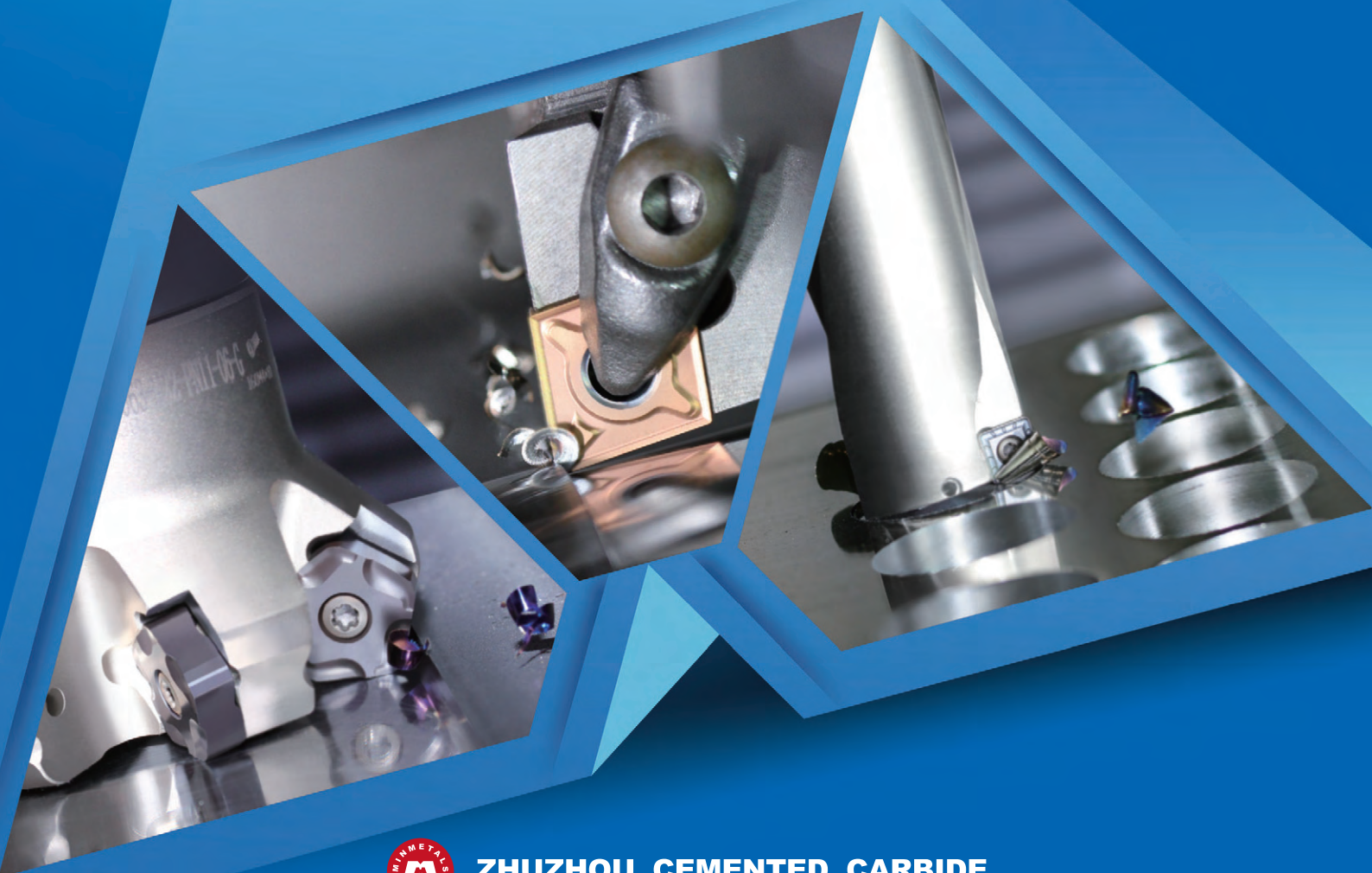


2018-2019

CUTTING TOOLS

- *Turning Tools*
- *Milling Tools*
- *Boring Tools*



**ZHUZHOU CEMENTED CARBIDE
CUTTING TOOLS CO., LTD.**

By using this catalogue, you can get the following information:

- Information on new products.
- Product information: Turning tools, milling tools, boring tools, standard product series of tool holding system, description, basic dimensions, recommended grade and cutting parameters, stock, etc.
- Technical instruction: Tool selection and application, selection of insert chipbreaker and grade, typical machining case, etc.
- General technical information.

