> <b>JP5630</b> <b>JP5725</b> <b>JP7625</b>			
Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)			
	<b>P</b>	30 160	55 160	30 160	
	<b>M</b>		20 100		
	<b>K</b>	60 140		60 140	70 160
	<b>N</b>				
	<b>S</b>				
	<b>H</b>				

Designation		DC	DC toll.	SIG	PL	LF	Stock		
GENERAL		DEX1800-GP	18	k6	140°	3.28	7.22	●	
		DEX1810-GP	18.1	k6	140°	3.29	7.21	●	▲
		DEX1820-GP	18.2	k6	140°	3.31	7.19	●	▲
		DEX1830-GP	18.3	k6	140°	3.33	7.17	●	▲
		DEX1840-GP	18.4	k6	140°	3.35	7.15	●	▲
		DEX1850-GP	18.5	k6	140°	3.37	7.13		●
		DEX1860-GP	18.6	k6	140°	3.38	7.12		●
		DEX1870-GP	18.7	k6	140°	3.4	7.1	●	▲
		DEX1880-GP	18.8	k6	140°	3.42	7.08	●	▲
		DEX1890-GP	18.9	k6	140°	3.44	7.06		●
GENERAL		DEX1900-GP	19	k6	140°	3.46	7.54	●	
		DEX1910-GP	19.1	k6	140°	3.48	7.52	●	▲
		DEX1920-GP	19.2	k6	140°	3.49	7.51	●	▲
		DEX1930-GP	19.3	k6	140°	3.51	7.49	●	▲
		DEX1940-GP	19.4	k6	140°	3.53	7.47	●	▲
		DEX1950-GP	19.5	k6	140°	3.55	7.45	●	▲
		DEX1960-GP	19.6	k6	140°	3.57	7.43	●	▲
		DEX1970-GP	19.7	k6	140°	3.59	7.41	●	▲
		DEX1980-GP	19.8	k6	140°	3.6	7.4		●
		DEX1990-GP	19.9	k6	140°	3.62	7.38	●	▲

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

**GP - Chisel edge**

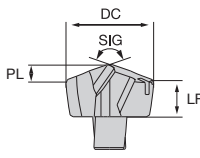
Big size chisel allows high feedrate machining and best centering features.





**GP - Outer corner**

Small chamfer for very good edge protection in general machining.

**GP - Gash geometry**


Gashing design allows good chip evacuation and reduce thrust load.

<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD	
					<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>	
<h2>DEX drill</h2>	<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>								
Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable		<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>P</b>		30 160	55 160	30 160			
		<b>M</b>				20 100			
		<b>K</b>		60 140	60 140	70 160			
		<b>N</b>							
		<b>S</b>							
		<b>H</b>							

Designation		DC	DC toll.	SIG	PL	LF	Stock	
<b>GENERAL</b> 	<b>GP 20<sub>00</sub> P K</b>	DEX2000-GP	20	k6	140°	3.64	7.96	● ▲
		DEX2010-GP	20.1	k6	140°	3.66	7.94	●
		DEX2020-GP	20.2	k6	140°	3.68	7.92	● ▲
		DEX2030-GP	20.3	k6	140°	3.69	7.91	● ▲
		DEX2040-GP	20.4	k6	140°	3.71	7.89	● ▲
		DEX2050-GP	20.5	k6	140°	3.73	7.87	●
		DEX2060-GP	20.6	k6	140°	3.75	7.85	●
		DEX2070-GP	20.7	k6	140°	3.77	7.83	● ▲
		DEX2080-GP	20.8	k6	140°	3.79	7.81	● ▲
		DEX2090-GP	20.9	k6	140°	3.8	7.8	●
<b>GENERAL</b> 	<b>GP 21<sub>00</sub> P K</b>	DEX2100-GP	21	k6	140°	3.82	8.28	●
		DEX2150-GP	21.5	k6	140°	3.91	8.19	●
<b>GENERAL</b> 	<b>GP 22<sub>00</sub> P K</b>	DEX2200-GP	22	k6	140°	4	8.7	●
		DEX2250-GP	22.5	k6	140°	4.09	8.61	●
<b>GENERAL</b> 	<b>GP 23<sub>00</sub> P K</b>	DEX2300-GP	23	k6	140°	4.18	9.12	● ▲
		DEX2350-GP	23.5	k6	140°	4.28	9.02	●

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

**GP - Chisel edge**




Big size chisel allows high feedrate machining and best centering features.

**GP - Outer corner**



Small chamfer for very good edge protection in general machining.

**GP - Gash geometry**



Gashing design allows good chip evacuation and reduce thrust load.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	<h2>DEX drill</h2>				<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	Unstable machining, heavy cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>P</b>	30 160	55 160	30 160			
		<b>M</b>		20 100				
		<b>K</b>	60 140		60 140	70 160		
		<b>N</b>						
		<b>S</b>						
		<b>H</b>						

Designation		DC	DC toll.	SIG	PL	LF	Stock	
<b>GENERAL</b> 	<b>GP 24<sup>∞</sup> P K</b> DEX2400-GP	24	k6	140°	4.36	9.54	●	▲
	DEX2450-GP	24.5	k6	140°	4.46	9.44	●	▲
<b>GENERAL</b> 	<b>GP 25<sup>∞</sup> P K</b> DEX2500-GP	25	k6	140°	4.55	9.95	●	
	DEX2550-GP	25.5	k6	140°	4.64	9.86	●	▲
	DEX2600-GP	26	k6	140°	4.73	9.86	●	

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

Catalogue Preview - AMB

**GP - Chisel edge**

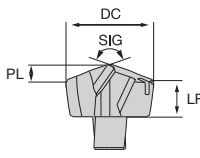
Big size chisel allows high feedrate machining and best centering features.



**GP - Outer corner**

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**GP - Gash geometry**


Gashing design allows good chip evacuation and reduce thrust load.

<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	DEX drill				JP5625	JP5630	JP5725	JP7625
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	○	○	○	○			
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●	●	●	●			
	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable	⚡	⚡	⚡	⚡			
	<b>Dimensions</b>			<b>ISO</b>				<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
	<b>P</b>	30 160	55 160	30 160				
	<b>M</b>		20 100					
	<b>K</b>	60 140		60 140	70 160			
	<b>N</b>							
	<b>S</b>							
	<b>H</b>							

Designation		DC	DC toll.	SIG	PL	LF	Stock	
LOW FORCE	 SC 10∞ <b>P M</b>	DEX1000-SC	10	k6	140°	1.78	4.42	●
		DEX1010-SC	10.1	k6	140°	1.8	4.4	○
		DEX1020-SC	10.2	k6	140°	1.82	4.38	●
		DEX1030-SC	10.3	k6	140°	1.84	4.36	●
		DEX1040-SC	10.4	k6	140°	1.86	4.34	●
		DEX1050-SC	10.5	k6	140°	1.88	4.32	●
		DEX1060-SC	10.6	k6	140°	1.9	4.3	○
		DEX1070-SC	10.7	k6	140°	1.92	4.28	○
		DEX1080-SC	10.8	k6	140°	1.94	4.26	○
		DEX1090-SC	10.9	k6	140°	1.96	4.24	○
LOW FORCE	 SC 11∞ <b>P M</b>	DEX1100-SC	11	k6	140°	1.98	4.62	●
		DEX1110-SC	11.1	k6	140°	2	4.6	○
		DEX1120-SC	11.2	k6	140°	2.02	4.58	○
		DEX1130-SC	11.3	k6	140°	2.04	4.56	●
		DEX1140-SC	11.4	k6	140°	2.06	4.54	○
		DEX1150-SC	11.5	k6	140°	2.08	4.52	●
		DEX1160-SC	11.6	k6	140°	2.1	4.5	○
		DEX1170-SC	11.7	k6	140°	2.12	4.48	○
		DEX1180-SC	11.8	k6	140°	2.14	4.46	○
		DEX1190-SC	11.9	k6	140°	2.16	4.44	○

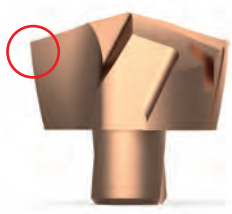
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

**SC - Chisel edge**




Small size chisel allows perfect balancing between centering performance and torque level.

**SC - Outer corner**



Sharp edge for better cutting action and no burr formation on sticky materials.

**SC - Gash geometry**



Flutes and gash design ensure fast chip evacuation and low cutting force on difficult to cut materials.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

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F - ACCESSORIES

G - SPARE PARTS

<h1>Heads</h1> <h2>DEX drill</h2> <ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD	HF PVD	HF PVD	HF PVD
	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚡ suitable	<b>JP5625</b> <b>JP5630</b> <b>JP5725</b> <b>JP7625</b>			
Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)			
	<b>P</b>	30 160	55 160	30 160	
	<b>M</b>		20 100		
	<b>K</b>	60 140		60 140	70 160
	<b>N</b>				
	<b>S</b>				
	<b>H</b>				

Designation		DC	DC toll.	SIG	PL	LF	Stock	
LOW FORCE 	SC 1200 <b>P M</b>	DEX1200-SC	12	k6	140°	2.18	4.82	●
		DEX1210-SC	12.1	k6	140°	2.2	4.8	●
		DEX1220-SC	12.2	k6	140°	2.22	4.78	●
		DEX1230-SC	12.3	k6	140°	2.24	4.76	●
		DEX1240-SC	12.4	k6	140°	2.26	4.74	○
		DEX1250-SC	12.5	k6	140°	2.27	4.73	●
		DEX1260-SC	12.6	k6	140°	2.29	4.71	●
		DEX1270-SC	12.7	k6	140°	2.31	4.69	○
		DEX1280-SC	12.8	k6	140°	2.33	4.67	○
		DEX1290-SC	12.9	k6	140°	2.35	4.645	○
LOW FORCE 	SC 1300 <b>P M</b>	DEX1300-SC	13	k6	140°	2.37	5.23	●
		DEX1310-SC	13.1	k6	140°	2.38	5.22	●
		DEX1320-SC	13.2	k6	140°	2.4	5.2	○
		DEX1330-SC	13.3	k6	140°	2.42	5.18	○
		DEX1340-SC	13.4	k6	140°	2.44	5.16	○
		DEX1350-SC	13.5	k6	140°	2.46	5.14	●
		DEX1360-SC	13.6	k6	140°	2.47	5.13	○
		DEX1370-SC	13.7	k6	140°	2.49	5.11	○
		DEX1380-SC	13.8	k6	140°	2.51	5.09	○
		DEX1390-SC	13.9	k6	140°	2.53	5.07	●

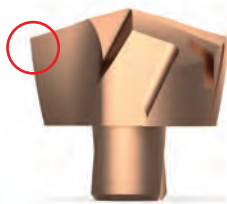
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

SC - Chisel edge



Small size chisel allows perfect balancing between centering performance and torque level.

SC - Outer corner



Sharp edge for better cutting action and no burr formation on sticky materials.

SC - Gash geometry



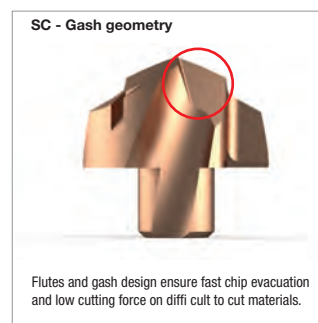
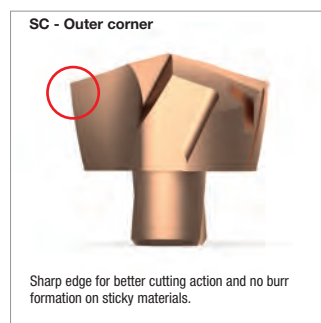
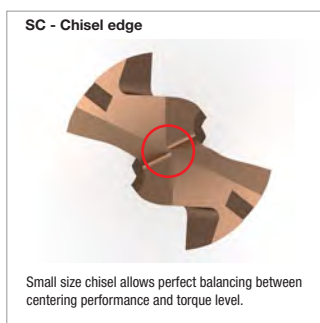
Flutes and gash design ensure fast chip evacuation and low cutting force on diffi cult to cut materials.



<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	<b>DEX drill</b>				<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	<b>Dimensions</b>	<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
	<b>P</b>	30 160	55 160	30 160				
	<b>M</b>		20 100					
	<b>K</b>	60 140		60 140	70 160			
	<b>N</b>							
	<b>S</b>							
	<b>H</b>							

Designation		DC	DC toll.	SIG	PL	LF	Stock	
LOW FORCE		DEX1400-SC	14	k6	140°	2.55	5.55	●
		DEX1410-SC	14.1	k6	140°	2.57	5.53	●
		DEX1420-SC	14.2	k6	140°	2.58	5.52	●
		DEX1430-SC	14.3	k6	140°	2.6	5.5	○
		DEX1440-SC	14.4	k6	140°	2.62	5.48	○
		DEX1450-SC	14.5	k6	140°	2.64	5.46	●
		DEX1460-SC	14.6	k6	140°	2.66	5.44	●
		DEX1470-SC	14.7	k6	140°	2.68	5.42	○
		DEX1480-SC	14.8	k6	140°	2.69	5.41	●
		DEX1490-SC	14.9	k6	140°	2.71	5.39	○
LOW FORCE		DEX1500-SC	15	k6	140°	2.73	5.97	●
		DEX1510-SC	15.1	k6	140°	2.75	5.95	●
		DEX1520-SC	15.2	k6	140°	2.77	5.93	●
		DEX1530-SC	15.3	k6	140°	2.78	5.92	●
		DEX1540-SC	15.4	k6	140°	2.8	5.9	○
		DEX1550-SC	15.5	k6	140°	2.82	5.88	●
		DEX1560-SC	15.6	k6	140°	2.84	5.86	○
		DEX1570-SC	15.7	k6	140°	2.86	5.84	○
		DEX1580-SC	15.8	k6	140°	2.88	5.82	○
		DEX1590-SC	15.9	k6	140°	2.89	5.81	○

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



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Heads</h1> <h2>DEX drill</h2>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD	
					<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>	
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut <input type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	Unstable machining, heavy cut <input type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable						
	<b>Dimensions</b>				<b>ISO</b>				
					<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
					<b>P</b>	30 160	55 160	30 160	
				<b>M</b>	20 100				
				<b>K</b>	60 140	60 140	70 160		
				<b>N</b>					
				<b>S</b>					
				<b>H</b>					

Designation		DC	DC toll.	SIG	PL	LF	Stock
<b>LOW FORCE</b> 	SC 1600 <b>P M</b>	DEX1600-SC	16	k6	140°	2.91	5.89 ●
		DEX1610-SC	16.1	k6	140°	2.93	5.87 ○
		DEX1620-SC	16.2	k6	140°	2.95	5.85 ●
		DEX1630-SC	16.3	k6	140°	2.97	5.83 ●
		DEX1640-SC	16.4	k6	140°	2.98	5.82 ○
		DEX1650-SC	16.5	k6	140°	3	5.8 ●
		DEX1660-SC	16.6	k6	140°	3.02	5.78 ●
		DEX1670-SC	16.7	k6	140°	3.04	5.76 ○
		DEX1680-SC	16.8	k6	140°	3.06	5.74 ○
		DEX1690-SC	16.9	k6	140°	3.08	5.72 ○
<b>LOW FORCE</b> 	SC 1700 <b>P M</b>	DEX1700-SC	17	k6	140°	3.09	6.81 ●
		DEX1710-SC	17.1	k6	140°	3.11	6.79 ●
		DEX1720-SC	17.2	k6	140°	3.13	6.77 ○
		DEX1730-SC	17.3	k6	140°	3.15	6.75 ○
		DEX1740-SC	17.4	k6	140°	3.17	6.73 ○
		DEX1750-SC	17.5	k6	140°	3.18	6.72 ●
		DEX1760-SC	17.6	k6	140°	3.2	6.7 ○
		DEX1770-SC	17.7	k6	140°	3.22	6.68 ●
		DEX1780-SC	17.8	k6	140°	3.24	6.66 ●
		DEX1790-SC	17.9	k6	140°	3.26	6.64 ○

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

**SC - Chisel edge**

Small size chisel allows perfect balancing between centering performance and torque level.

**SC - Outer corner**

Sharp edge for better cutting action and no burr formation on sticky materials.

**SC - Gash geometry**

Flutes and gash design ensure fast chip evacuation and low cutting force on diffi cult to cut materials.

<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	<b>DEX drill</b>				<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	○	○	○		
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	●		
	Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable	⊕	⊕	⊕	⊕		
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
	<b>P</b>	30 160	55 160	30 160				
	<b>M</b>		20 100					
	<b>K</b>	60 140		60 140	70 160			
	<b>N</b>							
	<b>S</b>							
	<b>H</b>							

Designation		DC	DC toll.	SIG	PL	LF	Stock	
LOW FORCE		DEX1800-SC	18	k6	140°	3.28	7.22	●
		DEX1810-SC	18.1	k6	140°	3.29	7.21	●
		DEX1820-SC	18.2	k6	140°	3.31	7.19	○
		DEX1830-SC	18.3	k6	140°	3.33	7.17	●
		DEX1840-SC	18.4	k6	140°	3.35	7.15	○
		DEX1850-SC	18.5	k6	140°	3.37	7.13	●
		DEX1860-SC	18.6	k6	140°	3.38	7.12	○
		DEX1870-SC	18.7	k6	140°	3.4	7.1	○
		DEX1880-SC	18.8	k6	140°	3.42	7.08	○
		DEX1890-SC	18.9	k6	140°	3.44	7.06	○
LOW FORCE		DEX1900-SC	19	k6	140°	3.46	7.54	●
		DEX1910-SC	19.1	k6	140°	3.48	7.52	○
		DEX1920-SC	19.2	k6	140°	3.49	7.51	●
		DEX1930-SC	19.3	k6	140°	3.51	7.49	●
		DEX1940-SC	19.4	k6	140°	3.53	7.47	○
		DEX1950-SC	19.5	k6	140°	3.55	7.45	●
		DEX1960-SC	19.6	k6	140°	3.57	7.43	○
		DEX1970-SC	19.7	k6	140°	3.59	7.41	●
		DEX1980-SC	19.8	k6	140°	3.6	7.4	○
		DEX1990-SC	19.9	k6	140°	3.62	7.38	●

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

**SC - Chisel edge**

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**SC - Outer corner**

Sharp edge for better cutting action and no burr formation on sticky materials.

**SC - Gash geometry**

Flutes and gash design ensure fast chip evacuation and low cutting force on difficult to cut materials.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

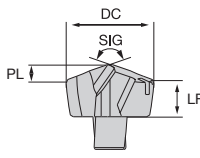
C - GROOVING





D - MILLING

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F - ACCESSORIES


G - SPARE PARTS

<h1>Heads</h1> <h2>DEX drill</h2> <ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚙ 1 <sup>st</sup> choice ⚙ suitable				JP5625	JP5630	JP5725	JP7625
Dimensions		ISO		Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)				
		<b>P</b>	30 160	55 160	30 160			
		<b>M</b>		20 100				
		<b>K</b>	60 140		60 140	70 160		
		<b>N</b>						
		<b>S</b>						
		<b>H</b>						

Designation		DC	DC toll.	SIG	PL	LF	Stock	
LOW FORCE	 SC 20 <sub>00</sub> <b>P M</b>	DEX2000-SC	20	k6	140°	3.64	7.96	●
		DEX2010-SC	20.1	k6	140°	3.66	7.94	○
		DEX2020-SC	20.2	k6	140°	3.68	7.92	○
		DEX2030-SC	20.3	k6	140°	3.69	7.91	○
		DEX2040-SC	20.4	k6	140°	3.71	7.89	○
		DEX2050-SC	20.5	k6	140°	3.73	7.87	●
		DEX2060-SC	20.6	k6	140°	3.75	7.85	○
		DEX2070-SC	20.7	k6	140°	3.77	7.83	○
		DEX2080-SC	20.8	k6	140°	3.79	7.81	○
		DEX2090-SC	20.9	k6	140°	3.8	7.8	○
LOW FORCE	 SC 21 <sub>00</sub> <b>P M</b>	DEX2100-SC	21	k6	140°	3.82	8.28	●
		DEX2150-SC	21.5	k6	140°	3.91	8.19	●
LOW FORCE	 SC 22 <sub>00</sub> <b>P M</b>	DEX2200-SC	22	k6	140°	4	8.7	●
		DEX2230-SC	22.3	k6	140°			○
		DEX2250-SC	22.5	k6	140°	4.09	8.61	●
LOW FORCE	 SC 23 <sub>00</sub> <b>P M</b>	DEX2300-SC	23	k6	140°	4.18	9.12	●
		DEX2350-SC	23.5	k6	140°	4.28	9.02	●

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

**SC - Chisel edge**




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**SC - Outer corner**



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**SC - Gash geometry**



Flutes and gash design ensure fast chip evacuation and low cutting force on difficult to cut materials.

<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD	
	<b>DEX drill</b>				<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>	
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>		
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	<b>Dimensions</b>				<b>ISO</b>				
					<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
	<b>P</b>	30 160	55 160	30 160					
	<b>M</b>		20 100						
	<b>K</b>	60 140		60 140	70 160				
	<b>N</b>								
	<b>S</b>								
	<b>H</b>								

Designation		DC	DC toll.	SIG	PL	LF	Stock	
LOW FORCE	<b>SC 24<sub>∞</sub></b> <b>P M</b> 							
	DEX2400-SC	24	k6	140°	4.36	9.54	●	
	DEX2450-SC	24.5	k6	140°	4.46	9.44	●	
LOW FORCE	<b>SC 25<sub>∞</sub></b> <b>P M</b> 							
	DEX2500-SC	25	k6	140°	4.55	9.95	●	
	DEX2550-SC	25.5	k6	140°	4.64	9.86	●	
	DEX2600-SC	26	k6	140°	4.73	9.86	●	

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

Catalogue Preview - AMB

A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

**SC - Chisel edge**

Small size chisel allows perfect balancing between centering performance and torque level.

**SC - Outer corner**

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**SC - Gash geometry**

Flutes and gash design ensure fast chip evacuation and low cutting force on diffi cult to cut materials.

A - TURNING

B - THREADING

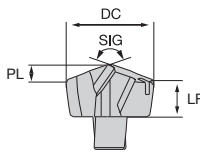
C - GROOVING






D - MILLING

E - DRILLING

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G - SPARE PARTS

<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	<h2>DEX drill</h2>				<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	Unstable machining, heavy cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
			<b>P</b>	30 160	55 160	30 160		
		<b>M</b>		20 100				
		<b>K</b>	60 140		60 140	70 160		
		<b>N</b>						
		<b>S</b>						
		<b>H</b>						

Designation		DC	DC toll.	SIG	PL	LF	Stock	
REINFORCED	<b>TE 10<sup>∞</sup> K</b> 	DEX1000-TE	10	k6	140°	1.78	4.42	●
		DEX1020-TE	10.2	k6	140°	1.82	4.38	●
		DEX1030-TE	10.3	k6	140°	1.84	4.36	●
		DEX1050-TE	10.5	k6	140°	1.88	4.32	●
REINFORCED	<b>TE 11<sup>∞</sup> K</b> 	DEX1100-TE	11	k6	140°	1.98	4.62	●
		DEX1150-TE	11.5	k6	140°	2.08	4.52	●
REINFORCED	<b>TE 12<sup>∞</sup> K</b> 	DEX1200-TE	12	k6	140°	2.18	4.82	●
		DEX1250-TE	12.5	k6	140°	2.27	4.73	●
REINFORCED	<b>TE 13<sup>∞</sup> K</b> 	DEX1300-TE	13	k6	140°	2.37	5.23	●
		DEX1350-TE	13.5	k6	140°	2.46	5.14	●
REINFORCED	<b>TE 14<sup>∞</sup> K</b> 	DEX1400-TE	14	k6	140°	2.55	5.55	●
		DEX1450-TE	14.5	k6	140°	2.64	5.46	●


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

**TE - Chisel edge**




Big size chisel allows high feedrate machining and best centering features.

**TE - Outer corner**

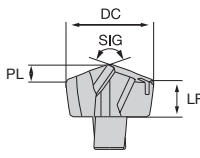







Big negative chamfer for higher performance on cast iron machining.

**TE - Gash geometry**




Gashing design allows good chip evacuation and reduce thrust load.

<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD	
	<b>DEX drill</b>				<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>	
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>		
	Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
		<b>P</b>	30 160	55 160	30 160				
		<b>M</b>		20 100					
		<b>K</b>	60 140		60 140	70 160			
		<b>N</b>							
		<b>S</b>							
		<b>H</b>							

Designation		DC	DC toll.	SIG	PL	LF	Stock	
REINFORCED	<b>TE 1500 K</b> 	DEX1500-TE	15	k6	140°	2.73	5.97	●
		DEX1550-TE	15.5	k6	140°	2.82	5.88	●
		DEX1580-TE	15.8	k6	140°	2.88	5.82	○
REINFORCED	<b>TE 1600 K</b> 	DEX1600-TE	16	k6	140°	2.91	5.89	●
		DEX1650-TE	16.5	k6	140°	3	5.8	●
REINFORCED	<b>TE 1700 K</b> 	DEX1700-TE	17	k6	140°	3.09	6.81	●
		DEX1750-TE	17.5	k6	140°	3.18	6.72	●
REINFORCED	<b>TE 1800 K</b> 	DEX1800-TE	18	k6	140°	3.28	7.22	●
		DEX1850-TE	18.5	k6	140°	3.37	7.13	●
REINFORCED	<b>TE 1900 K</b> 	DEX1900-TE	19	k6	140°	3.46	7.54	●
		DEX1950-TE	19.5	k6	140°	3.55	7.45	●

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

**TE - Chisel edge**




Big size chisel allows high feedrate machining and best centering features.