To better understand and use this catalogue, please pay more attention to the “how to choose ***”, “*** overview” sections in the front of each main catalogue introduction.

Symbol explanation

😊 Good working condition

😐 Normal working condition

😞 Bad working condition

★ Recommended grade (always stock available)

● Available grade (always stock available)

○ Make-to-order

▲ Stock available

△ Make-to-order

◎ Very suitable

○ Suitable

Statement

- The product only provides the specifications information based on current productive conditions. We will continuously improve and innovate along with the development of technology.
- The product photos in the catalogue are for demonstration only. Due to different production technologies, product color (such as insert coating color, tool surface color) might be different from the colors shown in this catalogue. It would be advisable to refer to the real product.
- Please note that in the catalogue, the minimum ordering quantity of common inserts and ceramic insert is 10 pcs, and the minimum ordering quantity of CBN & PCD inserts is 2 pcs.
- The stock may change because new product or new grade is released.

Turning inserts list

- Turning inserts listed according to shape
- Sequence of listed inserts
 - Negative inserts (with hole – without hole)
 - Positive inserts (with hole – without hole)
- Sequence of listed chipbreaker
 - For finishing – For semi-finishing – For roughing – For heavy cutting – Without chipbreaker – Through chipbreaker

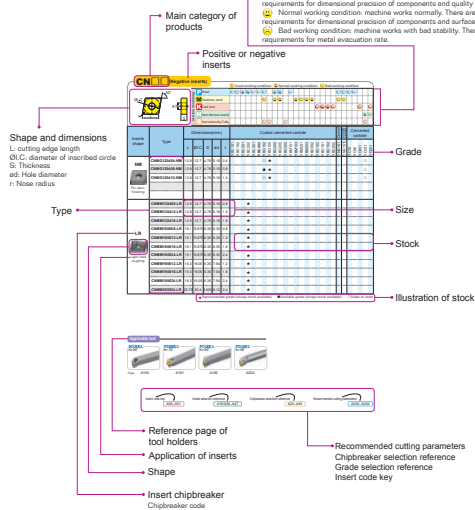
Selecting grade according to workpiece material and working condition

Prior to select grade for insert according to working condition that is suitable for workpiece material

Good working condition: machine works well and stably. There are high requirements for dimensional precision of components and quality surface.

Normal working condition: machine works normally. There are certain requirements for dimensional precision of components and surface quality.

Bad working condition: machine works with bad stability. There are high requirements for metal evacuation rate.