**TE - Outer corner**



Big negative chamfer for higher performance on cast iron machining.

**TE - Gash geometry**



Gashing design allows good chip evacuation and reduce thrust load.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



A - TURNING

B - THREADING

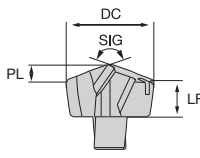
C - GROOVING






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<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	<h2>DEX drill</h2>				<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	Unstable machining, heavy cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>P</b>	30 160	55 160	30 160			
		<b>M</b>		20 100				
		<b>K</b>	60 140		60 140	70 160		
		<b>N</b>						
		<b>S</b>						
		<b>H</b>						

Designation		DC	DC toll.	SIG	PL	LF	Stock	
REINFORCED	<b>TE 20<sup>∞</sup> K</b> 	DEX2000-TE	20	k6	140°	3.64	7.96	●
		DEX2050-TE	20.5	k6	140°	3.73	7.87	●
		DEX2070-TE	20.7	k6	140°	3.77	7.83	○
REINFORCED	<b>TE 21<sup>∞</sup> K</b> 	DEX2100-TE	21	k6	140°	3.82	8.28	●
		DEX2150-TE	21.5	k6	140°	3.91	8.19	●
REINFORCED	<b>TE 22<sup>∞</sup> K</b> 	DEX2200-TE	22	k6	140°	4	8.7	●
		DEX2250-TE	22.5	k6	140°	4.09	8.61	●
REINFORCED	<b>TE 23<sup>∞</sup> K</b> 	DEX2300-TE	23	k6	140°	4.18	9.12	●
		DEX2350-TE	23.5	k6	140°	4.28	9.02	●
REINFORCED	<b>TE 24<sup>∞</sup> K</b> 	DEX2400-TE	24	k6	140°	4.36	9.54	●
		DEX2450-TE	24.5	k6	140°	4.46	9.44	●


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

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**TE - Outer corner**



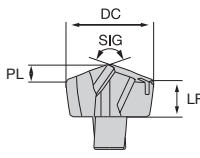
Big negative chamfer for higher performance on cast iron machining.

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Gashing design allows good chip evacuation and reduce thrust load.




Heads		HF: Micrograin carbide PVD: Physical vapour deposition					
		HF PVD	HF PVD	HF PVD	HF PVD		
DEX drill		<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>		
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>		Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>		
		General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>		
		Unstable machining, heavy cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>		
<b>Dimensions</b> 		<b>ISO</b>					
		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
		<b>P</b>	30 160	55 160	30 160		
		<b>M</b>		20 100			
		<b>K</b>	60 140	60 140	70 160		
		<b>N</b>					
		<b>S</b>					
		<b>H</b>					
Designation		DC	DC toll.	SIG	PL	LF	Stock
REINFORCED	<b>TE 2500 K</b>						
	DEX2500-TE	25	k6	140°	4.55	9.95	●
	DEX2550-TE	25.5	k6	140°	4.64	9.86	●
	DEX2600-TE	26	k6	140°	4.73	9.86	●

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

Catalogue Preview - AMB


- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

**TE - Chisel edge**




Big size chisel allows high feedrate machining and best centering features.

**TE - Outer corner**



Big negative chamfer for higher performance on cast iron machining.

**TE - Gash geometry**



Gashing design allows good chip evacuation and reduce thrust load.

A - TURNING

B - THREADING

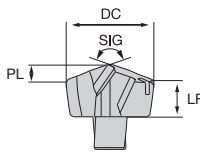
C - GROOVING






D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Heads</h1> <h2>DEX drill</h2> <ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable				JP5625	JP5630	JP5725	JP7625
Dimensions		ISO		Vc(m/min) - suggested cutting speed range (bold: 1 <sup>st</sup> choice)				
		P	30 160	55 160	30 160			
		M		20 100				
		K	60 140	60 140	70 160			
		N						
		S						
		H						

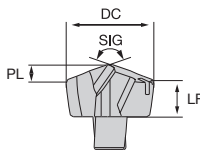
Designation		DC	DC toll.	SIG	PL	LF	Stock	
FLAT TYPE 	FT 10∞ P K DEX1000-FT	10	k6	180°	1.78	4.42		○
	DEX1050-FT	10.5	k6	180°	1.88	4.32		○
FLAT TYPE 	FT 11∞ P K DEX1100-FT	11	k6	180°	1.98	4.62		○
	DEX1150-FT	11.5	k6	180°	2.08	4.52		○
FLAT TYPE 	FT 12∞ P K DEX1200-FT	12	k6	180°	2.18	4.82		○
	DEX1250-FT	12.5	k6	180°	2.27	4.73		○
FLAT TYPE 	FT 13∞ P K DEX1300-FT	13	k6	180°	2.37	5.23		○
	DEX1350-FT	13.5	k6	180°	2.46	5.14	●	▲
FLAT TYPE 	FT 14∞ P K DEX1400-FT	14	k6	180°	2.55	5.55		○
	DEX1450-FT	14.5	k6	180°	2.64	5.46		○






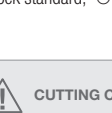

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

**⚠ CUTTING CONDITIONS**



Please reduce cutting speed and feed rate by 20% when using flat type drilling heads.

<h1>Heads</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF PVD
	<h2>DEX drill</h2>	Stable machining, light cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>	General machining, medium cut	<input checked="" type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
	Unstable machining, heavy cut	<input type="radio"/> 1 <sup>st</sup> choice	<input type="radio"/> suitable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>				
		<b>P</b>	30 160	55 160	30 160			
		<b>M</b>	20 100					
		<b>K</b>	60 140	60 140	70 160			
		<b>N</b>						
		<b>S</b>						
		<b>H</b>						

Designation		DC	DC toll.	SIG	PL	LF	Stock	
FLAT TYPE 	FT 1500 <b>P K</b>	15	k6	180°	2.73	5.97	○	
	DEX1500-FT						○	
FLAT TYPE 	FT 1600 <b>P K</b>	16	k6	180°	2.91	5.89	○	
	DEX1600-FT						○	
FLAT TYPE 	FT 1700 <b>P K</b>	17	k6	180°	3.09	6.81	○	
	DEX1700-FT						○	
FLAT TYPE 	FT 1800 <b>P K</b>	18	k6	180°	3.28	7.22	●	▲
	DEX1800-FT						○	
FLAT TYPE 	FT 1850 <b>P K</b>	18.5	k6	180°	3.37	7.13	○	
	DEX1850-FT						○	
FLAT TYPE 	FT 1900 <b>P K</b>	19	k6	180°	3.46	7.54	●	▲
	DEX1900-FT						○	
FLAT TYPE 	FT 1950 <b>P K</b>	19.5	k6	180°	3.55	7.45	○	
	DEX1950-FT						○	

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

**⚠ CUTTING CONDITIONS**



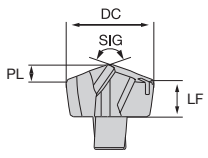
Please reduce cutting speed and feed rate by 20% when using flat type drilling heads.






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# Heads

## DEX drill

- GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes
- Can fit with 3xD or 5xD DEX drill bodies
- Diameters out of catalogue can be made upon request
- Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests

HF: Micrograin carbide PVD: Physical vapour deposition		HF PVD	HF PVD	HF PVD	HF PVD
		<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>
Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	○	○	○
General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	●
Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable	⊖	⊖	⊖	⊖
<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
	<b>P</b>	30 160	55 160	30 160	
	<b>M</b>		20 100		
	<b>K</b>	60 140		60 140	70 160
	<b>N</b>				
	<b>S</b>				
	<b>H</b>				

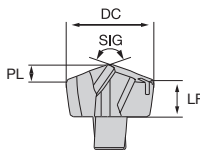

Designation		DC	DC toll.	SIG	PL	LF	Stock	
FLAT TYPE 	FT 20 <sup>∞</sup> <b>P K</b> DEX2000-FT	20	k6	180°	3.64	7.96	●	▲
	DEX2050-FT	20.5	k6	180°	3.73	7.87		○
FLAT TYPE 	FT 21 <sup>∞</sup> <b>P K</b> DEX2100-FT	21	k6	180°	3.82	8.28	●	▲
	DEX2150-FT	21.5	k6	180°	3.91	8.19		○
FLAT TYPE 	FT 22 <sup>∞</sup> <b>P K</b> DEX2200-FT	22	k6	180°	4	8.7	●	▲
	DEX2250-FT	22.5	k6	180°	4.09	8.61		○
FLAT TYPE 	FT 23 <sup>∞</sup> <b>P K</b> DEX2300-FT	23	k6	180°	4.18	9.12	●	
	DEX2350-FT	23.5	k6	180°	4.28	9.02		○
FLAT TYPE 	FT 24 <sup>∞</sup> <b>P K</b> DEX2400-FT	24	k6	180°	4.36	9.54	●	▲
	DEX2450-FT	24.5	k6	180°	4.46	9.44		○

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

### CUTTING CONDITIONS



Please reduce cutting speed and feed rate by 20% when using flat type drilling heads.

Heads		HF: Micrograin carbide PVD: Physical vapour deposition											
		HF PVD	HF PVD	HF PVD	HF PVD								
DEX drill		<b>JP5625</b>	<b>JP5630</b>	<b>JP5725</b>	<b>JP7625</b>								
<ul style="list-style-type: none"> <li>GP geometry is for general purpose use, SC geometry is more featured for stainless, and TE geometry is more featured for cast iron, FT is for making flat-bottom holes</li> <li>Can fit with 3xD or 5xD DEX drill bodies</li> <li>Diameters out of catalogue can be made upon request</li> <li>Step drill (step on the drill head or with chamfer insert on the drill body) or 1.5/ 8/ 12xD available upon requests</li> </ul>		Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	○	○	○	○						
		General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	●						
		Unstable machining, heavy cut	⊕ 1 <sup>st</sup> choice ⊖ suitable	⊖	⊖	⊖	⊖						
<b>Dimensions</b> 		<b>ISO</b>				<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
		<b>P</b>	30 160	55 160	30 160								
		<b>M</b>		20 100									
		<b>K</b>	60 140		60 140	70 160							
		<b>N</b>											
		<b>S</b>											
		<b>H</b>											
Designation		DC	DC toll.	SIG	PL	LF	Stock						
FLAT TYPE 	FT 25 <sup>∞</sup> <b>P K</b>												
	DEX2500-FT	25	k6	180°	4.55	9.95	●	▲					
	DEX2550-FT	25.5	k6	180°	4.64	9.86		○					
	DEX2600-FT	26	k6	180°	4.73	9.86	●	▲					

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

Catalogue Preview - AMB

**⚠ CUTTING CONDITIONS**



Please reduce cutting speed and feed rate by 20% when using flat type drilling heads.

- A - TURNING
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A - TURNING	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5630			JP5725			
	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	3xD - 5xD	80	120	160	80	120	160	
				8xD	65	100	135	65	100	135	
				12xD	55	85	115	55	85	115	
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	3xD - 5xD	-	-	-	60	90	120		
			8xD	-	-	-	50	75	100		
			12xD	-	-	-	40	60	80		
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	3xD - 5xD	-	-	-	40	60	80		
			8xD	-	-	-	35	50	65		
			12xD	-	-	-	30	40	50		
B - THREADING	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5630						
	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	3xD - 5xD	60	80	100				
				8xD	50	65	80				
				12xD	40	55	70				
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	3xD - 5xD	30	40	50					
			8xD	25	35	45					
			12xD	25	30	35					
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	3xD - 5xD	40	60	80					
			8xD	35	50	65					
			12xD	30	40	50					
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		3xD - 5xD	30	50	70					
			8xD	25	40	55					
			12xD	20	35	50					
C - GROOVING	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5630			JP7625			
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3xD - 5xD	80	110	140	100	130	160	
				8xD	70	90	110	80	100	120	
				12xD	60	80	100	70	90	110	
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3xD - 5xD	80	100	120	100	120	140		
			8xD	70	90	110	80	100	120		
			12xD	60	80	100	70	90	110		
D - MILLING	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5630			JP7625			
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3xD - 5xD	80	110	140	100	130	160	
				8xD	70	90	110	80	100	120	
				12xD	60	80	100	70	90	110	
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3xD - 5xD	80	100	120	100	120	140		
			8xD	70	90	110	80	100	120		
			12xD	60	80	100	70	90	110		
E - DRILLING	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5630			JP7625			
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3xD - 5xD	80	110	140	100	130	160	
				8xD	70	90	110	80	100	120	
				12xD	60	80	100	70	90	110	
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3xD - 5xD	80	100	120	100	120	140		
			8xD	70	90	110	80	100	120		
			12xD	60	80	100	70	90	110		
F - ACCESSORIES	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5630			JP7625			
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3xD - 5xD	80	110	140	100	130	160	
				8xD	70	90	110	80	100	120	
				12xD	60	80	100	70	90	110	
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3xD - 5xD	80	100	120	100	120	140		
			8xD	70	90	110	80	100	120		
			12xD	60	80	100	70	90	110		
G - SPARE PARTS	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5630			JP7625			
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3xD - 5xD	80	110	140	100	130	160	
				8xD	70	90	110	80	100	120	
				12xD	60	80	100	70	90	110	
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3xD - 5xD	80	100	120	100	120	140		
			8xD	70	90	110	80	100	120		
			12xD	60	80	100	70	90	110		

Catalogue

ISO 513	MATERIAL	HARDNESS HB	L/D	DC 10.00 ÷ 10.99			DC 11.00 ÷ 11.99			DC 12.00 ÷ 12.99		
				min	start	max	min	start	max	min	start	max
<b>P1 - P2</b>	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	3xD - 5xD	0.10	<b>0.16</b>	0.22	0.10	<b>0.17</b>	0.24	0.12	<b>0.19</b>	0.26
			8xD	0.08	<b>0.13</b>	0.18	0.08	<b>0.14</b>	0.20	0.10	<b>0.15</b>	0.20
			12xD	-	-	-	-	-	0.08	<b>0.13</b>	0.18	
<b>P3 - P4</b>	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	3xD - 5xD	0.12	<b>0.19</b>	0.26	0.12	<b>0.20</b>	0.28	0.14	<b>0.22</b>	0.30
			8xD	0.10	<b>0.15</b>	0.20	0.10	<b>0.16</b>	0.22	0.11	<b>0.17</b>	0.23
			12xD	-	-	-	-	-	0.10	<b>0.15</b>	0.20	
<b>P5 - P6</b>	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	3xD - 5xD	0.12	<b>0.18</b>	0.24	0.12	<b>0.19</b>	0.26	0.14	<b>0.21</b>	0.28
			8xD	0.10	<b>0.14</b>	0.18	0.10	<b>0.15</b>	0.20	0.11	<b>0.16</b>	0.21
			12xD	-	-	-	-	-	0.10	<b>0.14</b>	0.18	
<b>P7</b>	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	3xD - 5xD	0.11	<b>0.15</b>	0.19	0.11	<b>0.16</b>	0.21	0.13	<b>0.18</b>	0.23
			8xD	0.09	<b>0.14</b>	0.15	0.09	<b>0.13</b>	0.17	0.11	<b>0.15</b>	0.19
			12xD	-	-	-	-	-	0.09	<b>0.12</b>	0.15	
<b>P8</b>	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	3xD - 5xD	0.09	<b>0.14</b>	0.19	0.09	<b>0.15</b>	0.21	0.11	<b>0.16</b>	0.21
			8xD	0.07	<b>0.11</b>	0.15	0.07	<b>0.12</b>	0.17	0.09	<b>0.13</b>	0.17
			12xD	-	-	-	-	-	0.08	<b>0.11</b>	0.14	
<b>M1</b>	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	3xD - 5xD	0.10	<b>0.14</b>	0.18	0.10	<b>0.15</b>	0.20	0.12	<b>0.16</b>	0.20
			8xD	0.08	<b>0.11</b>	0.14	0.08	<b>0.12</b>	0.16	0.10	<b>0.13</b>	0.16
			12xD	-	-	-	-	-	0.08	<b>0.11</b>	0.14	
<b>M2 - M3</b>	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		3xD - 5xD	0.10	<b>0.13</b>	0.16	0.10	<b>0.14</b>	0.18	0.12	<b>0.15</b>	0.18
			8xD	0.08	<b>0.10</b>	0.12	0.08	<b>0.11</b>	0.14	0.10	<b>0.12</b>	0.14
			12xD	-	-	-	-	-	0.08	<b>0.10</b>	0.12	
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3xD - 5xD	0.14	<b>0.22</b>	0.30	0.14	<b>0.24</b>	0.34	0.16	<b>0.26</b>	0.36
			8xD	0.11	<b>0.18</b>	0.25	0.11	<b>0.19</b>	0.27	0.12	<b>0.20</b>	0.28
			12xD	-	-	-	-	-	0.11	<b>0.18</b>	0.25	
<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3xD - 5xD	0.12	<b>0.18</b>	0.24	0.12	<b>0.20</b>	0.28	0.13	<b>0.21</b>	0.29
			8xD	0.10	<b>0.15</b>	0.20	0.10	<b>0.16</b>	0.22	0.11	<b>0.17</b>	0.23
			12xD	-	-	-	-	-	0.09	<b>0.14</b>	0.19	

Catalogue

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

DC 13.00 ÷ 13.99			DC 14.00 ÷ 14.99			DC 15.00 ÷ 16.99			DC 17.00 ÷ 19.99			DC 20.00 ÷ 22.99			DC 23.00 ÷ 26.00		
min	start	max	min	start	max	min	start	max	min	start	max	min	start	max	min	start	max
0.12	<b>0.20</b>	0.28	0.16	<b>0.23</b>	0.30	0.16	<b>0.25</b>	0.34	0.16	<b>0.29</b>	0.42	0.20	<b>0.32</b>	0.44	0.20	<b>0.34</b>	0.48
0.10	<b>0.16</b>	0.22	0.12	<b>0.18</b>	0.24	0.12	<b>0.20</b>	0.28	0.12	<b>0.23</b>	0.34	0.16	<b>0.26</b>	0.36	0.16	<b>0.27</b>	0.38
0.08	<b>0.14</b>	0.20	0.11	<b>0.16</b>	0.21	0.11	<b>0.17</b>	0.23	0.11	<b>0.20</b>	0.29	0.14	<b>0.22</b>	0.30	0.14	<b>0.24</b>	0.34
0.14	<b>0.23</b>	0.32	0.18	<b>0.26</b>	0.34	0.18	<b>0.29</b>	0.40	0.18	<b>0.33</b>	0.48	0.24	<b>0.37</b>	0.50	0.24	<b>0.40</b>	0.56
0.11	<b>0.18</b>	0.25	0.14	<b>0.20</b>	0.26	0.14	<b>0.23</b>	0.32	0.14	<b>0.26</b>	0.38	0.20	<b>0.30</b>	0.40	0.20	<b>0.32</b>	0.44
0.10	<b>0.16</b>	0.22	0.13	<b>0.18</b>	0.23	0.13	<b>0.20</b>	0.27	0.13	<b>0.23</b>	0.33	0.17	<b>0.26</b>	0.35	0.17	<b>0.28</b>	0.39
0.14	<b>0.22</b>	0.30	0.18	<b>0.25</b>	0.32	0.18	<b>0.28</b>	0.38	0.18	<b>0.32</b>	0.46	0.24	<b>0.36</b>	0.48	0.24	<b>0.38</b>	0.52
0.11	<b>0.17</b>	0.23	0.14	<b>0.20</b>	0.26	0.14	<b>0.22</b>	0.30	0.14	<b>0.25</b>	0.36	0.20	<b>0.29</b>	0.38	0.20	<b>0.31</b>	0.42
0.10	<b>0.15</b>	0.20	0.13	<b>0.17</b>	0.21	0.13	<b>0.20</b>	0.27	0.13	<b>0.23</b>	0.33	0.17	<b>0.25</b>	0.33	0.17	<b>0.27</b>	0.37
0.13	<b>0.19</b>	0.25	0.17	<b>0.22</b>	0.27	0.17	<b>0.24</b>	0.31	0.17	<b>0.27</b>	0.37	0.22	<b>0.31</b>	0.40	0.22	<b>0.32</b>	0.42
0.11	<b>0.16</b>	0.21	0.14	<b>0.18</b>	0.22	0.14	<b>0.19</b>	0.24	0.14	<b>0.22</b>	0.30	0.18	<b>0.25</b>	0.32	0.18	<b>0.26</b>	0.34
0.09	<b>0.13</b>	0.17	0.12	<b>0.15</b>	0.18	0.12	<b>0.17</b>	0.22	0.12	<b>0.19</b>	0.26	0.15	<b>0.21</b>	0.27	0.15	<b>0.22</b>	0.29
0.11	<b>0.17</b>	0.23	0.15	<b>0.20</b>	0.25	0.15	<b>0.22</b>	0.29	0.15	<b>0.25</b>	0.35	0.19	<b>0.28</b>	0.37	0.19	<b>0.29</b>	0.39
0.09	<b>0.14</b>	0.19	0.11	<b>0.16</b>	0.21	0.12	<b>0.17</b>	0.22	0.12	<b>0.20</b>	0.28	0.15	<b>0.22</b>	0.29	0.15	<b>0.23</b>	0.31
0.08	<b>0.12</b>	0.16	0.09	<b>0.13</b>	0.17	0.10	<b>0.15</b>	0.20	0.10	<b>0.17</b>	0.24	0.13	<b>0.19</b>	0.25	0.13	<b>0.20</b>	0.27
0.12	<b>0.17</b>	0.22	0.16	<b>0.20</b>	0.24	0.16	<b>0.22</b>	0.28	0.16	<b>0.25</b>	0.34	0.20	<b>0.28</b>	0.36	0.20	<b>0.29</b>	0.38
0.10	<b>0.14</b>	0.18	0.12	<b>0.16</b>	0.20	0.12	<b>0.17</b>	0.22	0.12	<b>0.19</b>	0.26	0.16	<b>0.22</b>	0.28	0.16	<b>0.23</b>	0.30
0.08	<b>0.12</b>	0.16	0.11	<b>0.14</b>	0.17	0.11	<b>0.15</b>	0.19	0.11	<b>0.17</b>	0.23	0.14	<b>0.20</b>	0.26	0.14	<b>0.21</b>	0.28
0.12	<b>0.16</b>	0.20	0.16	<b>0.19</b>	0.22	0.16	<b>0.20</b>	0.24	0.16	<b>0.23</b>	0.30	0.20	<b>0.26</b>	0.32	0.20	<b>0.27</b>	0.34
0.10	<b>0.13</b>	0.16	0.12	<b>0.15</b>	0.18	0.12	<b>0.16</b>	0.20	0.12	<b>0.18</b>	0.24	0.16	<b>0.21</b>	0.26	0.16	<b>0.22</b>	0.28
0.08	<b>0.11</b>	0.14	0.11	<b>0.13</b>	0.15	0.11	<b>0.14</b>	0.17	0.11	<b>0.16</b>	0.21	0.14	<b>0.18</b>	0.22	0.14	<b>0.19</b>	0.24
0.16	<b>0.28</b>	0.40	0.22	<b>0.32</b>	0.42	0.22	<b>0.35</b>	0.48	0.22	<b>0.40</b>	0.58	0.28	<b>0.45</b>	0.62	0.28	<b>0.48</b>	0.68
0.12	<b>0.22</b>	0.32	0.18	<b>0.26</b>	0.34	0.18	<b>0.28</b>	0.38	0.18	<b>0.32</b>	0.46	0.22	<b>0.36</b>	0.50	0.22	<b>0.38</b>	0.54
0.11	<b>0.19</b>	0.27	0.15	<b>0.22</b>	0.29	0.15	<b>0.25</b>	0.35	0.15	<b>0.27</b>	0.39	0.20	<b>0.32</b>	0.44	0.20	<b>0.34</b>	0.48
0.13	<b>0.22</b>	0.31	0.18	<b>0.26</b>	0.34	0.18	<b>0.28</b>	0.38	0.18	<b>0.32</b>	0.46	0.22	<b>0.36</b>	0.50	0.22	<b>0.38</b>	0.54
0.11	<b>0.18</b>	0.25	0.14	<b>0.20</b>	0.26	0.14	<b>0.22</b>	0.30	0.14	<b>0.25</b>	0.36	0.18	<b>0.27</b>	0.40	0.18	<b>0.30</b>	0.42
0.09	<b>0.15</b>	0.21	0.13	<b>0.18</b>	0.23	0.13	<b>0.20</b>	0.27	0.13	<b>0.23</b>	0.33	0.15	<b>0.25</b>	0.35	0.15	<b>0.26</b>	0.37

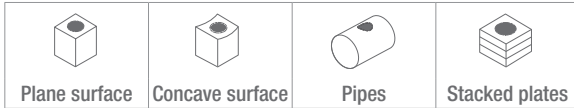
Catalogue



# DXP

For extra deep holes - Indexable drilling system with exchangeable heads

## APPLICATION



## ISO APPLICATION FIELDS

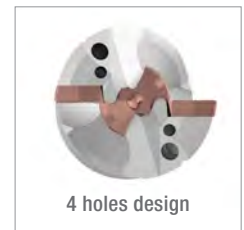
**P K**

## ADVANTAGES AND CHARACTERISTICS

- High performance deep hole indexable drilling system
- Pilot enables better centering in deep hole drilling (available also in 3xD for who seeks better centering)
- Adapted for higher feed rate among indexable solutions
- Indexable seat cartridge enables sustainable use of long drill body solid carbide drills

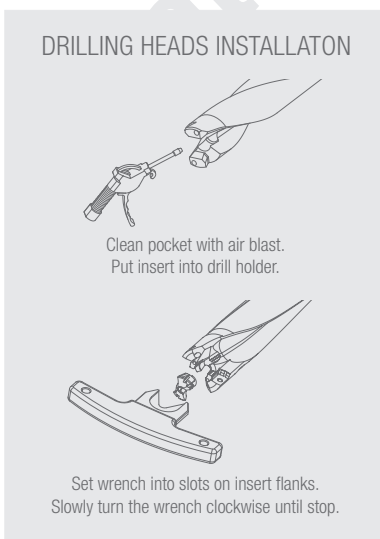
### • Drilling bodies

- Weldon shank with internal coolant
- 3/ 6/ 8/ 10xD available from D30 to D60
- Special length and stepped body available upon request



### • Inserts

- Pilot head available from D14 to D28 with HC geometry that allow perfect self-centering and reduces drill force.
- External inserts available with CS geometry (Chip Splitter) that, thanks to the great chip breaking performance, drastically improves the chip evacuation ability



ING

D - MILLING

E - DRILLING

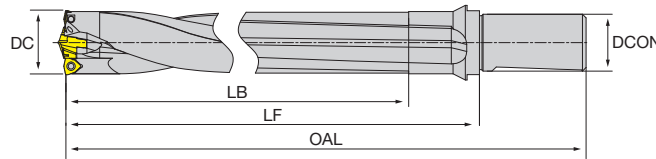
F - ACCESSORIES

G - SPARE PARTS

# 3xD

## DXP drill

- 3xD pilot type drill body
- All with coolant through
- Please select insert type and sizes and pilot according to the instruction in column PILOT and MID
- E04 has a different shape from the picture



Designation	Stock	DC	DCON	OAL	LF	LB			PILOT	MID
NT-DXP-03 D30-S32-P16E04	▲	30	32	185	125	99.9			DXP-P16	DXP-E04
NT-DXP-03 D31-S32-P17E04	▲	31	32	189	129	103.9			DXP-P17	DXP-E04
NT-DXP-03 D32-S32-P15E05	▲	32	32	194	134	105.7			DXP-P15	DXP-E05
NT-DXP-03 D33-S32-P16E05	▲	33	32	196	136	107.8			DXP-P16	DXP-E05
NT-DXP-03 D34-S32-P16E05	▲	34	32	199	139	110.8			DXP-P16	DXP-E05
NT-DXP-03 D35-S32-P18E05	▲	35	32	204	144	116.5			DXP-P18	DXP-E05
NT-DXP-03 D36-S32-P18E05	▲	36	32	206	146	118.5			DXP-P18	DXP-E05
NT-DXP-03 D37-S32-P16E06	▲	37	32	209	149	119.8			DXP-P16	DXP-E06
NT-DXP-03 D38-S32-P16E06	▲	38	32	214	154	122.8			DXP-P16	DXP-E06
NT-DXP-03 D39-S32-P18E06	▲	39	32	217	157	127.5			DXP-P18	DXP-E06
NT-DXP-03 D40-S32-P18E06	▲	40	32	234	164	131.5			DXP-P18	DXP-E06
NT-DXP-03 D41-S32-P19E06	▲	41	32	236	166	134			DXP-P19	DXP-E06
NT-DXP-03 D42-S50-P19E06	▲	42	50	240	170	137			DXP-P19	DXP-E06
NT-DXP-03 D43-S50-P16E08	▲	43	50	243	173	137.8			DXP-P16	DXP-E08
NT-DXP-03 D44-S50-P18E08	▲	44	50	246	176	142.5			DXP-P18	DXP-E08
NT-DXP-03 D45-S50-P18E08	▲	45	50	249	179	145.5			DXP-P18	DXP-E08
NT-DXP-03 D46-S50-P19E08	▲	46	50	252	182	149			DXP-P19	DXP-E08
NT-DXP-03 D47-S50-P20E08	▲	47	50	255	185	152.6			DXP-P20	DXP-E08
NT-DXP-03 D48-S50-P21E08	▲	48	50	259	189	156.1			DXP-P21	DXP-E08
NT-DXP-03 D49-S50-P22E08	▲	49	50	262	192	159.7			DXP-P22	DXP-E08
NT-DXP-03 D50-S50-P23E08	▲	50	50	265	195	163.3			DXP-P23	DXP-E08
NT-DXP-03 D51-S50-P24E08	▲	51	50	269	199	167.9			DXP-P24	DXP-E08
NT-DXP-03 D52-S50-P25E08	▲	52	50	280	210	170.5			DXP-P25	DXP-E08
NT-DXP-03 D53-S50-P26E08	▲	53	50	274	204	173.5			DXP-P26	DXP-E08
NT-DXP-03 D54-S50-P27E08	▲	54	50	278	208	178.5			DXP-P27	DXP-E08
NT-DXP-03 D55-S50-P28E08	▲	55	50	280	210	180.5			DXP-P28	DXP-E08
NT-DXP-03 D56-S50-P20E10	▲	56	50	283	213	179.6			DXP-P20	DXP-E10
NT-DXP-03 D57-S50-P21E10	▲	57	50	286	216	183.1			DXP-P21	DXP-E10
NT-DXP-03 D58-S50-P22E10	▲	58	50	289	219	186.7			DXP-P22	DXP-E10
NT-DXP-03 D59-S50-P23E10	▲	59	50	292	222	190.3			DXP-P23	DXP-E10
NT-DXP-03 D60-S50-P24E10	▲	60	50	295	225	193.9			DXP-P24	DXP-E10

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

Spare parts	Head wrench	Insert screw	Flag wrench
NT-DXP-03 (DC 30)	NT-WR1416	NT-ST25080T09	NT-FTB09
NT-DXP-03 (DC 31)	NT-WR1720	NT-ST25080T09	NT-FTB09
NT-DXP-03 (DC 32÷34)	NT-WR1416	NT-ST30080T10	NT-FTB10
NT-DXP-03 (DC 35÷36)	NT-WR1720	NT-ST30080T10	NT-FTB10
NT-DXP-03 (DC 37÷38)	NT-WR1416	NT-ST40100T15	NT-FTB15
NT-DXP-03 (DC 39÷42)	NT-WR1720	NT-ST40100T15	NT-FTB15
NT-DXP-03 (DC 43)	NT-WR1416	NT-ST40100T15	NT-FTB15
NT-DXP-03 (DC 44÷47)	NT-WR1720	NT-ST40100T15	NT-FTB15
NT-DXP-03 (DC 48÷55)	NT-WR2128	NT-ST40100T15	NT-FTB15
NT-DXP-03 (DC 56)	NT-WR1720	NT-ST50100T20	NT-FTB20
NT-DXP-03 (DC 57÷60)	NT-WR2128	NT-ST50100T20	NT-FTB20

## 6xD

### DXP drill

- 6xD pilot type drill body
- All with coolant through
- Please select insert type and sizes and pilot according to the instruction in column PILOT and MIID
- E04 has a different shape from the picture

Designation	Stock	DC	DCON	OAL	LF	LB				PILOT	MIID
NT-DXP-06 D30-S32-P16E04	▲	30	32	275	215	189.9				DXP-P16	DXP-E04
NT-DXP-06 D31-S32-P17E04	▲	31	32	282	222	196.9				DXP-P17	DXP-E04
NT-DXP-06 D32-S32-P15E05	▲	32	32	289	229	200.7				DXP-P15	DXP-E05
NT-DXP-06 D33-S32-P16E05	▲	33	32	295	235	206.8				DXP-P16	DXP-E05
NT-DXP-06 D34-S32-P16E05	▲	34	32	301	241	212.8				DXP-P16	DXP-E05
NT-DXP-06 D35-S32-P18E05	▲	35	32	309	249	221.5				DXP-P18	DXP-E05
NT-DXP-06 D36-S32-P18E05	▲	36	32	314	254	226.5				DXP-P18	DXP-E05
NT-DXP-06 D37-S32-P16E06	▲	37	32	320	260	230.8				DXP-P16	DXP-E06
NT-DXP-06 D38-S32-P16E06	▲	38	32	328	268	236.8				DXP-P16	DXP-E06
NT-DXP-06 D39-S32-P18E06	▲	39	32	334	274	244.5				DXP-P18	DXP-E06
NT-DXP-06 D40-S32-P18E06	▲	40	32	353	283	250.5				DXP-P18	DXP-E06
NT-DXP-06 D41-S32-P19E06	▲	41	32	359	289	257				DXP-P19	DXP-E06
NT-DXP-06 D42-S50-P19E06	▲	42	50	366	296	263				DXP-P19	DXP-E06
NT-DXP-06 D43-S50-P16E08	▲	43	50	372	302	266.8				DXP-P16	DXP-E08
NT-DXP-06 D44-S50-P18E08	▲	44	50	378	308	274.5				DXP-P18	DXP-E08
NT-DXP-06 D45-S50-P18E08	▲	45	50	384	314	280.5				DXP-P18	DXP-E08
NT-DXP-06 D46-S50-P19E08	▲	46	50	390	320	287				DXP-P19	DXP-E08
NT-DXP-06 D47-S50-P20E08	▲	47	50	396	326	293.6				DXP-P20	DXP-E08
NT-DXP-06 D48-S50-P21E08	▲	48	50	403	333	300.1				DXP-P21	DXP-E08
NT-DXP-06 D49-S50-P22E08	▲	49	50	409	339	306.7				DXP-P22	DXP-E08
NT-DXP-06 D50-S50-P23E08	▲	50	50	415	345	313.3				DXP-P23	DXP-E08
NT-DXP-06 D51-S50-P24E08	▲	51	50	421	351	319.9				DXP-P24	DXP-E08
NT-DXP-06 D52-S50-P25E08	▲	52	50	427	357	326.5				DXP-P25	DXP-E08
NT-DXP-06 D53-S50-P26E08	▲	53	50	433	363	332.5				DXP-P26	DXP-E08
NT-DXP-06 D54-S50-P27E08	▲	54	50	440	370	340.5				DXP-P27	DXP-E08
NT-DXP-06 D55-S50-P28E08	▲	55	50	445	375	345.5				DXP-P28	DXP-E08
NT-DXP-06 D56-S50-P20E10	▲	56	50	451	381	347.6				DXP-P20	DXP-E10
NT-DXP-06 D57-S50-P21E10	▲	57	50	457	387	354.1				DXP-P21	DXP-E10
NT-DXP-06 D58-S50-P22E10	▲	58	50	463	393	360.7				DXP-P22	DXP-E10
NT-DXP-06 D59-S50-P23E10	▲	59	50	469	399	367.3				DXP-P23	DXP-E10
NT-DXP-06 D60-S50-P24E10	▲	60	50	475	405	373.9				DXP-P24	DXP-E10

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

Spare parts	Head wrench	Insert screw	Flag wrench
NT-DXP-06 (DC 30)	NT-WR1416	NT-ST25080T09	NT-FTB09
NT-DXP-06 (DC 31)	NT-WR1720	NT-ST25080T09	NT-FTB09
NT-DXP-06 (DC 32÷34)	NT-WR1416	NT-ST30080T10	NT-FTB10
NT-DXP-06 (DC 35÷36)	NT-WR1720	NT-ST30080T10	NT-FTB10
NT-DXP-06 (DC 37÷38)	NT-WR1416	NT-ST40100T15	NT-FTB15
NT-DXP-06 (DC 39÷42)	NT-WR1720	NT-ST40100T15	NT-FTB15
NT-DXP-06 (DC 43)	NT-WR1416	NT-ST40100T15	NT-FTB15
NT-DXP-06 (DC 44÷47)	NT-WR1720	NT-ST40100T15	NT-FTB15
NT-DXP-06 (DC 48÷55)	NT-WR2128	NT-ST40100T15	NT-FTB15
NT-DXP-06 (DC 56)	NT-WR1720	NT-ST50100T20	NT-FTB20
NT-DXP-06 (DC 57÷60)	NT-WR2128	NT-ST50100T20	NT-FTB20

A - TURNING

B - THREADING

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E - DRILLING

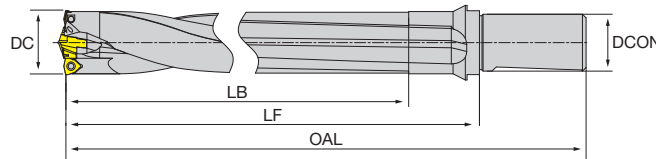
F - ACCESSORIES

G - SPARE PARTS

# 8xD

## DXP drill

- 8xD pilot type drill body
- All with coolant through
- Please select insert type and sizes and pilot according to the instruction in column PILOT and MID
- E04 has a different shape from the picture



Designation	Stock	DC	DCON	OAL	LF	LB			PILOT	MID
NT-DXP-08 D30-S32-P16E04	▲	30	32	335	275	249.9			DXP-P16	DXP-E04
NT-DXP-08 D31-S32-P17E04	▲	31	32	344	284	258.9			DXP-P17	DXP-E04
NT-DXP-08 D32-S32-P15E05	▲	32	32	353	293	264.7			DXP-P15	DXP-E05
NT-DXP-08 D33-S32-P16E05	▲	33	32	361	301	272.8			DXP-P16	DXP-E05
NT-DXP-08 D34-S32-P16E05	▲	34	32	369	309	280.8			DXP-P16	DXP-E05
NT-DXP-08 D35-S32-P18E05	▲	35	32	379	319	291.5			DXP-P18	DXP-E05
NT-DXP-08 D36-S32-P18E05	▲	36	32	386	326	298.5			DXP-P18	DXP-E05
NT-DXP-08 D37-S32-P16E06	▲	37	32	394	334	304.8			DXP-P16	DXP-E06
NT-DXP-08 D38-S32-P16E06	▲	38	32	404	344	312.8			DXP-P16	DXP-E06
NT-DXP-08 D39-S32-P18E06	▲	39	32	412	352	322.5			DXP-P18	DXP-E06
NT-DXP-08 D40-S32-P18E06	▲	40	32	433	363	330.5			DXP-P18	DXP-E06
NT-DXP-08 D41-S32-P19E06	▲	41	32	441	371	339			DXP-P19	DXP-E06
NT-DXP-08 D42-S50-P19E06	▲	42	50	450	380	347			DXP-P19	DXP-E06
NT-DXP-08 D43-S50-P16E08	▲	43	50	458	388	352.8			DXP-P16	DXP-E08
NT-DXP-08 D44-S50-P18E08	▲	44	50	466	396	362.5			DXP-P18	DXP-E08
NT-DXP-08 D45-S50-P18E08	▲	45	50	474	404	370.5			DXP-P18	DXP-E08
NT-DXP-08 D46-S50-P19E08	▲	46	50	482	412	379			DXP-P19	DXP-E08
NT-DXP-08 D47-S50-P20E08	▲	47	50	490	420	387.6			DXP-P20	DXP-E08
NT-DXP-08 D48-S50-P21E08	▲	48	50	499	429	396.1			DXP-P21	DXP-E08
NT-DXP-08 D49-S50-P22E08	▲	49	50	507	437	404.7			DXP-P22	DXP-E08
NT-DXP-08 D50-S50-P23E08	▲	50	50	515	445	413.3			DXP-P23	DXP-E08
NT-DXP-08 D51-S50-P24E08	▲	51	50	523	453	421.9			DXP-P24	DXP-E08
NT-DXP-08 D52-S50-P25E08	▲	52	50	531	461	430.5			DXP-P25	DXP-E08
NT-DXP-08 D53-S50-P26E08	▲	53	50	539	469	438.5			DXP-P26	DXP-E08
NT-DXP-08 D54-S50-P27E08	▲	54	50	548	478	448.5			DXP-P27	DXP-E08
NT-DXP-08 D55-S50-P28E08	▲	55	50	555	485	455.5			DXP-P28	DXP-E08
NT-DXP-08 D56-S50-P20E10	▲	56	50	563	493	459.6			DXP-P20	DXP-E10
NT-DXP-08 D57-S50-P21E10	▲	57	50	571	501	468.1			DXP-P21	DXP-E10
NT-DXP-08 D58-S50-P22E10	▲	58	50	579	509	476.7			DXP-P22	DXP-E10
NT-DXP-08 D59-S50-P23E10	▲	59	50	587	517	485.3			DXP-P23	DXP-E10
NT-DXP-08 D60-S50-P24E10	▲	60	50	595	525	493.9			DXP-P24	DXP-E10

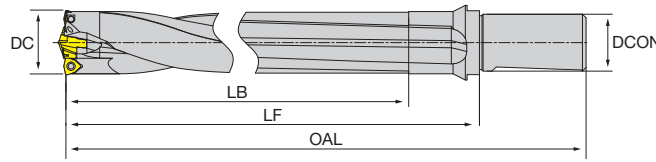
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Head wrench	Insert screw	Flag wrench
NT-DXP-08 (DC 30)	NT-WR1416	NT-ST25080T09	NT-FTB09
NT-DXP-08 (DC 31)	NT-WR1720	NT-ST25080T09	NT-FTB09
NT-DXP-08 (DC 32÷34)	NT-WR1416	NT-ST30080T10	NT-FTB10
NT-DXP-08 (DC 35÷36)	NT-WR1720	NT-ST30080T10	NT-FTB10
NT-DXP-08 (DC 37÷38)	NT-WR1416	NT-ST40100T15	NT-FTB15
NT-DXP-08 (DC 39÷42)	NT-WR1720	NT-ST40100T15	NT-FTB15
NT-DXP-08 (DC 43)	NT-WR1416	NT-ST40100T15	NT-FTB15
NT-DXP-08 (DC 44÷47)	NT-WR1720	NT-ST40100T15	NT-FTB15
NT-DXP-08 (DC 48÷55)	NT-WR2128	NT-ST40100T15	NT-FTB15
NT-DXP-08 (DC 56)	NT-WR1720	NT-ST50100T20	NT-FTB20
NT-DXP-08 (DC 57÷60)	NT-WR2128	NT-ST50100T20	NT-FTB20

# 10xD

## DXP drill

- 10xD pilot type drill body
- All with coolant through
- Please select insert type and sizes and pilot according to the instruction in column PILOT and MIID
- E04 has a different shape from the picture



Designation	Stock	DC	DCON	OAL	LF	LB				PILOT	MIID
NT-DXP-10 D30-S32-P16E04	▲	30	32	395	335	319.9				DXP-P16	DXP-E04
NT-DXP-10 D31-S32-P17E04	▲	31	32	406	346	320.9				DXP-P17	DXP-E04
NT-DXP-10 D32-S32-P15E05	▲	32	32	417	357	328.7				DXP-P15	DXP-E05
NT-DXP-10 D33-S32-P16E05	▲	33	32	427	367	338.8				DXP-P16	DXP-E05
NT-DXP-10 D34-S32-P16E05	▲	34	32	437	377	328.8				DXP-P16	DXP-E05
NT-DXP-10 D35-S32-P18E05	▲	35	32	448	388	360.5				DXP-P18	DXP-E05
NT-DXP-10 D36-S32-P18E05	▲	36	32	458	398	370.5				DXP-P18	DXP-E05
NT-DXP-10 D37-S32-P16E06	▲	37	32	468	408	378.8				DXP-P16	DXP-E06
NT-DXP-10 D38-S32-P16E06	▲	38	32	480	420	388.8				DXP-P16	DXP-E06
NT-DXP-10 D39-S32-P18E06	▲	39	32	490	430	400.5				DXP-P18	DXP-E06
NT-DXP-10 D40-S32-P18E06	▲	40	32	513	443	410.5				DXP-P18	DXP-E06
NT-DXP-10 D41-S32-P19E06	▲	41	32	523	453	421				DXP-P19	DXP-E06
NT-DXP-10 D42-S50-P19E06	▲	42	50	534	464	431				DXP-P19	DXP-E06
NT-DXP-10 D43-S50-P16E08	▲	43	50	544	474	438.8				DXP-P16	DXP-E08
NT-DXP-10 D44-S50-P18E08	▲	44	50	554	484	450.5				DXP-P18	DXP-E08
NT-DXP-10 D45-S50-P18E08	▲	45	50	564	494	460.5				DXP-P18	DXP-E08
NT-DXP-10 D46-S50-P19E08	▲	46	50	574	504	471				DXP-P19	DXP-E08
NT-DXP-10 D47-S50-P20E08	▲	47	50	584	514	481.6				DXP-P20	DXP-E08
NT-DXP-10 D48-S50-P21E08	▲	48	50	595	525	492.1				DXP-P21	DXP-E08
NT-DXP-10 D49-S50-P22E08	▲	49	50	605	535	502.7				DXP-P22	DXP-E08
NT-DXP-10 D50-S50-P23E08	▲	50	50	615	545	513.3				DXP-P23	DXP-E08
NT-DXP-10 D51-S50-P24E08	▲	51	50	625	555	523.9				DXP-P24	DXP-E08
NT-DXP-10 D52-S50-P25E08	▲	52	50	635	565	534.5				DXP-P25	DXP-E08
NT-DXP-10 D53-S50-P26E08	▲	53	50	645	575	544.5				DXP-P26	DXP-E08
NT-DXP-10 D54-S50-P27E08	▲	54	50	656	586	556.5				DXP-P27	DXP-E08
NT-DXP-10 D55-S50-P28E08	▲	55	50	665	595	565.5				DXP-P28	DXP-E08
NT-DXP-10 D56-S50-P20E10	▲	56	50	675	605	571.6				DXP-P20	DXP-E10
NT-DXP-10 D57-S50-P21E10	▲	57	50	685	615	582.1				DXP-P21	DXP-E10
NT-DXP-10 D58-S50-P22E10	▲	58	50	695	625	592.7				DXP-P22	DXP-E10
NT-DXP-10 D59-S50-P23E10	▲	59	50	705	635	603.3				DXP-P23	DXP-E10
NT-DXP-10 D60-S50-P24E10	▲	60	50	715	645	613.9				DXP-P24	DXP-E10

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

Spare parts	Head wrench	Insert screw	Flag wrench
NT-DXP-10 (DC 30)	NT-WR1416	NT-ST25080T09	NT-FTB09
NT-DXP-10 (DC 31)	NT-WR1720	NT-ST25080T09	NT-FTB09
NT-DXP-10 (DC 32÷34)	NT-WR1416	NT-ST30080T10	NT-FTB10
NT-DXP-10 (DC 35÷36)	NT-WR1720	NT-ST30080T10	NT-FTB10
NT-DXP-10 (DC 37÷38)	NT-WR1416	NT-ST40100T15	NT-FTB15
NT-DXP-10 (DC 39÷42)	NT-WR1720	NT-ST40100T15	NT-FTB15
NT-DXP-10 (DC 43)	NT-WR1416	NT-ST40100T15	NT-FTB15
NT-DXP-10 (DC 44÷47)	NT-WR1720	NT-ST40100T15	NT-FTB15
NT-DXP-10 (DC 48÷55)	NT-WR2128	NT-ST40100T15	NT-FTB15
NT-DXP-10 (DC 56)	NT-WR1720	NT-ST50100T20	NT-FTB20
NT-DXP-10 (DC 57÷60)	NT-WR2128	NT-ST50100T20	NT-FTB20

A - TURNING

B - THREADING

C - GROOVING

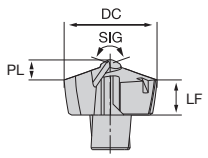
D - MILLING


E - DRILLING

F - ACCESSORIES

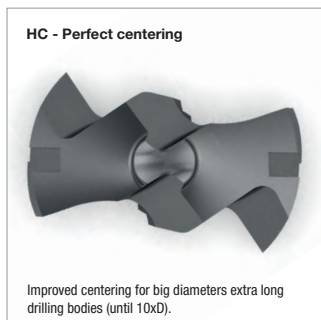
G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<h1 style="margin: 0;">Pilot</h1> <h2 style="margin: 0;">DXP drill</h2>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD	
<ul style="list-style-type: none"> <li>PVD coated carbide pilot HC (highly concentrating) pilot is for general purpose use</li> <li>HC pilot may look like a DEX drill head but they're not interchangeable</li> <li>Step drills can be made upon request</li> </ul>	Stable machining, light cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable Unstable machining, heavy cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<b>JP5725</b>	
<div style="text-align: center;">  </div>	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>
		<b>P</b> 30 160	
		<b>M</b>	
		<b>K</b> 60 140	
		<b>N</b>	
		<b>S</b>	
		<b>H</b>	

	Designation	DC	DC toll.	SIG	PL	LF	Stock
<b>GENERAL</b>  high centering	DXP-P15-HC	15	k6	150°			▲
	DXP-P16-HC	16	k6	150°			▲
	DXP-P17-HC	17	k6	150°			▲
	DXP-P18-HC	18	k6	150°			▲
	DXP-P19-HC	19	k6	150°			▲
	DXP-P20-HC	20	k6	150°			▲
	DXP-P21-HC	21	k6	150°			▲
	DXP-P22-HC	22	k6	150°			●
	DXP-P23-HC	23	k6	150°			▲
	DXP-P24-HC	24	k6	150°			▲
	DXP-P25-HC	25	k6	150°			▲
	DXP-P26-HC	26	k6	150°			▲
	DXP-P27-HC	27	k6	150°			▲
	DXP-P28-HC	28	k6	150°			▲