Machining application	Geometry	Number of teeth	Type	Shape	Size range	Workpiece material										Page
						P	M	K	N	S	H	Aluminum alloy	High speed steel	Stainless steel	Cast iron	
High-performance general milling	Flattened	4	UM-4E (Universal pitch)		Ø4.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B248 B395
			UM-4EL (Unequal pitch)		Ø4.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B249 B396
			UM-4EFP (Universal pitch)		Ø6.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B250 B397
		4	UM-4R (Unequal pitch)		Ø4.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B251 B399
			UM-4RL (Unequal pitch)		Ø6.0-Ø16.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B252 B399
			UM-4RFP (Unequal pitch)		Ø6.0-Ø16.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B253 B401
	Flattened	2	PML-2E (Sharp)		Ø1.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B254 B402
			PML-2F (Sharp)		Ø1.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B255 B403
			PML-2EL (Sharp)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B256 B402
			PML-2FL (Sharp)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B257 B403
			PML-2EFP (Sharp)		Ø6.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B258 B404
			PML-2EFP (Sharp)		Ø6.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B259 B405
		3	PML-3E-H (Corner protection)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B260 B405
			PML-3EL-H (Corner protection)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B261 B406
			PML-4E-G (Corner protection)		Ø1.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B262 B406
			PML-4F-G (Sharp)		Ø1.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B263 B406
			PML-4EL-G (Sharp)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B264 B409
			PML-4FL-G (Sharp)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B265 B410
		4	PML-4E-G (Corner protection)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B266 B411
			PML-4E (Corner protection)		Ø1.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B267 B412
			PML-4EL (Corner protection)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B268 B412
			PML-4E-H (Corner protection)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B269 B408
			PML-4EL-H (Corner protection)		Ø3.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B270 B413
			PML-4EFP (Corner protection)		Ø6.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B271 B415
	Ball nose	2	PML-6E (Corner protection)		Ø6.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B272 B416
			PML-6EL (Corner protection)		Ø6.0-Ø20.0	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	B273 B417