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





<h1>External</h1>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD	
		<b>JP5725</b>	
<h2>DXP drill</h2>			
<ul style="list-style-type: none"> <li>• New generation "Chip Splitter"</li> <li>• Specially waved edge splits the chips, improves heat dissipation, prolongs the tool life, improves hole quality</li> <li>• Peripheral inserts for DXP drill</li> <li>• Step drills can be made upon request</li> </ul>	Stable machining, light cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input type="radio"/>	
	General machining, medium cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	
	Unstable machining, heavy cut <input checked="" type="radio"/> 1 <sup>st</sup> choice <input type="radio"/> suitable	<input checked="" type="radio"/>	
<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
	<b>P</b>	30 160	
	<b>M</b>		
	<b>K</b>	60 140	
	<b>N</b>		
	<b>S</b>		
	<b>H</b>		

Designation		RE	IC	S	D1	LE	Stock	
<b>GENERAL</b>  chip splitter	<b>CS P K</b> DXP-E04-CS	0.4	7.26	3.79	2.85	10.76	▲	
	<b>CS P K</b>  chip splitter	DXP-E05-CS	0.8	8	3.75	3.4	5.29	▲
		DXP-E06-CS	0.8	10	3.75	4.4	6.62	▲
		DXP-E08-CS	0.8	12	4.75	4.4	7.94	●
		DXP-E10-CS	0.8	15	5.25	5.5	9.92	▲

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

Catalogue Preview - AMB

**CS - Chips formation**



The short chips created by CS geometry can be easily ejected even on very deep holes.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	L/D	JP5725				
					min	start	max		
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	3xD - 6xD	80	120	160		
				8xD	65	100	135		
				10xD	55	85	115		
B - THREADING	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	3xD - 6xD	60	90	120		
				8xD	50	75	100		
				10xD	40	60	80		
C - GROOVING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	3xD - 6xD	40	60	80		
				8xD	35	50	65		
				10xD	30	40	50		
D - MILLING	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3xD - 6xD	80	110	140		
				8xD	70	90	110		
				10xD	60	80	100		
E - DRILLING	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3xD - 6xD	80	100	120		
				8xD	70	90	110		
				10xD	60	80	100		
F - ACCESSORIES									
G - SPARE PARTS									

Catalogue Preview - AIN



ISO 513	MATERIAL	HARDNESS HB	L/D	DC 30.00 ÷ 35.00			DC 36.00 ÷ 40.00			DC 41.00 ÷ 45.00		
				min	start	max	min	start	max	min	start	max
<b>P1 - P2</b>	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	3xD - 6xD	0.16	<b>0.22</b>	0.28	0.18	<b>0.25</b>	0.32	0.18	<b>0.27</b>	0.36
			8xD	0.12	<b>0.17</b>	0.22	0.14	<b>0.20</b>	0.26	0.14	<b>0.21</b>	0.28
			10xD	0.10	<b>0.15</b>	0.20	0.12	<b>0.17</b>	0.22	0.12	<b>0.18</b>	0.24
<b>P3 - P4</b>	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	3xD - 6xD	0.18	<b>0.25</b>	0.32	0.20	<b>0.28</b>	0.36	0.20	<b>0.31</b>	0.42
			8xD	0.14	<b>0.20</b>	0.26	0.16	<b>0.22</b>	0.28	0.16	<b>0.25</b>	0.34
			10xD	0.12	<b>0.17</b>	0.22	0.14	<b>0.19</b>	0.24	0.14	<b>0.22</b>	0.30
<b>P5 - P6</b>	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	3xD - 6xD	0.18	<b>0.24</b>	0.30	0.20	<b>0.27</b>	0.34	0.20	<b>0.30</b>	0.40
			8xD	0.14	<b>0.19</b>	0.24	0.16	<b>0.21</b>	0.26	0.16	<b>0.24</b>	0.32
			10xD	0.12	<b>0.16</b>	0.20	0.14	<b>0.18</b>	0.22	0.14	<b>0.21</b>	0.28
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3xD - 6xD	0.20	<b>0.27</b>	0.34	0.22	<b>0.30</b>	0.38	0.22	<b>0.33</b>	0.44
			8xD	0.16	<b>0.21</b>	0.26	0.18	<b>0.24</b>	0.30	0.18	<b>0.27</b>	0.36
			10xD	0.14	<b>0.18</b>	0.22	0.16	<b>0.21</b>	0.26	0.16	<b>0.23</b>	0.30
<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3xD - 6xD	0.16	<b>0.22</b>	0.28	0.18	<b>0.24</b>	0.30	0.18	<b>0.28</b>	0.36
			8xD	0.12	<b>0.17</b>	0.22	0.14	<b>0.19</b>	0.24	0.14	<b>0.21</b>	0.28
			10xD	0.10	<b>0.15</b>	0.20	0.12	<b>0.16</b>	0.20	0.12	<b>0.18</b>	0.24

Catalogue Preview - AIN

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

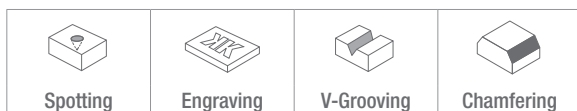
	DC 46.00 ÷ 50.00			DC 51.00 ÷ 55.00			DC 56.00 ÷ 60.00					
	min	start	max	min	start	max	min	start	max			
A - TURNING	0.20	<b>0.30</b>	0.40	0.20	<b>0.32</b>	0.44	0.22	<b>0.34</b>	0.46			
	0.16	<b>0.24</b>	0.32	0.16	<b>0.26</b>	0.36	0.18	<b>0.27</b>	0.36			
	0.14	<b>0.21</b>	0.28	0.14	<b>0.22</b>	0.30	0.16	<b>0.24</b>	0.32			
B - THREADING	0.22	<b>0.29</b>	0.46	0.22	<b>0.36</b>	0.50	0.24	<b>0.38</b>	0.52			
	0.18	<b>0.27</b>	0.36	0.18	<b>0.27</b>	0.40	0.20	<b>0.31</b>	0.42			
	0.16	<b>0.24</b>	0.32	0.16	<b>0.26</b>	0.36	0.16	<b>0.26</b>	0.36			
C - GROOVING	0.22	<b>0.33</b>	0.44	0.22	<b>0.35</b>	0.48	0.24	<b>0.37</b>	0.50			
	0.18	<b>0.27</b>	0.36	0.18	<b>0.28</b>	0.38	0.20	<b>0.30</b>	0.40			
	0.16	<b>0.23</b>	0.30	0.16	<b>0.25</b>	0.34	0.16	<b>0.26</b>	0.36			
D - MILLING	0.24	<b>0.36</b>	0.48	0.24	<b>0.38</b>	0.52	0.26	<b>0.40</b>	0.54			
	0.20	<b>0.29</b>	0.38	0.20	<b>0.31</b>	0.42	0.20	<b>0.32</b>	0.44			
	0.16	<b>0.25</b>	0.34	0.16	<b>0.26</b>	0.36	0.18	<b>0.28</b>	0.38			
E - DRILLING	0.20	<b>0.29</b>	0.38	0.20	<b>0.31</b>	0.42	0.20	<b>0.32</b>	0.44			
	0.16	<b>0.23</b>	0.30	0.16	<b>0.25</b>	0.34	0.16	<b>0.26</b>	0.36			
	0.14	<b>0.20</b>	0.26	0.14	<b>0.22</b>	0.30	0.14	<b>0.22</b>	0.30			
F - ACCESSORIES												
G - SPARE PARTS												

Catalogue Preview - AIX

# SPOT DRILL

High quality multipurpose system

## APPLICATION



## ISO APPLICATION FIELDS

**P M K N**

## ADVANTAGES AND CHARACTERISTICS

- Highly universal system for chamfering, engraving, spot drilling or milling grooves
- Convenient to use with great flexibility
- Inserts available with different radii and for diverse workpiece materials



### • Drilling bodies

- Cylindrical type and screw-in type
- Max. drilling dia. 14mm, min. drilling dia. 2.4mm
- Smart kit of 1 holder plus 4 inserts available



### • Inserts

- Available R03/08 for PMK, R04/08 for aluminium
- Cemented carbide grades with PVD coatings  
Or uncoated for N materials
- Geometries: GP, AL



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

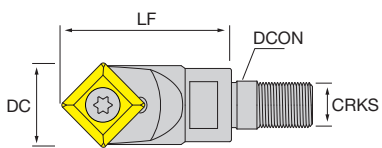
- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS


## NT-SPOT

### SPOT drill

- Spot drill system with SPOT inserts
- External coolant
- Multifunctional system for maximum versatility
- Inserts cannot be mounted on DRS drills or ChamferSquare milling holders

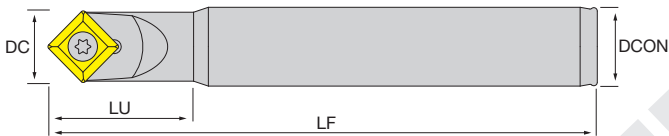
**Screw-in**






---

**Cylindrical**





Designation	Stock	DC	DCX	CICX	DCON	LF	LU	CRKS			MIID
<b>SCREW-IN</b>											
<b>NT-SPOT D14-M08-L052</b>	●	15.4	14	1	8.5	35	-	M8			SPOT11
<b>CYLINDRICAL</b>											
<b>NT-SPOT D14-S16-L100</b>	●	15.4	14	1	16	100	30	-			SPOT11

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

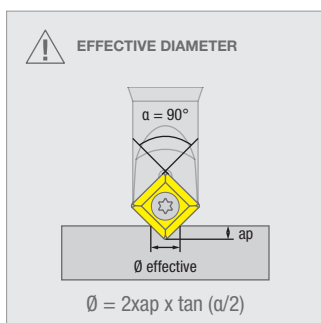
Spare parts	Insert screw	Flag wrench
<b>NT-SPOT D14-000-L000</b>	 NT-ST35080T15	 NT-FTB15

<h1>SPOT11</h1>	HF: Micrograin carbide PVD: Physical vapour deposition				HF PVD	HF PVD	HF PVD	HF
	SPOT drill				<b>JP7525</b>	<b>JP8725</b>	<b>JP9535</b>	<b>JU6520</b>
<ul style="list-style-type: none"> <li>General purpose type or fine polished sharp geometries for aluminum or non-ferrous materials available</li> <li>Diverse PVD coated or uncoated carbide grades available</li> <li>Multiple radii available for each geometry</li> <li>Inserts cannot be mounted on DRS drills or ChamferSquare milling holders</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable						
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●	●	●		
	Unstable machining, heavy cut	⚡ 1 <sup>st</sup> choice ⚡ suitable	⚡	⚡				
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
	<b>P</b>	80 240						
	<b>M</b>		60 160					
	<b>K</b>	100 160						
	<b>N</b>			160 400				
	<b>S</b>							
	<b>H</b>							

	Designation	RE	IC	S	D1	LE	Stock			
GENERAL	GP <b>P M K</b>									
		SPOT11 R03-GP	0.3	11	3.97	4.3	●	●	●	
		SPOT11 R08-GP	0.8	11	3.97	4.3	●	●	●	
ALUMINIUM	<b>AL N</b>									
	 polished surface	SPOT11 R04-AL	0.4	11	3.97	4.3				●
		SPOT11 R08-AL	0.8	11	3.97	4.3				●

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

Catalogue Preview - AMB



- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING	ISO 513	MATERIAL	HARDNESS HB	<b>JP8725</b>				
				min	start	max		
	<b>P1 - P2</b>	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	120	<b>180</b>	240		
	<b>P3 - P4</b>	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100	<b>150</b>	200		
B - THREADING	<b>P5 - P6</b>	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	80	<b>120</b>	160		
	ISO 513	MATERIAL	HARDNESS HB	<b>JP9535</b>				
C - GROOVING				min	start	max		
	<b>P7</b>	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	80	<b>120</b>	160		
	<b>P8</b>	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	60	<b>90</b>	120		
	<b>M1</b>	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	80	<b>120</b>	160		
D - MILLING	<b>M2 - M3</b>	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		60	<b>100</b>	140		
	ISO 513	MATERIAL	HARDNESS HB	<b>JP7525</b>				
E - DRILLING				min	start	max		
	<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100	<b>130</b>	160		
	<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100	<b>110</b>	120		
F - ACCESSORIES	ISO 513	MATERIAL	HARDNESS HB	<b>JU6520</b>				
				min	start	max		
	<b>N1</b>	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		240	<b>320</b>	400		
G - SPARE PARTS	<b>N2</b>	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		160	<b>230</b>	300		

Catalogue Preview - AMB 2022

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

# NCD DRILLS

High performance solid carbide drill series

## APPLICATION



## ISO APPLICATION FIELDS

**P M K S**

## ADVANTAGES AND CHARACTERISTICS

- Premium quality able to compete with market leaders
- Available on different types of holes and surfaces on diverse materials
- Twisted flute style with or without coolant available in 3xD and 5xD as standards, for other sizes and step drills available to make specials
- Parameters available on smart phone



### • Range

- D3-20mm, 3xD and 5xD, with and without coolant
- Special length and step drill available upon request

### • Geometry

- SC for reduced cutting force and smooth cutting
- GP for general purpose, wide application range



A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

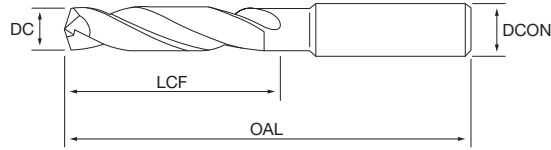
G - SPARE PARTS



# NCD3-GP

## NCD

- First choice for steel and cast iron machining (<45 HRC)
- Without coolant holes
- Self centering geometry for accurate holes
- AlTiN-nano based coating for long lasting tool life



Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
NCD3-GP 0300-062/020-S06	●	3	3	20	62	6	140°				
NCD3-GP 0310-062/020-S06	●	3.1	3	20	62	6	140°				
NCD3-GP 0320-062/020-S06	●	3.2	3	20	62	6	140°				
NCD3-GP 0330-062/020-S06	●	3.3	3	20	62	6	140°				
NCD3-GP 0340-062/020-S06	●	3.4	3	20	62	6	140°				
NCD3-GP 0350-062/020-S06	●	3.5	3	20	62	6	140°				
NCD3-GP 0360-062/020-S06	●	3.6	3	20	62	6	140°				
NCD3-GP 0370-062/020-S06	●	3.7	3	20	62	6	140°				
NCD3-GP 0380-066/024-S06	●	3.8	3	24	66	6	140°				
NCD3-GP 0390-066/024-S06	●	3.9	3	24	66	6	140°				
NCD3-GP 0400-066/024-S06	●	4	3	24	66	6	140°				
NCD3-GP 0410-066/024-S06	●	4.1	3	24	66	6	140°				
NCD3-GP 0420-066/024-S06	●	4.2	3	24	66	6	140°				
NCD3-GP 0430-066/024-S06	●	4.3	3	24	66	6	140°				
NCD3-GP 0440-066/024-S06	●	4.4	3	24	66	6	140°				
NCD3-GP 0450-066/024-S06	●	4.5	3	24	66	6	140°				
NCD3-GP 0460-066/024-S06	●	4.6	3	24	66	6	140°				
NCD3-GP 0470-066/024-S06	●	4.7	3	24	66	6	140°				
NCD3-GP 0480-066/028-S06	●	4.8	3	28	66	6	140°				
NCD3-GP 0490-066/028-S06	●	4.9	3	28	66	6	140°				
NCD3-GP 0500-066/028-S06	●	5	3	28	66	6	140°				
NCD3-GP 0510-066/028-S06	●	5.1	3	28	66	6	140°				
NCD3-GP 0520-066/028-S06	●	5.2	3	28	66	6	140°				
NCD3-GP 0530-066/028-S06	●	5.3	3	28	66	6	140°				
NCD3-GP 0540-066/028-S06	●	5.4	3	28	66	6	140°				
NCD3-GP 0550-066/028-S06	●	5.5	3	28	66	6	140°				
NCD3-GP 0560-066/028-S06	●	5.6	3	28	66	6	140°				
NCD3-GP 0570-066/028-S06	●	5.7	3	28	66	6	140°				
NCD3-GP 0580-066/028-S06	●	5.8	3	28	66	6	140°				
NCD3-GP 0590-066/028-S06	●	5.9	3	28	66	6	140°				
NCD3-GP 0600-066/028-S06	●	6	3	28	66	6	140°				
NCD3-GP 0610-079/034-S08	●	6.1	3	34	79	8	140°				
NCD3-GP 0620-079/034-S08	●	6.2	3	34	79	8	140°				
NCD3-GP 0630-079/034-S08	●	6.3	3	34	79	8	140°				
NCD3-GP 0640-079/034-S08	●	6.4	3	34	79	8	140°				
NCD3-GP 0650-079/034-S08	●	6.5	3	34	79	8	140°				
NCD3-GP 0660-079/034-S08	●	6.6	3	34	79	8	140°				
NCD3-GP 0670-079/034-S08	●	6.7	3	34	79	8	140°				
NCD3-GP 0680-079/034-S08	●	6.8	3	34	79	8	140°				
NCD3-GP 0690-079/034-S08	●	6.9	3	34	79	8	140°				
NCD3-GP 0700-079/034-S08	●	7	3	34	79	8	140°				
NCD3-GP 0710-079/041-S08	●	7.1	3	41	79	8	140°				
NCD3-GP 0720-079/041-S08	●	7.2	3	41	79	8	140°				
NCD3-GP 0730-079/041-S08	●	7.3	3	41	79	8	140°				
NCD3-GP 0740-079/041-S08	●	7.4	3	41	79	8	140°				
NCD3-GP 0750-079/041-S08	●	7.5	3	41	79	8	140°				
NCD3-GP 0760-079/041-S08	●	7.6	3	41	79	8	140°				
NCD3-GP 0770-079/041-S08	●	7.7	3	41	79	8	140°				

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

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

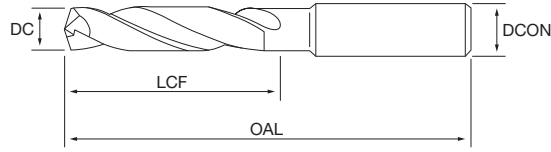
	Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
A - TURNING	NCD3-GP 0780-079/041-S08	●	7.8	3	41	79	8	140°				
	NCD3-GP 0790-079/041-S08	●	7.9	3	41	79	8	140°				
	NCD3-GP 0800-079/041-S08	●	8	3	41	79	8	140°				
	NCD3-GP 0810-089/047-S10	●	8.1	3	47	89	10	140°				
	NCD3-GP 0820-089/047-S10	●	8.2	3	47	89	10	140°				
	NCD3-GP 0830-089/047-S10	●	8.3	3	47	89	10	140°				
	NCD3-GP 0840-089/047-S10	●	8.4	3	47	89	10	140°				
	NCD3-GP 0850-089/047-S10	●	8.5	3	47	89	10	140°				
	NCD3-GP 0860-089/047-S10	●	8.6	3	47	89	10	140°				
	NCD3-GP 0870-089/047-S10	●	8.7	3	47	89	10	140°				
B - THREADING	NCD3-GP 0880-089/047-S10	●	8.8	3	47	89	10	140°				
	NCD3-GP 0890-089/047-S10	●	8.9	3	47	89	10	140°				
	NCD3-GP 0900-089/047-S10	●	9	3	47	89	10	140°				
	NCD3-GP 0910-089/047-S10	●	9.1	3	47	89	10	140°				
	NCD3-GP 0920-089/047-S10	●	9.2	3	47	89	10	140°				
	NCD3-GP 0930-089/047-S10	●	9.3	3	47	89	10	140°				
	NCD3-GP 0940-089/047-S10	●	9.4	3	47	89	10	140°				
	NCD3-GP 0950-089/047-S10	●	9.5	3	47	89	10	140°				
	NCD3-GP 0960-089/047-S10	●	9.6	3	47	89	10	140°				
	NCD3-GP 0970-089/047-S10	●	9.7	3	47	89	10	140°				
C - GROOVING	NCD3-GP 0980-089/047-S10	●	9.8	3	47	89	10	140°				
	NCD3-GP 0990-089/047-S10	●	9.9	3	47	89	10	140°				
	NCD3-GP 1000-089/047-S10	●	10	3	47	89	10	140°				
	NCD3-GP 1010-102/055-S12	●	10.1	3	55	102	12	140°				
	NCD3-GP 1020-102/055-S12	●	10.2	3	55	102	12	140°				
	NCD3-GP 1030-102/055-S12	●	10.3	3	55	102	12	140°				
	NCD3-GP 1040-102/055-S12	●	10.4	3	55	102	12	140°				
	NCD3-GP 1050-102/055-S12	●	10.5	3	55	102	12	140°				
	NCD3-GP 1060-102/055-S12	●	10.6	3	55	102	12	140°				
	NCD3-GP 1070-102/055-S12	●	10.7	3	55	102	12	140°				
D - MILLING	NCD3-GP 1080-102/055-S12	●	10.8	3	55	102	12	140°				
	NCD3-GP 1090-102/055-S12	●	10.9	3	55	102	12	140°				
	NCD3-GP 1100-102/055-S12	●	11	3	55	102	12	140°				
	NCD3-GP 1110-102/055-S12	●	11.1	3	55	102	12	140°				
	NCD3-GP 1120-102/055-S12	●	11.2	3	55	102	12	140°				
	NCD3-GP 1130-102/055-S12	●	11.3	3	55	102	12	140°				
	NCD3-GP 1140-102/055-S12	●	11.4	3	55	102	12	140°				
	NCD3-GP 1150-102/055-S12	●	11.5	3	55	102	12	140°				
	NCD3-GP 1160-102/055-S12	●	11.6	3	55	102	12	140°				
	NCD3-GP 1170-102/055-S12	●	11.7	3	55	102	12	140°				
E - DRILLING	NCD3-GP 1180-102/055-S12	●	11.8	3	55	102	12	140°				
	NCD3-GP 1190-102/055-S12	●	11.9	3	55	102	12	140°				
	NCD3-GP 1200-102/055-S12	●	12	3	55	102	12	140°				
	NCD3-GP 1250-107/060-S14	●	12.5	3	60	107	14	140°				
	NCD3-GP 1300-107/060-S14	●	13	3	60	107	14	140°				
	NCD3-GP 1350-107/060-S14	●	13.5	3	60	107	14	140°				
	NCD3-GP 1400-107/060-S14	●	14	3	60	107	14	140°				
	NCD3-GP 1450-115/065-S16	●	14.5	3	65	115	16	140°				
	NCD3-GP 1500-115/065-S16	●	15	3	65	115	16	140°				
	NCD3-GP 1550-115/065-S16	●	15.5	3	65	115	16	140°				
F - ACCESSORIES	NCD3-GP 1600-115/065-S16	●	16	3	65	115	16	140°				
	NCD3-GP 1650-123/073-S18	●	16.5	3	73	123	18	140°				
	NCD3-GP 1700-123/073-S18	●	17	3	73	123	18	140°				
	NCD3-GP 1750-123/073-S18	●	17.5	3	73	123	18	140°				
	NCD3-GP 1800-123/073-S18	●	18	3	73	123	18	140°				
	NCD3-GP 1850-131/079-S20	●	18.5	3	79	131	20	140°				
	NCD3-GP 1900-131/079-S20	●	19	3	79	131	20	140°				
	NCD3-GP 1950-131/079-S20	●	19.5	3	79	131	20	140°				
	NCD3-GP 2000-131/079-S20	●	20	3	79	131	20	140°				
	G - SPARE PARTS											

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion  
E70

# NCD5-GP

## NCD

- First choice for steel and cast iron machining (<45 HRC)
- Without coolant holes
- Self centering geometry for accurate holes
- AlTiN-nano based coating for long lasting tool life



Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
NCD5-GP 0300-066/028-S06	●	3	5	28	66	6	140°				
NCD5-GP 0310-066/028-S06	●	3.1	5	28	66	6	140°				
NCD5-GP 0320-066/028-S06	●	3.2	5	28	66	6	140°				
NCD5-GP 0330-066/028-S06	●	3.3	5	28	66	6	140°				
NCD5-GP 0340-066/028-S06	●	3.4	5	28	66	6	140°				
NCD5-GP 0350-066/028-S06	●	3.5	5	28	66	6	140°				
NCD5-GP 0360-066/028-S06	●	3.6	5	28	66	6	140°				
NCD5-GP 0370-066/028-S06	●	3.7	5	28	66	6	140°				
NCD5-GP 0380-074/036-S06	●	3.8	5	36	74	6	140°				
NCD5-GP 0390-074/036-S06	●	3.9	5	36	74	6	140°				
NCD5-GP 0400-074/036-S06	●	4	5	36	74	6	140°				
NCD5-GP 0410-074/036-S06	●	4.1	5	36	74	6	140°				
NCD5-GP 0420-074/036-S06	●	4.2	5	36	74	6	140°				
NCD5-GP 0430-074/036-S06	●	4.3	5	36	74	6	140°				
NCD5-GP 0440-074/036-S06	●	4.4	5	36	74	6	140°				
NCD5-GP 0450-074/036-S06	●	4.5	5	36	74	6	140°				
NCD5-GP 0460-074/036-S06	●	4.6	5	36	74	6	140°				
NCD5-GP 0470-074/036-S06	●	4.7	5	36	74	6	140°				
NCD5-GP 0480-082/044-S06	●	4.8	5	44	82	6	140°				
NCD5-GP 0490-082/044-S06	●	4.9	5	44	82	6	140°				
NCD5-GP 0500-082/044-S06	●	5	5	44	82	6	140°				
NCD5-GP 0510-082/044-S06	●	5.1	5	44	82	6	140°				
NCD5-GP 0520-082/044-S06	●	5.2	5	44	82	6	140°				
NCD5-GP 0530-082/044-S06	●	5.3	5	44	82	6	140°				
NCD5-GP 0540-082/044-S06	●	5.4	5	44	82	6	140°				
NCD5-GP 0550-082/044-S06	●	5.5	5	44	82	6	140°				
NCD5-GP 0560-082/044-S06	●	5.6	5	44	82	6	140°				
NCD5-GP 0570-082/044-S06	●	5.7	5	44	82	6	140°				
NCD5-GP 0580-082/044-S06	●	5.8	5	44	82	6	140°				
NCD5-GP 0590-082/044-S06	●	5.9	5	44	82	6	140°				
NCD5-GP 0600-082/044-S06	●	6	5	44	82	6	140°				
NCD5-GP 0610-091/053-S08	●	6.1	5	53	91	8	140°				
NCD5-GP 0620-091/053-S08	●	6.2	5	53	91	8	140°				
NCD5-GP 0630-091/053-S08	●	6.3	5	53	91	8	140°				
NCD5-GP 0640-091/053-S08	●	6.4	5	53	91	8	140°				
NCD5-GP 0650-091/053-S08	●	6.5	5	53	91	8	140°				
NCD5-GP 0660-091/053-S08	●	6.6	5	53	91	8	140°				
NCD5-GP 0670-091/053-S08	●	6.7	5	53	91	8	140°				
NCD5-GP 0680-091/053-S08	●	6.8	5	53	91	8	140°				
NCD5-GP 0690-091/053-S08	●	6.9	5	53	91	8	140°				
NCD5-GP 0700-091/053-S08	●	7	5	53	91	8	140°				
NCD5-GP 0710-091/053-S08	●	7.1	5	53	91	8	140°				
NCD5-GP 0720-091/053-S08	●	7.2	5	53	91	8	140°				
NCD5-GP 0730-091/053-S08	●	7.3	5	53	91	8	140°				
NCD5-GP 0740-091/053-S08	●	7.4	5	53	91	8	140°				
NCD5-GP 0750-091/053-S08	●	7.5	5	53	91	8	140°				
NCD5-GP 0760-091/053-S08	●	7.6	5	53	91	8	140°				
NCD5-GP 0770-091/053-S08	●	7.7	5	53	91	8	140°				

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

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

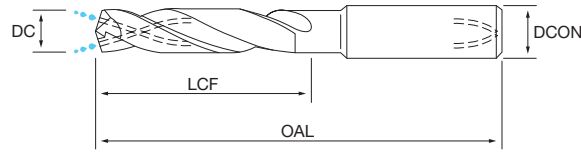
Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG					
NCD5-GP 0780-091/053-S08	●	7.8	5	53	91	8	140°					
NCD5-GP 0790-091/053-S08	●	7.9	5	53	91	8	140°					
NCD5-GP 0800-091/053-S08	●	8	5	53	91	8	140°					
NCD5-GP 0810-103/061-S10	●	8.1	5	61	103	10	140°					
NCD5-GP 0820-103/061-S10	●	8.2	5	61	103	10	140°					
NCD5-GP 0830-103/061-S10	●	8.3	5	61	103	10	140°					
NCD5-GP 0840-103/061-S10	●	8.4	5	61	103	10	140°					
NCD5-GP 0850-103/061-S10	●	8.5	5	61	103	10	140°					
NCD5-GP 0860-103/061-S10	●	8.6	5	61	103	10	140°					
NCD5-GP 0870-103/061-S10	●	8.7	5	61	103	10	140°					
NCD5-GP 0880-103/061-S10	●	8.8	5	61	103	10	140°					
NCD5-GP 0890-103/061-S10	●	8.9	5	61	103	10	140°					
NCD5-GP 0900-103/061-S10	●	9	5	61	103	10	140°					
NCD5-GP 0910-103/061-S10	●	9.1	5	61	103	10	140°					
NCD5-GP 0920-103/061-S10	●	9.2	5	61	103	10	140°					
NCD5-GP 0930-103/061-S10	●	9.3	5	61	103	10	140°					
NCD5-GP 0940-103/061-S10	●	9.4	5	61	103	10	140°					
NCD5-GP 0950-103/061-S10	●	9.5	5	61	103	10	140°					
NCD5-GP 0960-103/061-S10	●	9.6	5	61	103	10	140°					
NCD5-GP 0970-103/061-S10	●	9.7	5	61	103	10	140°					
NCD5-GP 0980-103/061-S10	●	9.8	5	61	103	10	140°					
NCD5-GP 0990-103/061-S10	●	9.9	5	61	103	10	140°					
NCD5-GP 1000-103/061-S10	●	10	5	61	103	10	140°					
NCD5-GP 1010-118/071-S12	●	10.1	5	71	118	12	140°					
NCD5-GP 1020-118/071-S12	●	10.2	5	71	118	12	140°					
NCD5-GP 1030-118/071-S12	●	10.3	5	71	118	12	140°					
NCD5-GP 1040-118/071-S12	●	10.4	5	71	118	12	140°					
NCD5-GP 1050-118/071-S12	●	10.5	5	71	118	12	140°					
NCD5-GP 1060-118/071-S12	●	10.6	5	71	118	12	140°					
NCD5-GP 1070-118/071-S12	●	10.7	5	71	118	12	140°					
NCD5-GP 1080-118/071-S12	●	10.8	5	71	118	12	140°					
NCD5-GP 1090-118/071-S12	●	10.9	5	71	118	12	140°					
NCD5-GP 1100-118/071-S12	●	11	5	71	118	12	140°					
NCD5-GP 1110-118/071-S12	●	11.1	5	71	118	12	140°					
NCD5-GP 1120-118/071-S12	●	11.2	5	71	118	12	140°					
NCD5-GP 1130-118/071-S12	●	11.3	5	71	118	12	140°					
NCD5-GP 1140-118/071-S12	●	11.4	5	71	118	12	140°					
NCD5-GP 1150-118/071-S12	●	11.5	5	71	118	12	140°					
NCD5-GP 1160-118/071-S12	●	11.6	5	71	118	12	140°					
NCD5-GP 1170-118/071-S12	●	11.7	5	71	118	12	140°					
NCD5-GP 1180-118/071-S12	●	11.8	5	71	118	12	140°					
NCD5-GP 1190-118/071-S12	●	11.9	5	71	118	12	140°					
NCD5-GP 1200-118/071-S12	●	12	5	71	118	12	140°					
NCD5-GP 1250-124/077-S14	●	12.5	5	77	124	14	140°					
NCD5-GP 1300-124/077-S14	●	13	5	77	124	14	140°					
NCD5-GP 1350-124/077-S14	●	13.5	5	77	124	14	140°					
NCD5-GP 1400-124/077-S14	●	14	5	77	124	14	140°					
NCD5-GP 1450-133/083-S16	●	14.5	5	83	133	16	140°					
NCD5-GP 1500-133/083-S16	●	15	5	83	133	16	140°					
NCD5-GP 1550-133/083-S16	●	15.5	5	83	133	16	140°					
NCD5-GP 1600-133/083-S16	●	16	5	83	133	16	140°					
NCD5-GP 1650-143/093-S18	●	16.5	5	93	143	18	140°					
NCD5-GP 1700-143/093-S18	●	17	5	93	143	18	140°					
NCD5-GP 1750-143/093-S18	●	17.5	5	93	143	18	140°					
NCD5-GP 1800-143/093-S18	●	18	5	93	143	18	140°					
NCD5-GP 1850-153/101-S20	●	18.5	5	101	153	20	140°					
NCD5-GP 1900-153/101-S20	●	19	5	101	153	20	140°					
NCD5-GP 1950-153/101-S20	●	19.5	5	101	153	20	140°					
NCD5-GP 2000-153/101-S20	●	20	5	101	153	20	140°					

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

# NCD3H-GP

## NCD

- First choice for steel and cast iron machining (<45 HRC)
- With coolant holes
- Self centering geometry for accurate holes
- AlTiN-nano based coating for long lasting tool life



Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
NCD3H-GP 0300-062/020-S06	●	3	3	20	62	6	140°				
NCD3H-GP 0310-062/020-S06	●	3.1	3	20	62	6	140°				
NCD3H-GP 0320-062/020-S06	●	3.2	3	20	62	6	140°				
NCD3H-GP 0330-062/020-S06	●	3.3	3	20	62	6	140°				
NCD3H-GP 0340-062/020-S06	●	3.4	3	20	62	6	140°				
NCD3H-GP 0350-062/020-S06	●	3.5	3	20	62	6	140°				
NCD3H-GP 0360-062/020-S06	●	3.6	3	20	62	6	140°				
NCD3H-GP 0370-062/020-S06	●	3.7	3	20	62	6	140°				
NCD3H-GP 0380-066/024-S06	●	3.8	3	24	66	6	140°				
NCD3H-GP 0390-066/024-S06	●	3.9	3	24	66	6	140°				
NCD3H-GP 0400-066/024-S06	●	4	3	24	66	6	140°				
NCD3H-GP 0410-066/024-S06	●	4.1	3	24	66	6	140°				
NCD3H-GP 0420-066/024-S06	●	4.2	3	24	66	6	140°				
NCD3H-GP 0430-066/024-S06	●	4.3	3	24	66	6	140°				
NCD3H-GP 0440-066/024-S06	●	4.4	3	24	66	6	140°				
NCD3H-GP 0450-066/024-S06	●	4.5	3	24	66	6	140°				
NCD3H-GP 0460-066/024-S06	●	4.6	3	24	66	6	140°				
NCD3H-GP 0470-066/024-S06	●	4.7	3	24	66	6	140°				
NCD3H-GP 0480-066/028-S06	●	4.8	3	28	66	6	140°				
NCD3H-GP 0490-066/028-S06	●	4.9	3	28	66	6	140°				
NCD3H-GP 0500-066/028-S06	●	5	3	28	66	6	140°				
NCD3H-GP 0510-066/028-S06	●	5.1	3	28	66	6	140°				
NCD3H-GP 0520-066/028-S06	●	5.2	3	28	66	6	140°				
NCD3H-GP 0530-066/028-S06	●	5.3	3	28	66	6	140°				
NCD3H-GP 0540-066/028-S06	●	5.4	3	28	66	6	140°				
NCD3H-GP 0550-066/028-S06	●	5.5	3	28	66	6	140°				
NCD3H-GP 0560-066/028-S06	●	5.6	3	28	66	6	140°				
NCD3H-GP 0570-066/028-S06	●	5.7	3	28	66	6	140°				
NCD3H-GP 0580-066/028-S06	●	5.8	3	28	66	6	140°				
NCD3H-GP 0590-066/028-S06	●	5.9	3	28	66	6	140°				
NCD3H-GP 0600-066/028-S06	●	6	3	28	66	6	140°				
NCD3H-GP 0610-079/034-S08	●	6.1	3	34	79	8	140°				
NCD3H-GP 0620-079/034-S08	●	6.2	3	34	79	8	140°				
NCD3H-GP 0630-079/034-S08	●	6.3	3	34	79	8	140°				
NCD3H-GP 0640-079/034-S08	●	6.4	3	34	79	8	140°				
NCD3H-GP 0650-079/034-S08	●	6.5	3	34	79	8	140°				
NCD3H-GP 0660-079/034-S08	●	6.6	3	34	79	8	140°				
NCD3H-GP 0670-079/034-S08	●	6.7	3	34	79	8	140°				
NCD3H-GP 0680-079/034-S08	●	6.8	3	34	79	8	140°				
NCD3H-GP 0690-079/034-S08	●	6.9	3	34	79	8	140°				
NCD3H-GP 0700-079/034-S08	●	7	3	34	79	8	140°				
NCD3H-GP 0710-079/041-S08	●	7.1	3	41	79	8	140°				
NCD3H-GP 0720-079/041-S08	●	7.2	3	41	79	8	140°				
NCD3H-GP 0730-079/041-S08	●	7.3	3	41	79	8	140°				
NCD3H-GP 0740-079/041-S08	●	7.4	3	41	79	8	140°				
NCD3H-GP 0750-079/041-S08	●	7.5	3	41	79	8	140°				
NCD3H-GP 0760-079/041-S08	●	7.6	3	41	79	8	140°				
NCD3H-GP 0770-079/041-S08	●	7.7	3	41	79	8	140°				

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

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG					
NCD3H-GP 0780-079/041-S08	●	7.8	3	41	79	8	140°					
NCD3H-GP 0790-079/041-S08	●	7.9	3	41	79	8	140°					
NCD3H-GP 0800-079/041-S08	●	8	3	41	79	8	140°					
NCD3H-GP 0810-089/047-S10	●	8.1	3	47	89	10	140°					
NCD3H-GP 0820-089/047-S10	●	8.2	3	47	89	10	140°					
NCD3H-GP 0830-089/047-S10	●	8.3	3	47	89	10	140°					
NCD3H-GP 0840-089/047-S10	●	8.4	3	47	89	10	140°					
NCD3H-GP 0850-089/047-S10	●	8.5	3	47	89	10	140°					
NCD3H-GP 0860-089/047-S10	●	8.6	3	47	89	10	140°					
NCD3H-GP 0870-089/047-S10	●	8.7	3	47	89	10	140°					
NCD3H-GP 0880-089/047-S10	●	8.8	3	47	89	10	140°					
NCD3H-GP 0890-089/047-S10	●	8.9	3	47	89	10	140°					
NCD3H-GP 0900-089/047-S10	●	9	3	47	89	10	140°					
NCD3H-GP 0910-089/047-S10	●	9.1	3	47	89	10	140°					
NCD3H-GP 0920-089/047-S10	●	9.2	3	47	89	10	140°					
NCD3H-GP 0930-089/047-S10	●	9.3	3	47	89	10	140°					
NCD3H-GP 0940-089/047-S10	●	9.4	3	47	89	10	140°					
NCD3H-GP 0950-089/047-S10	●	9.5	3	47	89	10	140°					
NCD3H-GP 0960-089/047-S10	●	9.6	3	47	89	10	140°					
NCD3H-GP 0970-089/047-S10	●	9.7	3	47	89	10	140°					
NCD3H-GP 0980-089/047-S10	●	9.8	3	47	89	10	140°					
NCD3H-GP 0990-089/047-S10	●	9.9	3	47	89	10	140°					
NCD3H-GP 1000-089/047-S10	●	10	3	47	89	10	140°					
NCD3H-GP 1010-102/055-S12	●	10.1	3	55	102	12	140°					
NCD3H-GP 1020-102/055-S12	●	10.2	3	55	102	12	140°					
NCD3H-GP 1030-102/055-S12	●	10.3	3	55	102	12	140°					
NCD3H-GP 1040-102/055-S12	●	10.4	3	55	102	12	140°					
NCD3H-GP 1050-102/055-S12	●	10.5	3	55	102	12	140°					
NCD3H-GP 1060-102/055-S12	●	10.6	3	55	102	12	140°					
NCD3H-GP 1070-102/055-S12	●	10.7	3	55	102	12	140°					
NCD3H-GP 1080-102/055-S12	●	10.8	3	55	102	12	140°					
NCD3H-GP 1090-102/055-S12	●	10.9	3	55	102	12	140°					
NCD3H-GP 1100-102/055-S12	●	11	3	55	102	12	140°					
NCD3H-GP 1110-102/055-S12	●	11.1	3	55	102	12	140°					
NCD3H-GP 1120-102/055-S12	●	11.2	3	55	102	12	140°					
NCD3H-GP 1130-102/055-S12	●	11.3	3	55	102	12	140°					
NCD3H-GP 1140-102/055-S12	●	11.4	3	55	102	12	140°					
NCD3H-GP 1150-102/055-S12	●	11.5	3	55	102	12	140°					
NCD3H-GP 1160-102/055-S12	●	11.6	3	55	102	12	140°					
NCD3H-GP 1170-102/055-S12	●	11.7	3	55	102	12	140°					
NCD3H-GP 1180-102/055-S12	●	11.8	3	55	102	12	140°					
NCD3H-GP 1190-102/055-S12	●	11.9	3	55	102	12	140°					
NCD3H-GP 1200-102/055-S12	●	12	3	55	102	12	140°					
NCD3H-GP 1250-107/060-S14	●	12.5	3	60	107	14	140°					
NCD3H-GP 1300-107/060-S14	●	13	3	60	107	14	140°					
NCD3H-GP 1350-107/060-S14	●	13.5	3	60	107	14	140°					
NCD3H-GP 1400-107/060-S14	●	14	3	60	107	14	140°					
NCD3H-GP 1450-115/065-S16	●	14.5	3	65	115	16	140°					
NCD3H-GP 1500-115/065-S16	●	15	3	65	115	16	140°					
NCD3H-GP 1550-115/065-S16	●	15.5	3	65	115	16	140°					
NCD3H-GP 1600-115/065-S16	●	16	3	65	115	16	140°					
NCD3H-GP 1650-123/073-S18	●	16.5	3	73	123	18	140°					
NCD3H-GP 1700-123/073-S18	●	17	3	73	123	18	140°					
NCD3H-GP 1750-123/073-S18	●	17.5	3	73	123	18	140°					
NCD3H-GP 1800-123/073-S18	●	18	3	73	123	18	140°					
NCD3H-GP 1850-131/079-S20	●	18.5	3	79	131	20	140°					
NCD3H-GP 1900-131/079-S20	●	19	3	79	131	20	140°					
NCD3H-GP 1950-131/079-S20	●	19.5	3	79	131	20	140°					
NCD3H-GP 2000-131/079-S20	●	20	3	79	131	20	140°					

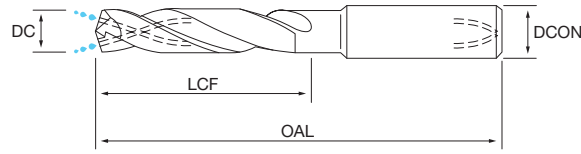
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion  
E74



# NCD5H-GP

## NCD

- First choice for steel and cast iron machining (<45 HRC)
- With coolant holes
- Self centering geometry for accurate holes
- AlTiN-nano based coating for long lasting tool life



Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
NCD5H-GP 0300-066/028-S06	●	3	5	28	66	6	140°				
NCD5H-GP 0310-066/028-S06	●	3.1	5	28	66	6	140°				
NCD5H-GP 0320-066/028-S06	●	3.2	5	28	66	6	140°				
NCD5H-GP 0330-066/028-S06	●	3.3	5	28	66	6	140°				
NCD5H-GP 0340-066/028-S06	●	3.4	5	28	66	6	140°				
NCD5H-GP 0350-066/028-S06	●	3.5	5	28	66	6	140°				
NCD5H-GP 0360-066/028-S06	●	3.6	5	28	66	6	140°				
NCD5H-GP 0370-066/028-S06	●	3.7	5	28	66	6	140°				
NCD5H-GP 0380-074/036-S06	●	3.8	5	36	74	6	140°				
NCD5H-GP 0390-074/036-S06	●	3.9	5	36	74	6	140°				
NCD5H-GP 0400-074/036-S06	●	4	5	36	74	6	140°				
NCD5H-GP 0410-074/036-S06	●	4.1	5	36	74	6	140°				
NCD5H-GP 0420-074/036-S06	●	4.2	5	36	74	6	140°				
NCD5H-GP 0430-074/036-S06	●	4.3	5	36	74	6	140°				
NCD5H-GP 0440-074/036-S06	●	4.4	5	36	74	6	140°				
NCD5H-GP 0450-074/036-S06	●	4.5	5	36	74	6	140°				
NCD5H-GP 0460-074/036-S06	●	4.6	5	36	74	6	140°				
NCD5H-GP 0470-074/036-S06	●	4.7	5	36	74	6	140°				
NCD5H-GP 0480-082/044-S06	●	4.8	5	44	82	6	140°				
NCD5H-GP 0490-082/044-S06	●	4.9	5	44	82	6	140°				
NCD5H-GP 0500-082/044-S06	●	5	5	44	82	6	140°				
NCD5H-GP 0510-082/044-S06	●	5.1	5	44	82	6	140°				
NCD5H-GP 0520-082/044-S06	●	5.2	5	44	82	6	140°				
NCD5H-GP 0530-082/044-S06	●	5.3	5	44	82	6	140°				
NCD5H-GP 0540-082/044-S06	●	5.4	5	44	82	6	140°				
NCD5H-GP 0550-082/044-S06	●	5.5	5	44	82	6	140°				
NCD5H-GP 0560-082/044-S06	●	5.6	5	44	82	6	140°				
NCD5H-GP 0570-082/044-S06	●	5.7	5	44	82	6	140°				
NCD5H-GP 0580-082/044-S06	●	5.8	5	44	82	6	140°				
NCD5H-GP 0590-082/044-S06	●	5.9	5	44	82	6	140°				
NCD5H-GP 0600-082/044-S06	●	6	5	44	82	6	140°				
NCD5H-GP 0610-091/053-S08	●	6.1	5	53	91	8	140°				
NCD5H-GP 0620-091/053-S08	●	6.2	5	53	91	8	140°				
NCD5H-GP 0630-091/053-S08	●	6.3	5	53	91	8	140°				
NCD5H-GP 0640-091/053-S08	●	6.4	5	53	91	8	140°				
NCD5H-GP 0650-091/053-S08	●	6.5	5	53	91	8	140°				
NCD5H-GP 0660-091/053-S08	●	6.6	5	53	91	8	140°				
NCD5H-GP 0670-091/053-S08	●	6.7	5	53	91	8	140°				
NCD5H-GP 0680-091/053-S08	●	6.8	5	53	91	8	140°				
NCD5H-GP 0690-091/053-S08	●	6.9	5	53	91	8	140°				
NCD5H-GP 0700-091/053-S08	●	7	5	53	91	8	140°				
NCD5H-GP 0710-091/053-S08	●	7.1	5	53	91	8	140°				
NCD5H-GP 0720-091/053-S08	●	7.2	5	53	91	8	140°				
NCD5H-GP 0730-091/053-S08	●	7.3	5	53	91	8	140°				
NCD5H-GP 0740-091/053-S08	●	7.4	5	53	91	8	140°				
NCD5H-GP 0750-091/053-S08	●	7.5	5	53	91	8	140°				
NCD5H-GP 0760-091/053-S08	●	7.6	5	53	91	8	140°				
NCD5H-GP 0770-091/053-S08	●	7.7	5	53	91	8	140°				

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

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
A - TURNING	NCD5H-GP 0780-091/053-S08	●	7.8	5	53	91	8	140°				
	NCD5H-GP 0790-091/053-S08	●	7.9	5	53	91	8	140°				
	NCD5H-GP 0800-091/053-S08	●	8	5	53	91	8	140°				
	NCD5H-GP 0810-103/061-S10	●	8.1	5	61	103	10	140°				
	NCD5H-GP 0820-103/061-S10	●	8.2	5	61	103	10	140°				
	NCD5H-GP 0830-103/061-S10	●	8.3	5	61	103	10	140°				
	NCD5H-GP 0840-103/061-S10	●	8.4	5	61	103	10	140°				
	NCD5H-GP 0850-103/061-S10	●	8.5	5	61	103	10	140°				
	NCD5H-GP 0860-103/061-S10	●	8.6	5	61	103	10	140°				
	NCD5H-GP 0870-103/061-S10	●	8.7	5	61	103	10	140°				
B - THREADING	NCD5H-GP 0880-103/061-S10	●	8.8	5	61	103	10	140°				
	NCD5H-GP 0890-103/061-S10	●	8.9	5	61	103	10	140°				
	NCD5H-GP 0900-103/061-S10	●	9	5	61	103	10	140°				
	NCD5H-GP 0910-103/061-S10	●	9.1	5	61	103	10	140°				
	NCD5H-GP 0920-103/061-S10	●	9.2	5	61	103	10	140°				
	NCD5H-GP 0930-103/061-S10	●	9.3	5	61	103	10	140°				
	NCD5H-GP 0940-103/061-S10	●	9.4	5	61	103	10	140°				
	NCD5H-GP 0950-103/061-S10	●	9.5	5	61	103	10	140°				
	NCD5H-GP 0960-103/061-S10	●	9.6	5	61	103	10	140°				
	NCD5H-GP 0970-103/061-S10	●	9.7	5	61	103	10	140°				
C - GROOVING	NCD5H-GP 0980-103/061-S10	●	9.8	5	61	103	10	140°				
	NCD5H-GP 0990-103/061-S10	●	9.9	5	61	103	10	140°				
	NCD5H-GP 1000-103/061-S10	●	10	5	61	103	10	140°				
	NCD5H-GP 1010-118/071-S12	●	10.1	5	71	118	12	140°				
	NCD5H-GP 1020-118/071-S12	●	10.2	5	71	118	12	140°				
	NCD5H-GP 1030-118/071-S12	●	10.3	5	71	118	12	140°				
	NCD5H-GP 1040-118/071-S12	●	10.4	5	71	118	12	140°				
	NCD5H-GP 1050-118/071-S12	●	10.5	5	71	118	12	140°				
	NCD5H-GP 1060-118/071-S12	●	10.6	5	71	118	12	140°				
	NCD5H-GP 1070-118/071-S12	●	10.7	5	71	118	12	140°				
D - MILLING	NCD5H-GP 1080-118/071-S12	●	10.8	5	71	118	12	140°				
	NCD5H-GP 1090-118/071-S12	●	10.9	5	71	118	12	140°				
	NCD5H-GP 1100-118/071-S12	●	11	5	71	118	12	140°				
	NCD5H-GP 1110-118/071-S12	●	11.1	5	71	118	12	140°				
	NCD5H-GP 1120-118/071-S12	●	11.2	5	71	118	12	140°				
	NCD5H-GP 1130-118/071-S12	●	11.3	5	71	118	12	140°				
	NCD5H-GP 1140-118/071-S12	●	11.4	5	71	118	12	140°				
	NCD5H-GP 1150-118/071-S12	●	11.5	5	71	118	12	140°				
	NCD5H-GP 1160-118/071-S12	●	11.6	5	71	118	12	140°				
	NCD5H-GP 1170-118/071-S12	●	11.7	5	71	118	12	140°				
E - DRILLING	NCD5H-GP 1180-118/071-S12	●	11.8	5	71	118	12	140°				
	NCD5H-GP 1190-118/071-S12	●	11.9	5	71	118	12	140°				
	NCD5H-GP 1200-118/071-S12	●	12	5	71	118	12	140°				
	NCD5H-GP 1250-124/077-S14	●	12.5	5	77	124	14	140°				
	NCD5H-GP 1300-124/077-S14	●	13	5	77	124	14	140°				
	NCD5H-GP 1350-124/077-S14	●	13.5	5	77	124	14	140°				
	NCD5H-GP 1400-124/077-S14	●	14	5	77	124	14	140°				
	NCD5H-GP 1450-133/083-S16	●	14.5	5	83	133	16	140°				
	NCD5H-GP 1500-133/083-S16	●	15	5	83	133	16	140°				
	NCD5H-GP 1550-133/083-S16	●	15.5	5	83	133	16	140°				
F - ACCESSORIES	NCD5H-GP 1600-133/083-S16	●	16	5	83	133	16	140°				
	NCD5H-GP 1650-143/093-S18	●	16.5	5	93	143	18	140°				
	NCD5H-GP 1700-143/093-S18	●	17	5	93	143	18	140°				
	NCD5H-GP 1750-143/093-S18	●	17.5	5	93	143	18	140°				
	NCD5H-GP 1800-143/093-S18	●	18	5	93	143	18	140°				
	NCD5H-GP 1850-153/101-S20	●	18.5	5	101	153	20	140°				
	NCD5H-GP 1900-153/101-S20	●	19	5	101	153	20	140°				
	NCD5H-GP 1950-153/101-S20	●	19.5	5	101	153	20	140°				
	NCD5H-GP 2000-153/101-S20	●	20	5	101	153	20	140°				
	G - SPARE PARTS											