◎ Very suitable ○ Suitable

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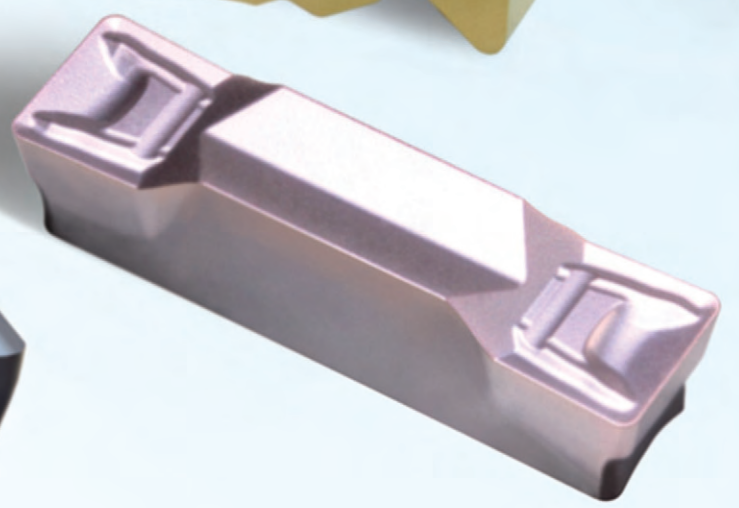
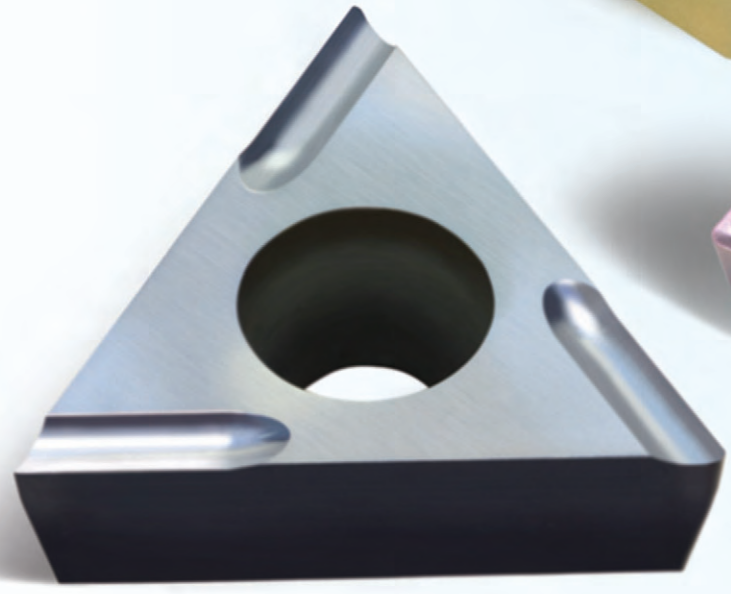
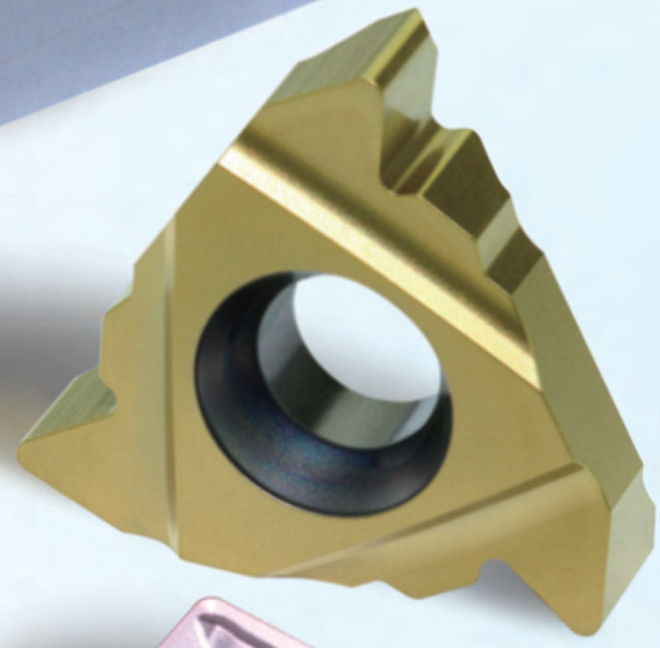
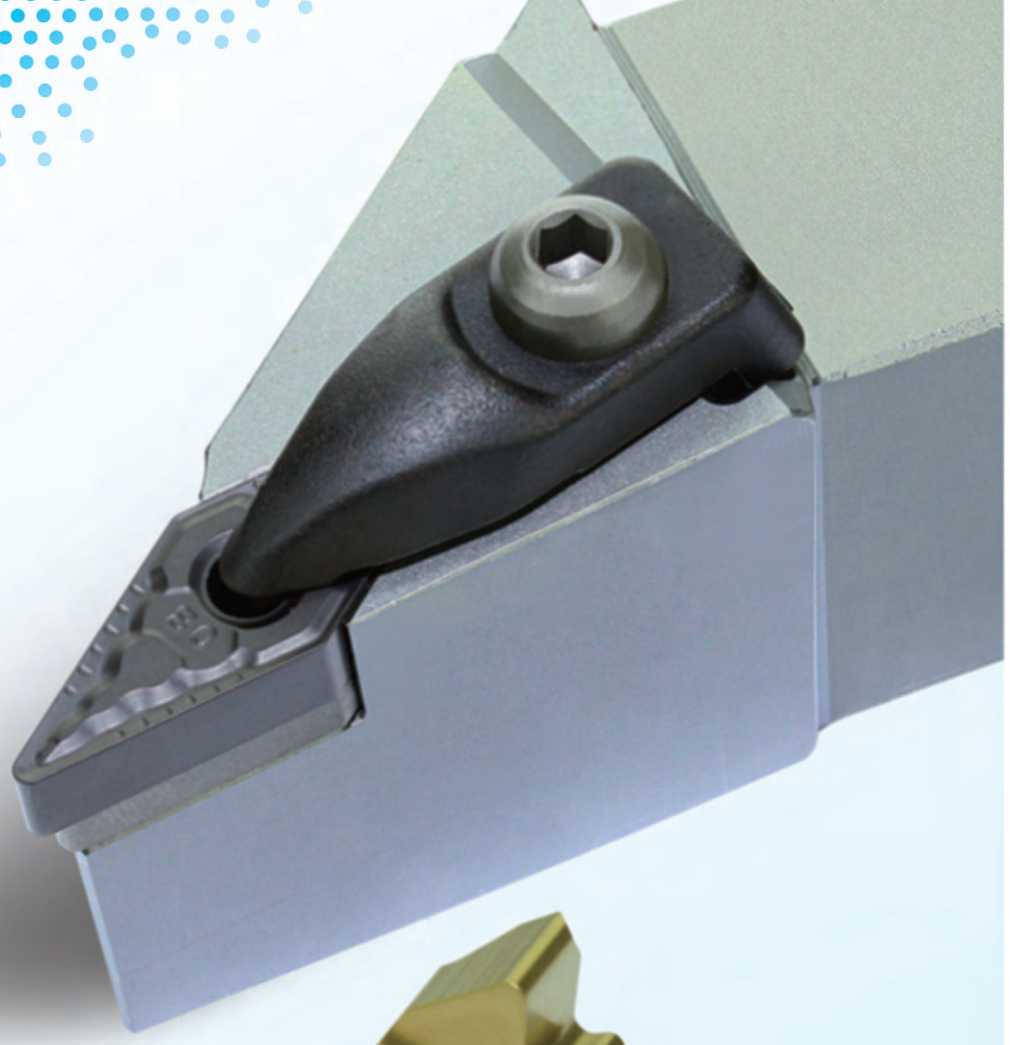
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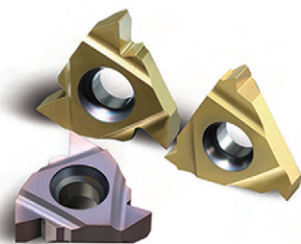