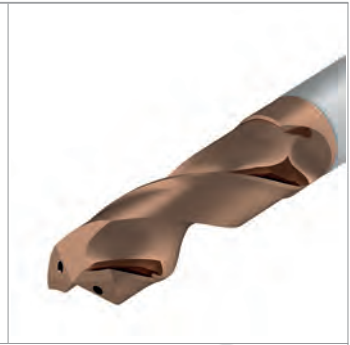
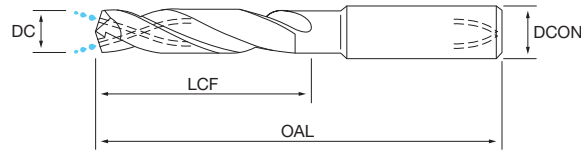
● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion



# NCD3H-SC

## NCD

- First choice for stainless steel and sticky free-cutting steels
- With coolant holes
- Self centering geometry for accurate holes
- AlCrN based multilayer coating with very low friction coefficient to reduce built up edge phenomena



Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
NCD3H-SC 0300-062/020-S06	●	3	3	20	62	6	140°				
NCD3H-SC 0310-062/020-S06	●	3.1	3	20	62	6	140°				
NCD3H-SC 0320-062/020-S06	●	3.2	3	20	62	6	140°				
NCD3H-SC 0330-062/020-S06	●	3.3	3	20	62	6	140°				
NCD3H-SC 0340-062/020-S06	●	3.4	3	20	62	6	140°				
NCD3H-SC 0350-062/020-S06	●	3.5	3	20	62	6	140°				
NCD3H-SC 0360-062/020-S06	●	3.6	3	20	62	6	140°				
NCD3H-SC 0370-062/020-S06	●	3.7	3	20	62	6	140°				
NCD3H-SC 0380-066/024-S06	●	3.8	3	24	66	6	140°				
NCD3H-SC 0390-066/024-S06	●	3.9	3	24	66	6	140°				
NCD3H-SC 0400-066/024-S06	●	4	3	24	66	6	140°				
NCD3H-SC 0410-066/024-S06	●	4.1	3	24	66	6	140°				
NCD3H-SC 0420-066/024-S06	●	4.2	3	24	66	6	140°				
NCD3H-SC 0430-066/024-S06	●	4.3	3	24	66	6	140°				
NCD3H-SC 0440-066/024-S06	●	4.4	3	24	66	6	140°				
NCD3H-SC 0450-066/024-S06	●	4.5	3	24	66	6	140°				
NCD3H-SC 0460-066/024-S06	●	4.6	3	24	66	6	140°				
NCD3H-SC 0470-066/024-S06	●	4.7	3	24	66	6	140°				
NCD3H-SC 0480-066/028-S06	●	4.8	3	28	66	6	140°				
NCD3H-SC 0490-066/028-S06	●	4.9	3	28	66	6	140°				
NCD3H-SC 0500-066/028-S06	●	5	3	28	66	6	140°				
NCD3H-SC 0510-066/028-S06	●	5.1	3	28	66	6	140°				
NCD3H-SC 0520-066/028-S06	●	5.2	3	28	66	6	140°				
NCD3H-SC 0530-066/028-S06	●	5.3	3	28	66	6	140°				
NCD3H-SC 0540-066/028-S06	●	5.4	3	28	66	6	140°				
NCD3H-SC 0550-066/028-S06	●	5.5	3	28	66	6	140°				
NCD3H-SC 0560-066/028-S06	●	5.6	3	28	66	6	140°				
NCD3H-SC 0570-066/028-S06	●	5.7	3	28	66	6	140°				
NCD3H-SC 0580-066/028-S06	●	5.8	3	28	66	6	140°				
NCD3H-SC 0590-066/028-S06	●	5.9	3	28	66	6	140°				
NCD3H-SC 0600-066/028-S06	●	6	3	28	66	6	140°				
NCD3H-SC 0610-079/034-S08	●	6.1	3	34	79	8	140°				
NCD3H-SC 0620-079/034-S08	●	6.2	3	34	79	8	140°				
NCD3H-SC 0630-079/034-S08	●	6.3	3	34	79	8	140°				
NCD3H-SC 0640-079/034-S08	●	6.4	3	34	79	8	140°				
NCD3H-SC 0650-079/034-S08	●	6.5	3	34	79	8	140°				
NCD3H-SC 0660-079/034-S08	●	6.6	3	34	79	8	140°				
NCD3H-SC 0670-079/034-S08	●	6.7	3	34	79	8	140°				
NCD3H-SC 0680-079/034-S08	●	6.8	3	34	79	8	140°				
NCD3H-SC 0690-079/034-S08	●	6.9	3	34	79	8	140°				
NCD3H-SC 0700-079/034-S08	●	7	3	34	79	8	140°				
NCD3H-SC 0710-079/041-S08	●	7.1	3	41	79	8	140°				
NCD3H-SC 0720-079/041-S08	●	7.2	3	41	79	8	140°				
NCD3H-SC 0730-079/041-S08	●	7.3	3	41	79	8	140°				
NCD3H-SC 0740-079/041-S08	●	7.4	3	41	79	8	140°				
NCD3H-SC 0750-079/041-S08	●	7.5	3	41	79	8	140°				
NCD3H-SC 0760-079/041-S08	●	7.6	3	41	79	8	140°				
NCD3H-SC 0770-079/041-S08	●	7.7	3	41	79	8	140°				

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

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

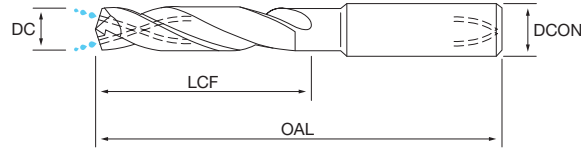
	Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
A - TURNING	NCD3H-SC 0780-079/041-S08	●	7.8	3	41	79	8	140°				
	NCD3H-SC 0790-079/041-S08	●	7.9	3	41	79	8	140°				
	NCD3H-SC 0800-079/041-S08	●	8	3	41	79	8	140°				
	NCD3H-SC 0810-089/047-S10	●	8.1	3	47	89	10	140°				
	NCD3H-SC 0820-089/047-S10	●	8.2	3	47	89	10	140°				
	NCD3H-SC 0830-089/047-S10	●	8.3	3	47	89	10	140°				
	NCD3H-SC 0840-089/047-S10	●	8.4	3	47	89	10	140°				
	NCD3H-SC 0850-089/047-S10	●	8.5	3	47	89	10	140°				
	NCD3H-SC 0860-089/047-S10	●	8.6	3	47	89	10	140°				
	NCD3H-SC 0870-089/047-S10	●	8.7	3	47	89	10	140°				
B - THREADING	NCD3H-SC 0880-089/047-S10	●	8.8	3	47	89	10	140°				
	NCD3H-SC 0890-089/047-S10	●	8.9	3	47	89	10	140°				
	NCD3H-SC 0900-089/047-S10	●	9	3	47	89	10	140°				
	NCD3H-SC 0910-089/047-S10	●	9.1	3	47	89	10	140°				
	NCD3H-SC 0920-089/047-S10	●	9.2	3	47	89	10	140°				
	NCD3H-SC 0930-089/047-S10	●	9.3	3	47	89	10	140°				
	NCD3H-SC 0940-089/047-S10	●	9.4	3	47	89	10	140°				
	NCD3H-SC 0950-089/047-S10	●	9.5	3	47	89	10	140°				
	NCD3H-SC 0960-089/047-S10	●	9.6	3	47	89	10	140°				
	NCD3H-SC 0970-089/047-S10	●	9.7	3	47	89	10	140°				
C - GROOVING	NCD3H-SC 0980-089/047-S10	●	9.8	3	47	89	10	140°				
	NCD3H-SC 0990-089/047-S10	●	9.9	3	47	89	10	140°				
	NCD3H-SC 1000-089/047-S10	●	10	3	47	89	10	140°				
	NCD3H-SC 1010-102/055-S12	●	10.1	3	55	102	12	140°				
	NCD3H-SC 1020-102/055-S12	●	10.2	3	55	102	12	140°				
	NCD3H-SC 1030-102/055-S12	●	10.3	3	55	102	12	140°				
	NCD3H-SC 1040-102/055-S12	●	10.4	3	55	102	12	140°				
	NCD3H-SC 1050-102/055-S12	●	10.5	3	55	102	12	140°				
	NCD3H-SC 1060-102/055-S12	●	10.6	3	55	102	12	140°				
	NCD3H-SC 1070-102/055-S12	●	10.7	3	55	102	12	140°				
D - MILLING	NCD3H-SC 1080-102/055-S12	●	10.8	3	55	102	12	140°				
	NCD3H-SC 1090-102/055-S12	●	10.9	3	55	102	12	140°				
	NCD3H-SC 1100-102/055-S12	●	11	3	55	102	12	140°				
	NCD3H-SC 1110-102/055-S12	●	11.1	3	55	102	12	140°				
	NCD3H-SC 1120-102/055-S12	●	11.2	3	55	102	12	140°				
	NCD3H-SC 1130-102/055-S12	●	11.3	3	55	102	12	140°				
	NCD3H-SC 1140-102/055-S12	●	11.4	3	55	102	12	140°				
	NCD3H-SC 1150-102/055-S12	●	11.5	3	55	102	12	140°				
	NCD3H-SC 1160-102/055-S12	●	11.6	3	55	102	12	140°				
	NCD3H-SC 1170-102/055-S12	●	11.7	3	55	102	12	140°				
E - DRILLING	NCD3H-SC 1180-102/055-S12	●	11.8	3	55	102	12	140°				
	NCD3H-SC 1190-102/055-S12	●	11.9	3	55	102	12	140°				
	NCD3H-SC 1200-102/055-S12	●	12	3	55	102	12	140°				
	NCD3H-SC 1250-107/060-S14	●	12.5	3	60	107	14	140°				
	NCD3H-SC 1300-107/060-S14	●	13	3	60	107	14	140°				
	NCD3H-SC 1350-107/060-S14	●	13.5	3	60	107	14	140°				
	NCD3H-SC 1400-107/060-S14	●	14	3	60	107	14	140°				
	NCD3H-SC 1450-115/065-S16	●	14.5	3	65	115	16	140°				
	NCD3H-SC 1500-115/065-S16	●	15	3	65	115	16	140°				
	NCD3H-SC 1550-115/065-S16	●	15.5	3	65	115	16	140°				
F - ACCESSORIES	NCD3H-SC 1600-115/065-S16	●	16	3	65	115	16	140°				
	NCD3H-SC 1650-123/073-S18	●	16.5	3	73	123	18	140°				
	NCD3H-SC 1700-123/073-S18	●	17	3	73	123	18	140°				
	NCD3H-SC 1750-123/073-S18	●	17.5	3	73	123	18	140°				
	NCD3H-SC 1800-123/073-S18	●	18	3	73	123	18	140°				
	NCD3H-SC 1850-131/079-S20	●	18.5	3	79	131	20	140°				
	NCD3H-SC 1900-131/079-S20	●	19	3	79	131	20	140°				
	NCD3H-SC 1950-131/079-S20	●	19.5	3	79	131	20	140°				
	NCD3H-SC 2000-131/079-S20	●	20	3	79	131	20	140°				
	G - SPARE PARTS											

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion  
E78

# NCD5H-SC

## NCD

- First choice for stainless steel and sticky free-cutting steels
- With coolant holes
- Self centering geometry for accurate holes
- AlCrN based multilayer coating with very low friction coefficient to reduce built up edge phenomena



Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG				
NCD5H-SC 0300-066/028-S06	●	3	5	28	66	6	140°				
NCD5H-SC 0310-066/028-S06	●	3.1	5	28	66	6	140°				
NCD5H-SC 0320-066/028-S06	●	3.2	5	28	66	6	140°				
NCD5H-SC 0330-066/028-S06	●	3.3	5	28	66	6	140°				
NCD5H-SC 0340-066/028-S06	●	3.4	5	28	66	6	140°				
NCD5H-SC 0350-066/028-S06	●	3.5	5	28	66	6	140°				
NCD5H-SC 0360-066/028-S06	●	3.6	5	28	66	6	140°				
NCD5H-SC 0370-066/028-S06	●	3.7	5	28	66	6	140°				
NCD5H-SC 0380-074/036-S06	●	3.8	5	36	74	6	140°				
NCD5H-SC 0390-074/036-S06	●	3.9	5	36	74	6	140°				
NCD5H-SC 0400-074/036-S06	●	4	5	36	74	6	140°				
NCD5H-SC 0410-074/036-S06	●	4.1	5	36	74	6	140°				
NCD5H-SC 0420-074/036-S06	●	4.2	5	36	74	6	140°				
NCD5H-SC 0430-074/036-S06	●	4.3	5	36	74	6	140°				
NCD5H-SC 0440-074/036-S06	●	4.4	5	36	74	6	140°				
NCD5H-SC 0450-074/036-S06	●	4.5	5	36	74	6	140°				
NCD5H-SC 0460-074/036-S06	●	4.6	5	36	74	6	140°				
NCD5H-SC 0470-074/036-S06	●	4.7	5	36	74	6	140°				
NCD5H-SC 0480-082/044-S06	●	4.8	5	44	82	6	140°				
NCD5H-SC 0490-082/044-S06	●	4.9	5	44	82	6	140°				
NCD5H-SC 0500-082/044-S06	●	5	5	44	82	6	140°				
NCD5H-SC 0510-082/044-S06	●	5.1	5	44	82	6	140°				
NCD5H-SC 0520-082/044-S06	●	5.2	5	44	82	6	140°				
NCD5H-SC 0530-082/044-S06	●	5.3	5	44	82	6	140°				
NCD5H-SC 0540-082/044-S06	●	5.4	5	44	82	6	140°				
NCD5H-SC 0550-082/044-S06	●	5.5	5	44	82	6	140°				
NCD5H-SC 0560-082/044-S06	●	5.6	5	44	82	6	140°				
NCD5H-SC 0570-082/044-S06	●	5.7	5	44	82	6	140°				
NCD5H-SC 0580-082/044-S06	●	5.8	5	44	82	6	140°				
NCD5H-SC 0590-082/044-S06	●	5.9	5	44	82	6	140°				
NCD5H-SC 0600-082/044-S06	●	6	5	44	82	6	140°				
NCD5H-SC 0610-091/053-S08	●	6.1	5	53	91	8	140°				
NCD5H-SC 0620-091/053-S08	●	6.2	5	53	91	8	140°				
NCD5H-SC 0630-091/053-S08	●	6.3	5	53	91	8	140°				
NCD5H-SC 0640-091/053-S08	●	6.4	5	53	91	8	140°				
NCD5H-SC 0650-091/053-S08	●	6.5	5	53	91	8	140°				
NCD5H-SC 0660-091/053-S08	●	6.6	5	53	91	8	140°				
NCD5H-SC 0670-091/053-S08	●	6.7	5	53	91	8	140°				
NCD5H-SC 0680-091/053-S08	●	6.8	5	53	91	8	140°				
NCD5H-SC 0690-091/053-S08	●	6.9	5	53	91	8	140°				
NCD5H-SC 0700-091/053-S08	●	7	5	53	91	8	140°				
NCD5H-SC 0710-091/053-S08	●	7.1	5	53	91	8	140°				
NCD5H-SC 0720-091/053-S08	●	7.2	5	53	91	8	140°				
NCD5H-SC 0730-091/053-S08	●	7.3	5	53	91	8	140°				
NCD5H-SC 0740-091/053-S08	●	7.4	5	53	91	8	140°				
NCD5H-SC 0750-091/053-S08	●	7.5	5	53	91	8	140°				
NCD5H-SC 0760-091/053-S08	●	7.6	5	53	91	8	140°				
NCD5H-SC 0770-091/053-S08	●	7.7	5	53	91	8	140°				

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

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

Designation	Stock	DC	ULDR	LCF	OAL	DCON	SIG					
NCD5H-SC 0780-091/053-S08	●	7.8	5	53	91	8	140°					
NCD5H-SC 0790-091/053-S08	●	7.9	5	53	91	8	140°					
NCD5H-SC 0800-091/053-S08	●	8	5	53	91	8	140°					
NCD5H-SC 0810-103/061-S10	●	8.1	5	61	103	10	140°					
NCD5H-SC 0820-103/061-S10	●	8.2	5	61	103	10	140°					
NCD5H-SC 0830-103/061-S10	●	8.3	5	61	103	10	140°					
NCD5H-SC 0840-103/061-S10	●	8.4	5	61	103	10	140°					
NCD5H-SC 0850-103/061-S10	●	8.5	5	61	103	10	140°					
NCD5H-SC 0860-103/061-S10	●	8.6	5	61	103	10	140°					
NCD5H-SC 0870-103/061-S10	●	8.7	5	61	103	10	140°					
NCD5H-SC 0880-103/061-S10	●	8.8	5	61	103	10	140°					
NCD5H-SC 0890-103/061-S10	●	8.9	5	61	103	10	140°					
NCD5H-SC 0900-103/061-S10	●	9	5	61	103	10	140°					
NCD5H-SC 0910-103/061-S10	●	9.1	5	61	103	10	140°					
NCD5H-SC 0920-103/061-S10	●	9.2	5	61	103	10	140°					
NCD5H-SC 0930-103/061-S10	●	9.3	5	61	103	10	140°					
NCD5H-SC 0940-103/061-S10	●	9.4	5	61	103	10	140°					
NCD5H-SC 0950-103/061-S10	●	9.5	5	61	103	10	140°					
NCD5H-SC 0960-103/061-S10	●	9.6	5	61	103	10	140°					
NCD5H-SC 0970-103/061-S10	●	9.7	5	61	103	10	140°					
NCD5H-SC 0980-103/061-S10	●	9.8	5	61	103	10	140°					
NCD5H-SC 0990-103/061-S10	●	9.9	5	61	103	10	140°					
NCD5H-SC 1000-103/061-S10	●	10	5	61	103	10	140°					
NCD5H-SC 1010-118/071-S12	●	10.1	5	71	118	12	140°					
NCD5H-SC 1020-118/071-S12	●	10.2	5	71	118	12	140°					
NCD5H-SC 1030-118/071-S12	●	10.3	5	71	118	12	140°					
NCD5H-SC 1040-118/071-S12	●	10.4	5	71	118	12	140°					
NCD5H-SC 1050-118/071-S12	●	10.5	5	71	118	12	140°					
NCD5H-SC 1060-118/071-S12	●	10.6	5	71	118	12	140°					
NCD5H-SC 1070-118/071-S12	●	10.7	5	71	118	12	140°					
NCD5H-SC 1080-118/071-S12	●	10.8	5	71	118	12	140°					
NCD5H-SC 1090-118/071-S12	●	10.9	5	71	118	12	140°					
NCD5H-SC 1100-118/071-S12	●	11	5	71	118	12	140°					
NCD5H-SC 1110-118/071-S12	●	11.1	5	71	118	12	140°					
NCD5H-SC 1120-118/071-S12	●	11.2	5	71	118	12	140°					
NCD5H-SC 1130-118/071-S12	●	11.3	5	71	118	12	140°					
NCD5H-SC 1140-118/071-S12	●	11.4	5	71	118	12	140°					
NCD5H-SC 1150-118/071-S12	●	11.5	5	71	118	12	140°					
NCD5H-SC 1160-118/071-S12	●	11.6	5	71	118	12	140°					
NCD5H-SC 1170-118/071-S12	●	11.7	5	71	118	12	140°					
NCD5H-SC 1180-118/071-S12	●	11.8	5	71	118	12	140°					
NCD5H-SC 1190-118/071-S12	●	11.9	5	71	118	12	140°					
NCD5H-SC 1200-118/071-S12	●	12	5	71	118	12	140°					
NCD5H-SC 1250-124/077-S14	●	12.5	5	77	124	14	140°					
NCD5H-SC 1300-124/077-S14	●	13	5	77	124	14	140°					
NCD5H-SC 1350-124/077-S14	●	13.5	5	77	124	14	140°					
NCD5H-SC 1400-124/077-S14	●	14	5	77	124	14	140°					
NCD5H-SC 1450-133/083-S16	●	14.5	5	83	133	16	140°					
NCD5H-SC 1500-133/083-S16	●	15	5	83	133	16	140°					
NCD5H-SC 1550-133/083-S16	●	15.5	5	83	133	16	140°					
NCD5H-SC 1600-133/083-S16	●	16	5	83	133	16	140°					
NCD5H-SC 1650-143/093-S18	●	16.5	5	93	143	18	140°					
NCD5H-SC 1700-143/093-S18	●	17	5	93	143	18	140°					
NCD5H-SC 1750-143/093-S18	●	17.5	5	93	143	18	140°					
NCD5H-SC 1800-143/093-S18	●	18	5	93	143	18	140°					
NCD5H-SC 1850-153/101-S20	●	18.5	5	101	153	20	140°					
NCD5H-SC 1900-153/101-S20	●	19	5	101	153	20	140°					
NCD5H-SC 1950-153/101-S20	●	19.5	5	101	153	20	140°					
NCD5H-SC 2000-153/101-S20	●	20	5	101	153	20	140°					

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion  
E80

ISO 513	MATERIAL	HARDNESS HB	L/D	NCD GP			NCD H GP			NCD H SC		
				min	start	max	min	start	max	min	start	max
<b>P1 - P2</b>	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	3XD ÷ 5XD	80	<b>100</b>	120	100	<b>130</b>	160	100	<b>130</b>	160
<b>P3 - P4</b>	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	3XD ÷ 5XD	60	<b>80</b>	100	80	<b>110</b>	140	80	<b>110</b>	140
<b>P5 - P6</b>	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	3XD ÷ 5XD	40	<b>60</b>	80	60	<b>90</b>	120	-	-	-
<b>P7</b>	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	3XD ÷ 5XD	-	-	-	-	-	-	50	<b>60</b>	70
<b>P8</b>	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	3XD ÷ 5XD	-	-	-	-	-	-	20	<b>25</b>	30
<b>M1</b>	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	3XD ÷ 5XD	-	-	-	-	-	-	40	<b>60</b>	80
<b>M2 - M3</b>	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		3XD ÷ 5XD	-	-	-	-	-	-	20	<b>30</b>	40
<b>K1</b>	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	3XD ÷ 5XD	80	<b>90</b>	100	100	<b>120</b>	140	-	-	-
<b>K2</b>	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	3XD ÷ 5XD	40	<b>60</b>	80	60	<b>90</b>	120	-	-	-
<b>S1 - S2 - S3</b>	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		3XD ÷ 5XD	-	-	-	-	-	-	30	<b>40</b>	50
<b>S4 - S5</b>	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		3XD ÷ 5XD	-	-	-	-	-	-	40	<b>50</b>	60

Catal

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	L/D	DC 3.00 ÷ 3.99			DC 4.00 ÷ 4.99			DC 5.00 ÷ 5.99		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	NCD GP	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20
				NCD H GP	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21
				NCD H SC	0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19
	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	NCD GP	0.10	<b>0.12</b>	0.14	0.11	<b>0.13</b>	0.15	0.12	<b>0.14</b>	0.16
				NCD H GP	0.11	<b>0.13</b>	0.15	0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17
				NCD H SC	0.09	<b>0.11</b>	0.13	0.10	<b>0.12</b>	0.14	0.11	<b>0.13</b>	0.15
B - THREADING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	NCD GP	0.08	<b>0.10</b>	0.12	0.09	<b>0.11</b>	0.13	0.10	<b>0.12</b>	0.14
				NCD H GP	0.08	<b>0.10</b>	0.13	0.09	<b>0.12</b>	0.14	0.10	<b>0.13</b>	0.15
				NCD H SC	-	-	-	-	-	-	-	-	-
	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	NCD GP	-	-	-	-	-	-	-	-	
				NCD H GP	-	-	-	-	-	-	-	-	
				NCD H SC	0.05	<b>0.08</b>	0.11	0.06	<b>0.09</b>	0.12	0.07	<b>0.10</b>	0.13
C - GROOVING	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	NCD GP	-	-	-	-	-	-	-		
				NCD H GP	-	-	-	-	-	-	-		
				NCD H SC	0.06	<b>0.07</b>	0.08	0.05	<b>0.07</b>	0.09	0.06	<b>0.08</b>	0.10
	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	NCD GP	-	-	-	-	-	-	-		
				NCD H GP	-	-	-	-	-	-	-		
				NCD H SC	0.02	<b>0.05</b>	0.08	0.03	<b>0.06</b>	0.09	0.06	<b>0.08</b>	0.10
D - MILLING	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		NCD GP	-	-	-	-	-	-	-		
				NCD H GP	-	-	-	-	-	-	-		
				NCD H SC	0.02	<b>0.04</b>	0.06	0.03	<b>0.05</b>	0.07	0.04	<b>0.06</b>	0.08
	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	NCD GP	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22
				NCD H GP	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23
				NCD H SC	-	-	-	-	-	-	-	-	
E - DRILLING	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	NCD GP	0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18
				NCD H GP	0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19
				NCD H SC	-	-	-	-	-	-	-	-	
	S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		NCD GP	-	-	-	-	-	-	-		
				NCD H GP	-	-	-	-	-	-	-		
				NCD H SC	0.01	<b>0.02</b>	0.04	0.01	<b>0.03</b>	0.05	0.02	<b>0.04</b>	0.06
F - ACCESSORIES	S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		NCD GP	-	-	-	-	-	-	-		
				NCD H GP	-	-	-	-	-	-	-		
				NCD H SC	0.01	<b>0.03</b>	0.05	0.02	<b>0.04</b>	0.06	0.03	<b>0.05</b>	0.07
G - SPARE PARTS													

Catal

DC 6.00 ÷ 6.99			DC 7.00 ÷ 7.99			DC 8.00 ÷ 8.99			DC 9.00 ÷ 9.99			DC 10.00 ÷ 10.99			DC 11.00 ÷ 11.99		
min	start	max	min	start	max	min	start	max	min	start	max	min	start	max	min	start	max
0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26
0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27
0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25
0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22
0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23
0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21
0.11	<b>0.13</b>	0.15	0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20
0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.10	<b>0.12</b>	0.14	0.11	<b>0.13</b>	0.15	0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.06	<b>0.09</b>	0.12	0.07	<b>0.10</b>	0.13	0.08	<b>0.11</b>	0.14	0.11	<b>0.13</b>	0.15	0.12	<b>0.14</b>	0.16	0.12	<b>0.15</b>	0.18
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.07	<b>0.09</b>	0.11	0.07	<b>0.10</b>	0.13	0.10	<b>0.12</b>	0.14	0.11	<b>0.13</b>	0.15	0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.05	<b>0.07</b>	0.09	0.05	<b>0.08</b>	0.11	0.06	<b>0.09</b>	0.12	0.09	<b>0.11</b>	0.13	0.10	<b>0.12</b>	0.14	0.11	<b>0.13</b>	0.15
0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28
0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24
0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.03	<b>0.05</b>	0.07	0.04	<b>0.06</b>	0.08	0.05	<b>0.07</b>	0.09	0.05	<b>0.08</b>	0.11	0.06	<b>0.09</b>	0.12	0.09	<b>0.11</b>	0.13
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.04	<b>0.06</b>	0.08	0.05	<b>0.07</b>	0.09	0.05	<b>0.08</b>	0.11	0.06	<b>0.09</b>	0.12	0.09	<b>0.11</b>	0.13	0.10	<b>0.12</b>	0.14

Catal

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

	ISO 513	MATERIAL	HARDNESS HB	L/D	DC 12.00 ÷ 12.99			DC 13.00 ÷ 13.99			DC 14.00 ÷ 14.99		
					min	start	max	min	start	max	min	start	max
A - TURNING	P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	NCD GP	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29
				NCD H GP	0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29	0.26	<b>0.28</b>	0.30
				NCD H SC	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28
	P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	NCD GP	0.19	<b>0.21</b>	0.22	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25
				NCD H GP	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26
				NCD H SC	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24
B - THREADING	P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	NCD GP	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23
				NCD H GP	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24
				NCD H SC	-	-	-	-	-	-	-	-	-
C - GROOVING	P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	NCD GP	-	-	-	-	-	-	-	-	
				NCD H GP	-	-	-	-	-	-	-	-	
				NCD H SC	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22
	P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	NCD GP	-	-	-	-	-	-	-	-	
				NCD H GP	-	-	-	-	-	-	-	-	
				NCD H SC	0.13	<b>0.16</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21
D - MILLING	M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	NCD GP	-	-	-	-	-	-	-	-	
				NCD H GP	-	-	-	-	-	-	-	-	
				NCD H SC	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20
	M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		NCD GP	-	-	-	-	-	-	-	-	
				NCD H GP	-	-	-	-	-	-	-	-	
				NCD H SC	0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18
E - DRILLING	K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	NCD GP	0.25	<b>0.27</b>	0.29	0.26	<b>0.28</b>	0.30	0.27	<b>0.29</b>	0.31
				NCD H GP	0.26	<b>0.28</b>	0.30	0.27	<b>0.29</b>	0.32	0.28	<b>0.30</b>	0.33
				NCD H SC	-	-	-	-	-	-	-	-	
	K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	NCD GP	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27
				NCD H GP	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28
				NCD H SC	-	-	-	-	-	-	-	-	
F - ACCESSORIES	S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		NCD GP	-	-	-	-	-	-	-	-	
				NCD H GP	-	-	-	-	-	-	-	-	
				NCD H SC	0.10	<b>0.12</b>	0.14	0.11	<b>0.13</b>	0.15	0.12	<b>0.14</b>	0.16
G - SPARE PARTS	S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		NCD GP	-	-	-	-	-	-	-	-	
				NCD H GP	-	-	-	-	-	-	-	-	
				NCD H SC	0.11	<b>0.13</b>	0.15	0.12	<b>0.14</b>	0.16	0.13	<b>0.15</b>	0.17

Catal

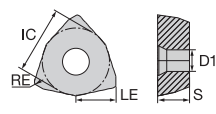



DC 15.00 ÷ 15.99			DC 16.00 ÷ 16.99			DC 17.00 ÷ 17.99			DC 18.00 ÷ 18.99			DC 19.00 ÷ 19.99			DC 20.00 ÷ 20.99		
min	start	max	min	start	max	min	start	max	min	start	max	min	start	max	min	start	max
0.26	<b>0.28</b>	0.30	0.29	<b>0.29</b>	0.31	0.28	<b>0.30</b>	0.32	0.29	<b>0.31</b>	0.33	0.30	<b>0.32</b>	0.34	0.31	<b>0.33</b>	0.35
0.27	<b>0.29</b>	0.32	0.30	<b>0.30</b>	0.33	0.29	<b>0.32</b>	0.34	0.30	<b>0.33</b>	0.35	0.32	<b>0.34</b>	0.36	0.33	<b>0.35</b>	0.37
0.25	<b>0.27</b>	0.29	0.30	<b>0.30</b>	0.30	0.26	<b>0.29</b>	0.32	0.27	<b>0.30</b>	0.33	0.30	<b>0.32</b>	0.34	0.31	<b>0.33</b>	0.35
0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29	0.26	<b>0.28</b>	0.30	0.27	<b>0.29</b>	0.31
0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29	0.26	<b>0.28</b>	0.30	0.27	<b>0.29</b>	0.32	0.28	<b>0.30</b>	0.33
0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29	0.26	<b>0.28</b>	0.30
0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29
0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29	0.26	<b>0.28</b>	0.30
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.23	<b>0.25</b>	0.27	0.24	<b>0.26</b>	0.28
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.17	<b>0.20</b>	0.23	0.18	<b>0.21</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26	0.22	<b>0.25</b>	0.28	0.24	<b>0.26</b>	0.28
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24	0.21	<b>0.23</b>	0.25	0.22	<b>0.24</b>	0.26
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23	0.20	<b>0.22</b>	0.24
0.28	<b>0.30</b>	0.32	0.29	<b>0.31</b>	0.33	0.30	<b>0.32</b>	0.34	0.31	<b>0.33</b>	0.35	0.32	<b>0.34</b>	0.36	0.33	<b>0.35</b>	0.37
0.29	<b>0.32</b>	0.34	0.30	<b>0.33</b>	0.35	0.32	<b>0.34</b>	0.36	0.33	<b>0.35</b>	0.37	0.34	<b>0.36</b>	0.38	0.35	<b>0.37</b>	0.39
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.24	<b>0.26</b>	0.28	0.25	<b>0.27</b>	0.29	0.26	<b>0.28</b>	0.30	0.27	<b>0.29</b>	0.31	0.28	<b>0.30</b>	0.32	0.29	<b>0.31</b>	0.33
0.25	<b>0.27</b>	0.29	0.26	<b>0.28</b>	0.30	0.27	<b>0.29</b>	0.32	0.28	<b>0.30</b>	0.33	0.29	<b>0.32</b>	0.34	0.30	<b>0.33</b>	0.35
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.13	<b>0.15</b>	0.17	0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.14	<b>0.16</b>	0.18	0.15	<b>0.17</b>	0.19	0.16	<b>0.18</b>	0.20	0.17	<b>0.19</b>	0.21	0.18	<b>0.20</b>	0.22	0.19	<b>0.21</b>	0.23

Catal

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

<b>WCMX</b>	HF: Micrograin carbide PVD: Physical vapour deposition	HF PVD													
<b>ISO</b>		<b>JP5530</b>													
<ul style="list-style-type: none"> <li>ISO drilling inserts with geometry for general purposes</li> <li>PVD coated carbide grade for universal use</li> <li>Inserts could be mounted on ISO drill bodies with seats of the same IC circle</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable														
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	●													
	Unstable machining, heavy cut ⚠ 1 <sup>st</sup> choice ⚠ suitable	⚠													
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>												
		<table style="width: 100%; border-collapse: collapse;"> <tr><td style="background-color: #0070C0; color: white; text-align: center;"><b>P</b></td><td style="text-align: center;">80 240</td></tr> <tr><td style="background-color: #FFD700; text-align: center;"><b>M</b></td><td style="text-align: center;">40 130</td></tr> <tr><td style="background-color: #FF8C00; text-align: center;"><b>K</b></td><td style="text-align: center;">100 180</td></tr> <tr><td style="background-color: #90EE90; text-align: center;"><b>N</b></td><td></td></tr> <tr><td style="background-color: #A0522D; text-align: center;"><b>S</b></td><td></td></tr> <tr><td style="background-color: #D3D3D3; text-align: center;"><b>H</b></td><td></td></tr> </table>	<b>P</b>	80 240	<b>M</b>	40 130	<b>K</b>	100 180	<b>N</b>		<b>S</b>		<b>H</b>		
<b>P</b>	80 240														
<b>M</b>	40 130														
<b>K</b>	100 180														
<b>N</b>															
<b>S</b>															
<b>H</b>															

	Designation	RE	IC	S	D1	LE		Stock
<b>GENERAL</b> 	WCMX030208-GP	0.8	5.56	2.38	2.8		●	
	WCMX040208-GP	0.8	6.35	2.38	2.9		●	
	WCMX050308-GP	0.8	7.94	3.18	3.4		●	
	WCMX06T308-GP	0.8	9.52	3.97	3.8		●	
	WCMX080412-GP	1.2	12.7	4.76	4.4		●	

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

Catalogue Preview - AMB

Catalogue Preview - AMB 2022

ACCESSORIES

A - TURNING

B - THREADING

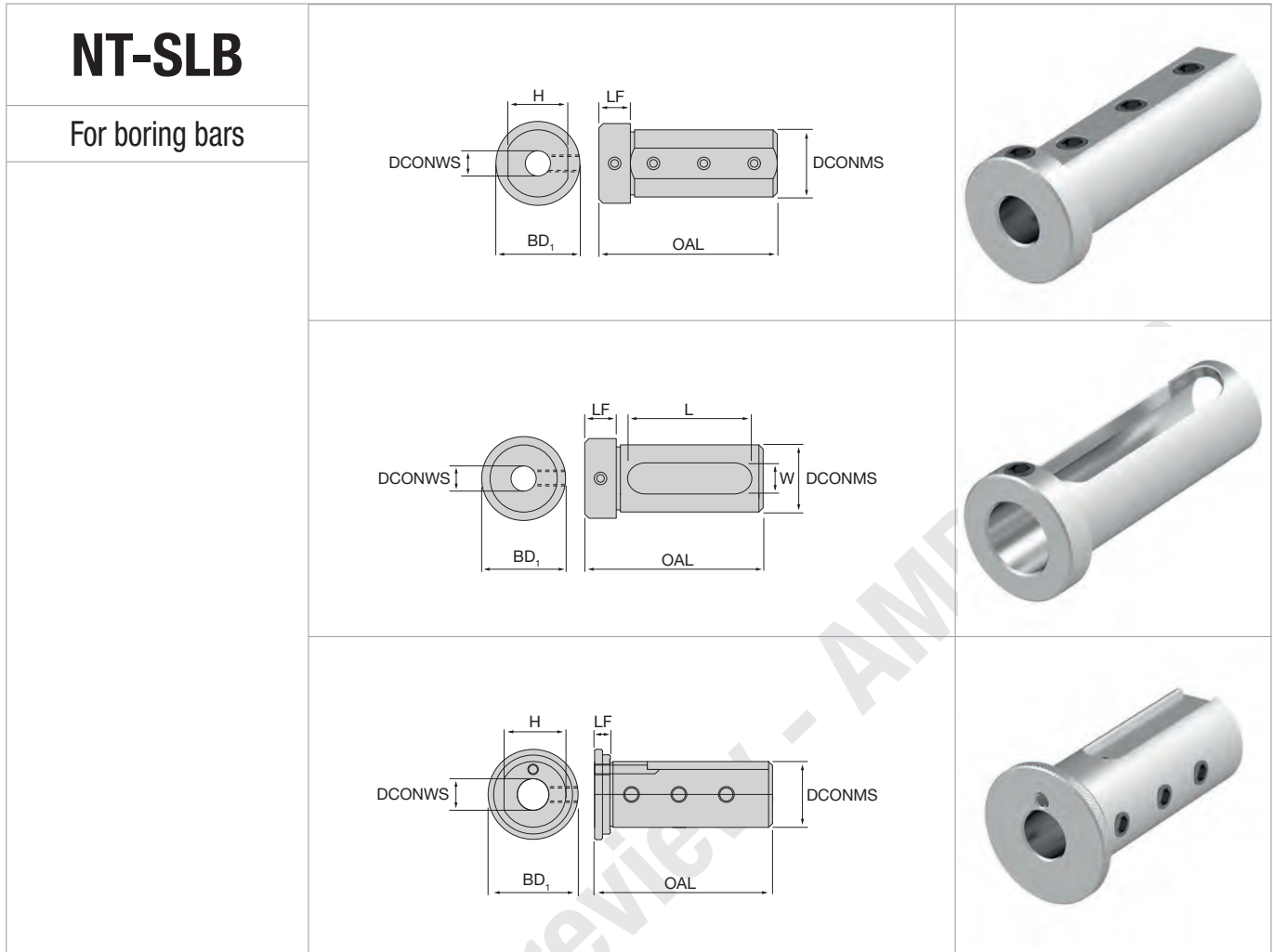
C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



Designation	Stock	DCONWS	DCONMS	OAL	H	LF	BD1	L	W		
<b>SCREWS LOCK SLEEVE</b>											
NT-SLB S03 D16-L62		3	16	62	14.5	7	20	-	-		
NT-SLB S04 D16-L62		4	16	62	14.5	7	20	-	-		
NT-SLB S04 D20-L67		4	20	67	17.5	7	27	-	-		
NT-SLB S04 D32-L80		4	32	80	29.5	15	38	-	-		
NT-SLB S05 D16-L62		5	16	62	14.5	7	20	-	-		
NT-SLB S05 D20-L67		5	20	67	17.5	7	27	-	-		
NT-SLB S05 D32-L85		5	32	85	29.5	15	38	-	-		
NT-SLB S05 D40-L100		5	40	100	38	15	46	-	-		
NT-SLB S06 D16-L62		6	16	62	14.5	7	20	-	-		
NT-SLB S06 D20-L52		6	20	52	17.5	7	25	-	-		
NT-SLB S06 D20-L67		6	20	67	17.5	7	27	-	-		
NT-SLB S06 D32-L85		6	32	85	29.5	15	38	-	-		
NT-SLB S06 D40-L100		6	40	100	38	15	46	-	-		
NT-SLB S07 D20-L67		7	20	67	17.5	7	27	-	-		
NT-SLB S07 D32-L85		7	32	85	29.5	15	38	-	-		
NT-SLB S07 D40-L100		7	40	100	38	15	46	-	-		
NT-SLB S08 D16-L62		8	16	62	14.5	7	20	-	-		
NT-SLB S08 D20-L52		8	20	52	17.5	7	25	-	-		
NT-SLB S08 D20-L67		8	20	67	17.5	7	27	-	-		
NT-SLB S08 D32-L85		8	32	85	29.5	15	38	-	-		
NT-SLB S08 D40-L100		8	40	100	38	15	46	-	-		
NT-SLB S08 D50-L100		8	50	100	48	15	58	-	-		
NT-SLB S10 D20-L52		10	20	52	17.5	7	25	-	-		
NT-SLB S10 D20-L67		10	20	67	17.5	7	27	-	-		
NT-SLB S10 D32-L100		10	32	100	29.5	15	38	-	-		

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

Designation	Stock	DCONWS	DCONMS	OAL	H	LF	BD1	L	W		
NT-SLB S10 D40-L100		10	40	100	38	15	46	-	-		
NT-SLB S10 D50-L100		10	50	100	48	15	58	-	-		
NT-SLB S12 D20-L52		12	20	52	17.5	7	25	-	-		
NT-SLB S12 D20-L67		12	20	67	17.5	7	27	-	-		
NT-SLB S12 D32-L100		12	32	100	29.5	15	38	-	-		
NT-SLB S12 D40-L100		12	40	100	38	15	46	-	-		
NT-SLB S12 D50-L100		12	50	100	48	15	58	-	-		
NT-SLB S14 D32-L100		14	32	100	29.5	15	38	-	-		
NT-SLB S14 D40-L100		14	40	100	38	15	46	-	-		
NT-SLB S14 D50-L100		14	50	100	48	15	58	-	-		
NT-SLB S15 D32-L100		15	32	100	29.5	15	38	-	-		
NT-SLB S15 D40-L100		15	40	100	38	15	46	-	-		
NT-SLB S16 D32-L100		16	32	100	29.5	15	38	-	-		
NT-SLB S16 D40-L100		16	40	100	38	15	46	-	-		
NT-SLB S16 D50-L100		16	50	100	48	15	58	-	-		
NT-SLB S18 D32-L100		18	32	100	29.5	15	38	-	-		
NT-SLB S18 D40-L100		18	40	100	38	15	46	-	-		
NT-SLB S18 D50-L100		18	50	100	48	15	58	-	-		
NT-SLB S20 D50-L100		20	50	100	48	15	58	-	-		
NT-SLB S25 D50-L100		25	50	100	48	15	58	-	-		
<b>THROUGH HOLE SLEEVE</b>											
NT-SLB S10 D16-L62		10	16	62	-	7	20	50	11		
NT-SLB S12 D16-L62		12	16	62	-	7	20	50	11		
NT-SLB S14 D20-L67		14	20	67	-	7	27	55	13		
NT-SLB S14 D25-L64		14	25	64	-	6	35	51	12		
NT-SLB S15 D20-L67		15	20	67	-	7	27	55	13		
NT-SLB S15 D25-L64		15	25	64	-	6	35	51	12		
NT-SLB S16 D20-L52		16	20	52	-	7	25	40	11		
NT-SLB S16 D20-L67		16	20	67	-	7	27	55	13		
NT-SLB S16 D25-L64		16	25	64	-	6	35	51	12		
NT-SLB S17 D25-L64		17	25	64	-	6	35	51	12		
NT-SLB S18 D25-L64		18	25	64	-	6	35	51	12		
NT-SLB S20 D25-L64		20	25	64	-	6	35	51	12		
NT-SLB S20 D32-L100		20	32	100	-	15	38	77	14		
NT-SLB S20 D40-L100		20	40	100	-	15	46	77	14		
NT-SLB S22 D25-L64		22	25	64	-	6	35	51	12		
NT-SLB S22 D32-L100		22	32	100	-	15	38	77	14		
NT-SLB S22 D40-L100		22	40	100	-	15	46	77	14		
NT-SLB S25 D32-L100		25	32	100	-	15	38	77	14		
NT-SLB S25 D40-L100		25	40	100	-	15	46	77	14		
NT-SLB S32 D40-L100		32	40	100	-	15	46	77	14		
NT-SLB S32 D50-L100		32	50	100	-	15	46	77	14		
NT-SLB S40 D50-L100		40	50	100	-	15	58	77	14		
<b>SCREWS LOCK WITH COOLANT SLEEVE</b>											
NT-SLB S04 D25-L64		4	25	64	23.5	6	35	-	-		
NT-SLB S05 D25-L64		5	25	64	23.5	6	35	-	-		
NT-SLB S06 D25-L64		6	25	64	23.5	6	35	-	-		
NT-SLB S07 D25-L64		7	25	64	23.5	6	35	-	-		
NT-SLB S08 D25-L64		8	25	64	23.5	6	35	-	-		
NT-SLB S09 D25-L64		9	25	64	23.5	6	35	-	-		
NT-SLB S10 D25-L64		10	25	64	23.5	6	35	-	-		
NT-SLB S11 D25-L64		11	25	64	23.5	6	35	-	-		
NT-SLB S12 D25-L64		12	25	64	23.5	6	35	-	-		

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

A - TURNING

B - THREADING

C - GROOVING

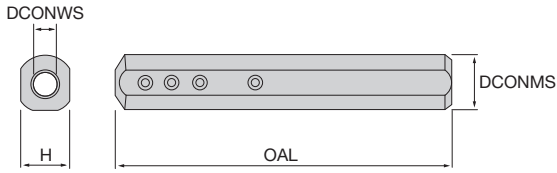

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

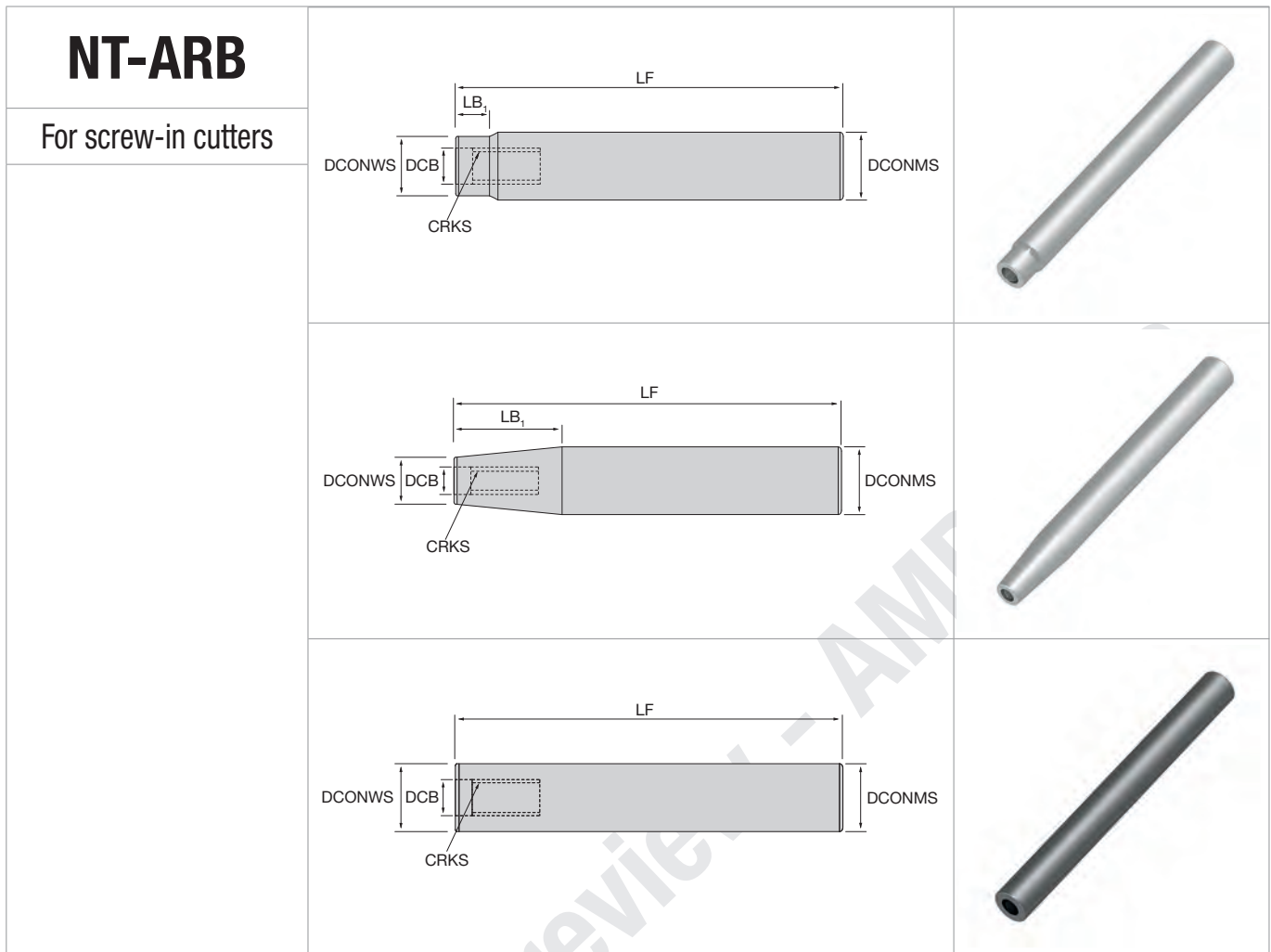
- A - TURNING
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<h1>NT-SLV</h1>		
For boring bars		

Designation	Stock	DCONWS	DCONMS	OAL	H						
<b>SCREWS LOCK SLEEVE</b>											
<b>NT-SLV S03 D16-L100</b>		3	16	100	14						
<b>NT-SLV S04 D16-L100</b>		4	16	100	14						
<b>NT-SLV S05 D16-L100</b>		5	16	100	14						
<b>NT-SLV S06 D16-L100</b>		6	16	100	14						

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

Catalogue Preview - AMB 2022



Designation	Stock	DCONMS	CRKS	DCONWS	DCB	LF	LB1						
<b>STRAIGHT SHANK ARBOR</b>													
NT-ARB D12-M06-120	●	12	M6	11	6.5	120	10						
NT-ARB D16-M08-150	●	16	M8	14	8.5	150	10						
NT-ARB D16-M08-200	●	16	M8	14	8.5	200	10						
NT-ARB D20-M10-150	●	20	M10	18	10.5	150	12						
NT-ARB D20-M10-250	●	20	M10	18	10.5	250	12						
NT-ARB D25-M12-200	●	25	M12	23	12.5	200	15						
NT-ARB D25-M12-300	●	25	M12	23	12.5	300	15						
NT-ARB D32-M16-200	●	32	16	29	17	200	18						
NT-ARB D32-M16-350	●	32	16	29	17	350	18						
<b>TAPERED ARBOR</b>													
NT-ARB D16-M06-150T	●	16	M6	11	6.5	150	40						
NT-ARB D16-M06-200T	●	16	M6	11	6.5	200	40						
NT-ARB D20-M08-200T	●	20	M8	14	8.5	200	50						
NT-ARB D20-M08-250T	●	20	M8	14	8.5	250	50						
NT-ARB D25-M10-200T	●	25	M10	18	10.5	200	60						
NT-ARB D25-M10-250T	●	25	M10	18	10.5	250	60						
NT-ARB D32-M12-250T	●	32	12	23	12.5	250	70						
NT-ARB D32-M12-350T	●	32	12	23	12.5	350	70						
<b>STRAIGHT SHANK ARBOR</b>													
NT-ARB-HM D12-M06-100	●	12	M6	12	6.5	100	-						
NT-ARB-HM D12-M06-150	●	12	M6	12	6.5	150	-						
NT-ARB-HM D12-M06-200	●	12	M6	12	6.5	200	-						
NT-ARB-HM D16-M08-100	●	16	M8	16	8.5	100	-						
NT-ARB-HM D16-M08-150	●	16	M8	16	8.5	150	-						
NT-ARB-HM D16-M08-200	●	16	M8	16	8.5	200	-						

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

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Designation	Stock	DCONMS	CRKS	DCONWS	DCB	LF	LB1				
NT-ARB-HM D20-M10-100	●	20	M10	20	10.5	100	-				
NT-ARB-HM D20-M10-150	●	20	M10	20	10.5	150	-				
NT-ARB-HM D20-M10-200	●	20	M10	20	10.5	200	-				
NT-ARB-HM D20-M10-300	●	20	M10	20	10.5	300	-				
NT-ARB-HM D25-M12-100	●	25	M12	25	12.5	100	-				
NT-ARB-HM D25-M12-150	●	25	M12	25	12.5	150	-				
NT-ARB-HM D25-M12-200	●	25	M12	25	12.5	200	-				
NT-ARB-HM D25-M12-300	●	25	M12	25	12.5	300	-				

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

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## SPARE PARTS

Screw, G2

Clamps and wedges, G5

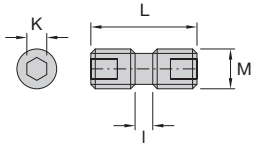
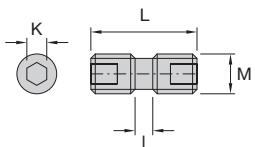
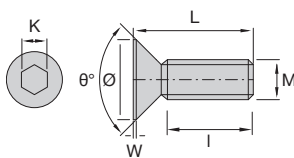
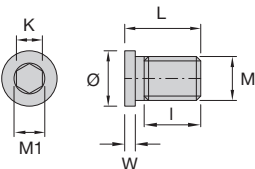
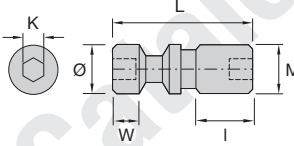
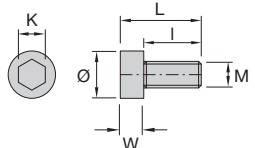
Shims, G6

Wrenches and screwdrivers, G9

Miscellaneous, G12

- A - TURNING
- B - THREADING
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	Designation	M	Ø	L	I	W		K	Torque		Chapter	
<b>Insert screw</b>		<b>NT-ST</b>										
		NT-ST16031T06	M1.6X0.35	2.6	3.3			60°	T6	0.2		A
		NT-ST20033T06	M2.0X0.40	2.7	3.3	2.2	0.5	60°	T6	0.4		D
		NT-ST20038T06	M2.0X0.40	2.7	3.8	2.6		60°	T6	0.4		A
		NT-ST20040T06	M2.0X0.40	2.7	4	2.9	0.5	60°	T6	0.5		D
		NT-ST20043T06	M2.0X0.40	2.7	4.3	2.5		60°	T6	0.4		D,E
		NT-ST22049T07	M2.2X0.45	3.1	4.9	3.3		60°	T7	0.7		A
		NT-ST22055T06	M2.2X0.45	3	5.5			60°	T6	0.7		E
		NT-ST25050T07	M2.5X0.45	3.1	5	3.1		60°	T7	0.9		A
		NT-ST25056T08HQ	M2.5X0.45	3.5	5.6	3.4	0.6	60°	T8			D
		NT-ST25059T08	M2.5X0.45	4	6	3.9			T8	0.9		B
		NT-ST25060T07	M2.5X0.45	3.5	6	3.6		60°	T7	0.9		A
		NT-ST25060T08	M2.5X0.45	3.85	6	3.9	0.95	60°	T8	1.2		D
		NT-ST25065T07	M2.5X0.45	3.5	6.5	4.1		60°	T7	0.9		D,E
		NT-ST25065T08	M2.5X0.45	3.5	6.5	4.6		60°	T8	0.9		A
		NT-ST25080T09	M2.5X0.45	3.5	7.8	5.9	0.5	60°	T9			E
		NT-ST30058T10	M3.0X0.50	4.3	5.8	4.4		90°	T10	1.5		A
		NT-ST30068T10	M3.0X0.50	4.3	6.8	5.4		90°	T10	1.5		A
		NT-ST30070T10	M3.0X0.50	4.3	7	5.1		60°	T10	1.5		A
		NT-ST30070T10HQ	M3.0X0.50	4.4	7	4.4	0.9	60°	T10			D
		NT-ST30080T10	M3.0X0.50	4.3	8	5.7	2.9	60°	T10			E
		NT-ST35051T15	M3.5X0.60	5.1	8.8	6		60°	T15	2.3		D
		NT-ST35070T15	M3.5X0.60	5.3	7	4.6	0.8	60°	T15	2.3		D
		NT-ST35073T15	M3.5X0.60	5.5	7.3	4.3		60°	T15	2.3		A
		NT-ST35080T15	M3.5X0.60	5.5	8			60°	T15	2.3		E
		NT-ST35089T15	M3.5X0.60	5.5	8.9	5.9		60°	T15	2.3		AB
		NT-ST35089T15B	M3.5X0.60	5.1	8.9	6		60°	T15	2.3		A
		NT-ST35095T15HQ	M3.5X0.60	5.3	9.5	6	1.5	60°	T15			D
		NT-ST35115T15	M3.5X0.60	5.5	11.5			60°	T15	2.3		AB
		NT-ST35120T15	M3.5X0.60	5.3	12	9.5		60°	T15	2.3		D
		NT-ST40090T15	M4.0X0.70	5.5	9	6.1		60°	T15	3.4		A
		NT-ST40095T15HQ	M4.0X0.70	5.5	9.5	6.6	1	60°	T15			D
		NT-ST40100T15	M4.0X0.70	5.5	10			60°	T15	3.4		E
		NT-ST40101T15	M4.0X0.70	6.5	10.1	8	0.5	90°	T15			D
		NT-ST40110T15HQ	M4.0X0.70	5.5	11	8.2	1.6	60°	T15			D
		NT-ST40115T15	M4.0X0.50	6.8	11.5	8.6		60°	T15	3.4		A,C
		NT-ST40136T15	M4.0X0.70	7.1	13.6	10	0.9	60°	T15	3.4		D
		NT-ST40140T15	M4.0X0.50	6.8	13.8	10.1		60°	T15	3.4		A
		NT-ST45110T20	M4.5X0.75	6.8	11	7.9	1.1	60°	T20	4.9		D
		NT-ST45111T15	M4.5X0.75	6.8	11.1	8.2						D
NT-ST50100T20	M5.0X0.80	6.4	12.1	8.4	1	40°	T20			E		
NT-ST50108T20	M5.0X0.80	6.4	10.8			43°	T20	6.7		E		
NT-ST50110T20	M5.0X0.80	7	11	8.2	1.1	60°	T20	6.7		C,D		
NT-ST60160T25	M6.0X1.00	8.5	16	11.5	0.9	60°	T25			D		
<b>Clamp screw</b>		<b>NT-SC</b>										
		NT-SC035	M6.0X1.00	10	15	6.3	3.7	3				D
		NT-SC200	M6.0X1.00	9.7	24				T20	11.4		A
		NT-SC250	M4.0X0.70	6.8	18.8				T15	3.4		A
		NT-SC300										C

	Designation	M	L	I	K					Chapter		
Clamp screw - double type	<b>NT-SC double thread</b> 	<b>NT-SC005</b>	M5.0X0.80	15	5	2.5				A		
		<b>NT-SC008</b>	M6.0X1.00	24	7	3				A		
		<b>NT-SC010</b>	M6.0X1.00	30	7	3				A		
		<b>NT-SC030</b>	M5.0X0.80	18	7	2.5				A		
		<b>NT-SC070</b>	M8.0X1.00	30	7	4				A		
Wedge screw	<b>NT-SC</b> 	<b>NT-SC060</b>	M6.0X1.00	17	2.5	3				D		
		<b>NT-SC090</b>	M6.0X1.00	20.2	3.5	3				D		
Shim screw	<b>NT-ST</b> 	<b>NT-ST022</b>	M2.0X0.40	3	5	3		60°	T6	0.4	AB	
		<b>NT-ST031</b>										A
		<b>NT-ST200</b>	M4.0X0.70	7.9	10			90°	2.5	3.4		A
		<b>NT-ST250</b>	M4.0X0.70	6.3	7.5			90°	T15	3.4		A
Shim screw - double type	<b>NT-SR with inside thread</b> 	<b>NT-SR001</b>	M6.0X0.75	7.8	9		1.5		4		A	
		<b>NT-SR002</b>	M5.0X0.50	6.3	6		1.2		3.5		D	
		<b>NT-SR009</b>	M6.0X0.75	7.8	7.5	4.1	1.6	M4.0X0.70	4			D
		<b>NT-SR010</b>	M5.0X0.50	6.3	8.6		1.2		3.5			A
Lever screw	<b>NT-SC</b> 	<b>NT-SC015</b>	M6.0X1.00	5.95	17		3	2.5	11.4		A	
		<b>NT-SC020</b>	M8.0X1.00	8	23.5		6	3			A	
		<b>NT-SC025</b>	M8.0X1.00	8	21		6	3			A	
Locking screw	<b>NT-SC</b> 	<b>NT-SC001</b>	M5.0X0.80	8.5	25.5	20	6	4			C	
		<b>NT-SC002</b>	M6.0X1.00	10	25	20	5	4			C	
		<b>NT-SC003</b>	M3.0X0.50	5.5	9	6	3	2.5			B	
		<b>NT-SC004</b>	M4.0X0.70	7	12	8	4				B	

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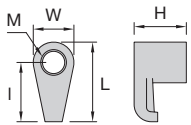
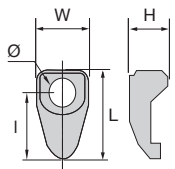
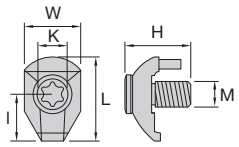
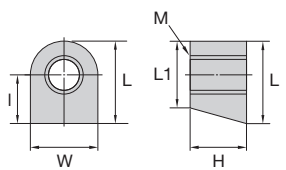
F - ACCESSORIES

G - SPARE PARTS

- A - TURNING
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Designation		M	Ø	L	I	W		K	Torque	Chapter
Locking screw	<b>NT-ST</b>	<b>NT-ST051</b>	M5.0X0.80	7	13.2	10.1				C
		<b>NT-ST076</b>	M4.0X0.70	5.7	12	7	1	60°	T15	C
		<b>NT-ST077</b>	M5.0X0.80	7.2	16	11	1.2	60°	T15	C
Cartridge screw	<b>NT-CW</b>	<b>NT-CW040</b>	M5.0X0.80	8.5	16.5	11.5	5	4		D
Adjusting screw	<b>NT-AD</b>	<b>NT-AD040</b>	M5.0X0.80	9	2	14	8	6		D

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		Designation	M	L	I	W	H					Chapter
Clamp	NT-CS with thread	NT-CS005	M5.0X0.80	13.6		7.8	7.1					A
		NT-CS009	M5.0X0.80	14.9		7.8	11					A
		NT-CS010	M6.0X1.00	18.2		9.4	13.5					A
		NT-CS015	M8.0X1.00	22.3		10.8	17.4					A
		NT-CS025	M6.0X1.00	21.5		9.4	13.7					A
		NT-CS030	M5.0X0.80	16.9		7.9	7.9					A
		NT-CS070	M8.0X1.00	19.4		10.7	16.8					A
		NT-CS075	M6.0X1.00	24.5		9.7	13.7					A
												
Clamp	NT-CS with hole	NT-CS028	Ø 6.3	20	12	12	6					D
		NT-CS200		26		13	11					A
		NT-CS210		29		12.1	11					A
		NT-CS250		21		11	10					A
		NT-CS300L										C
		NT-CS300R										C
												
Clamping set	NT-CS clamp+screw	NT-CS003										A
		NT-CS013	M3.5X0.60	11.5	6.4	7.7	9	T15	3			D
		NT-CS014	M3.5X0.60	11.5	6.4	7.7	9	T15	3			D
		NT-CS021	M5.0X0.80	16.5	9.5	9.25	11	T20	7.5			D
												
Wedge	NT-WD	NT-WD070	M6.0X1.00	11.8	9.6	7.3	9	7.5				D
		NT-WD090	M6.0X1.00	9.96		5.96	10	9.5				D
												

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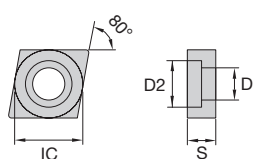
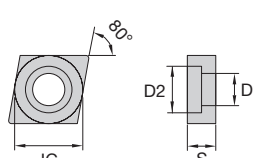
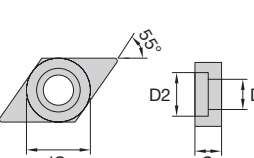
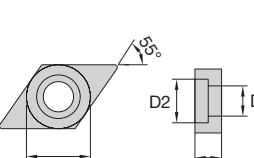
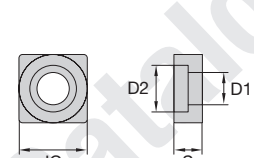
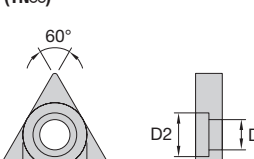
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Designation		IC	S	D1	D2					Chapter	
Shims for turning	NT-SH (CC∞)	NT-SH001	11.4	3.9	6.6	8.2					A
		NT-SH011	8.5	3.2	5.4	6.7					A
											
Shims for turning	NT-SH (CN∞)	NT-SH012	9.3	3.2	4.9						A
		NT-SH030	12.4	4.8	7.5	8.2					A
		NT-SH035	12.6	3.2	6.9						A
		NT-SH055	15.5	4.8	9.9	11					A
		NT-SH080	18.7	4.8	11.4	12.3					A
											
Shims for turning	NT-SH (DC∞)	NT-SH007		3.2	5.4	6.7					A
											
Shims for turning	NT-SH (DN∞)	NT-SH020		3.2	6.9	8.9					A
		NT-SH025		6.5	7.5	8					A
		NT-SH045		4.8	7.5	8					A
											
Shims for turning	NT-SH (SN∞)	NT-SH070	12.3	4.8	7.5	8.2					A
		NT-SH090	18.7	4.8	11.3	13					A
											
Shims for turning	NT-SH (TN∞)	NT-SH005		3.2	5.8	6.6					A
		NT-SH006		3.2	4.8	6.6					A
		NT-SH008		4.9	7.5	8.2					A
											

	Designation	IC	S	D1	D2					Chapter
Shims for turning	NT-SH (TP $\infty$ )	NT-SH002		3.2	2.4	5.3				A
Shims for turning	NT-SH (VB $\infty$ -VC $\infty$ )	NT-SH050		3.2	5.4	6.6				A
Shims for turning	NT-SH (VN $\infty$ )	NT-SH075		3.2	5.9	6.6				A
Shims for turning	NT-SH (WN $\infty$ )	NT-SH003		3.3	5.9	6.7				A
		NT-SH010		4.8	7.3	8				A
		NT-SH015		3.2	6.8	9				A
Shims for threading	NT-SH (ER-IL)	NT-SH060	9.5	3.2	4.5					B
		NT-SH060+1°	9.5	3.2	4.5					B
		NT-SH060-1°	9.5	3.2	4.5					B
		NT-SH066	12.6	4	5.1					B
Shims for threading	NT-SH (IR-EL)	NT-SH065	9.5	3.2	4.5					B
		NT-SH067	12.6	4	5.1					B

A - TURNING

B - THREADING

C - GROOVING

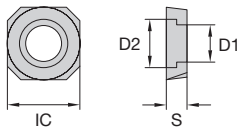
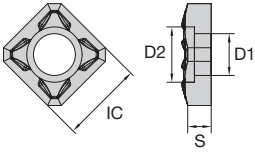
D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
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Designation		IC	S	D1	D2						Chapter	
Shims for milling	<b>NT-SH (4FacePlus)</b> 	NT-SH004	10.7	3	5.2	6.9						D
	<b>NT-SH (Double4Face)</b> 	NT-SH009	12.6	3.15	6.7	8.7						D

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		Designation	Ø	L	I	W	H	K				
Flag wrench	NT-FT yellow (torx)	NT-FT06	3.5	82	45	23	23	T6				
		NT-FT07					23	T7				
		NT-FT08	3.5	82	45	23		T8				
		NT-FT09	3	73	37	23	19	T9				
		NT-FT10	3.5	83	46	23	23	T10				
		NT-FT15	3.5	83	46	23	23	T12				
Flag wrench	NT-FT blue (torx)	NT-FTB06	3	85	49	21	22	T6				
		NT-FTB07	3	85	49	21	22	T7				
		NT-FTB08	3	85	49	21	22	T8				
		NT-FTB09	3	85	49	21	22	T9				
		NT-FTB10	3	85	49	21	22	T10				
		NT-FTB15	4	85	49	29	24	T15				
		NT-FTB20	4	90	52	29	24	T20				
Flag wrench	NT-FT yellow (torx plus)	NT-FTP08	3.5	88	51	23	23	IP8				
L wrench	NT-TX (torx)	NT-TX15	3.5	57	19	T15						
		NT-TX20	4	62	23	T20						
L wrench	NT-WR (hexagonal)	NT-WR020	-	51	18	2						
		NT-WR025	-	53	18	2.5						
		NT-WR030	-	66	23	3						
		NT-WR035	-	69	25	3.5						
		NT-WR040	-	74	29	4						
		NT-WR050	-			5						
Screwdriver	NT-DT	NT-DT20				T20						

A - TURNING

B - THREADING

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A - TURNING

Designation		Ø	L	I	K	Torque					
Screwdriver	NT-TSD torque control	NT-TSD TX08-1.2	3	200	60	T8	1.2 NM				
		NT-TSD TX10-2.0	3.9	200	60	T10	2.0 NM				
		NT-TSD TX15-3.0	4	200	60	T15	3.0 NM				

B - THREADING

Designation		Ø	L	K							
Screwdriver	Interchangeable bit	NT-TORX BIT IP08	3	70	IP8						
		NT-TORX BIT TX08	3	70	T8						
		NT-TORX BIT TX10	4	70	T10						
		NT-TORX BIT TX15	4	70	T15						

C - GROOVING

Designation		W	H	D						Chapter	
Head wrench	NT-WR (DEX)	NT-WR1011	24	30	12						E
		NT-WR1217	34	39	18						E
		NT-WR1820	38	45	22						E
		NT-WR2126	45	54	29						E

D - MILLING

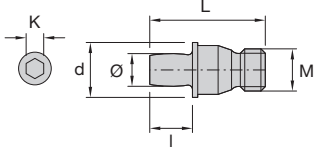
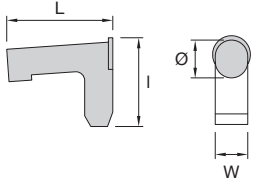
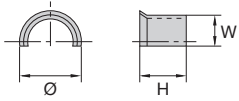
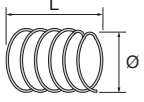
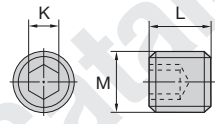
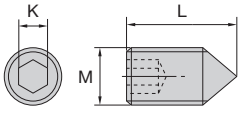
Designation		W	H	D						Chapter	
Head wrench	NT-WR (DXP)	NT-WR1416									E
		NT-WR1720									E
		NT-WR2128									E

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

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	Designation	M	L	I	Ø	D	K			Chapter
Eccentric pin	NT-SP	NT-SP010	M6.0X1.00	17.7	4.5	5		3		A
		NT-SP020	M5.0X0.80	14	3.4	3.7		2		A
		NT-SP025	M6.0X1.00	19.2	4.5	5		2.5		A
		NT-SP030	M5.0X0.80	11	3.4	3.7		2		A
		NT-SP035	M5.0X0.80	11	4.4	5		2		A
		NT-SP040	M8.0X1.00	21.8	4.7	6.2		3		A
		NT-SP050	M10.0X1.00	21.8	4.7	7.8		4		A
										
Lever	Designation		Ø	L	I	W				Chapter
	NT-LL	NT-LL012	3.4	12	9.9	3.6				A
		NT-LL015	4.4	10	13.6	4.7				A
		NT-LL020	5	14.5	14.3	4.6				A
										
Shim plug	Designation		Ø	H	W					Chapter
	NT-SR	NT-SR012								A
		NT-SR015								A
		NT-SR020								A
										
Spring	Designation		Ø	L						Chapter
	NT-SG	NT-SG028	3.5	8						D
		NT-SG200		16						A
		NT-SG250		12						A
										
Locking grain	Designation		M	L	K					Chapter
	NT-ST	NT-ST042	M5.0X0.80	6	2.5					E
		NT-ST044	M5.0X0.80	8	2.5					E
		NT-ST046	M6.0X1.00	10	3					E
		NT-ST095								A
										
Setting grain	Designation		M	L	K					Chapter
	NT-ST	NT-ST043	M5.0X0.80	6	2.5					E
		NT-ST045	M5.0X0.80	8	2.5					E
		NT-ST047	M6.0X1.00	10	3					E
										

A - TURNING

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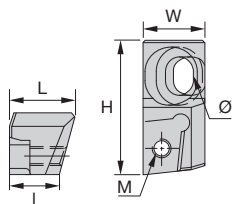
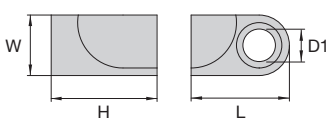
D - MILLING

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G - SPARE PARTS

- A - TURNING
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Designation		M	H	W	Ø	MIID					Chapter	
Cartridge	NT-CRD	NT-CRD-XP08	M3.0X0.50	29.5	11	5.5	XPG 08					D
												
Chip cover	NT-CH	NT-CH030	D1	L	H	W						D
												

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