Turning Tools

*General turning tools
Parting and grooving tools
Threading tools*



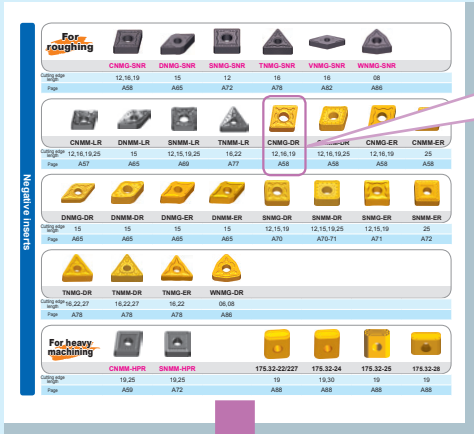
Turning



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Guide to selecting general turning tools

Selection A



CNMG-DR

cutting edge length 12, 16, 19

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Step 1: I want to order inserts

- Shape, •Size, •Chipbreaker

CN (Negative inserts)

Good working condition Normal working condition Bad working condition

Inserts shape

Type	Dimensions (mm)				Coated cemented carbide	Cemented carbide
	L	LC	S	d		
CNMG12040-DR	12.9	12.7	4.76	5.16	0.8	0.8
CNMG120412-DR	12.9	12.7	4.76	5.16	1.2	0.8
CNMG120416-DR	12.9	12.7	4.76	5.16	1.6	0.8
CNMG160608-DR	16.1	15.876	6.35	6.35	0.8	0.8
CNMG160612-DR	16.1	15.876	6.35	6.35	1.2	0.8
CNMG160616-DR	16.1	15.876	6.35	6.35	1.6	0.8
CNMG190612-DR	19.3	19.05	6.35	7.64	0.8	0.8
CNMG190616-DR	19.3	19.05	6.35	7.64	1.2	0.8
CNMG190624-DR	19.3	19.05	6.35	7.64	1.6	0.8
CNMM120412-DR	12.9	12.7	4.76	5.16	1.2	0.8
CNMM160612-DR	16.1	15.876	6.35	6.35	1.2	0.8
CNMM160616-DR	16.1	15.876	6.35	6.35	1.6	0.8
CNMM190612-DR	19.3	19.05	6.35	7.64	1.2	0.8
CNMM190616-DR	19.3	19.05	6.35	7.64	1.6	0.8
CNMM190624-DR	19.3	19.05	6.35	7.64	1.6	0.8
CNMM250924-DR	25.76	25.4	9.52	12.7	2.4	0.8

Applicable tool

Tool	PCBNRL	PCBNRL	PCBNRL
For	Kr:75°	Kr:90°	Kr:95°
Page	A154	A161	A202

Insert code key A58-A57

Grade selection reference A19-A58-A57

Reference A20-A35

Recommended cutting parameters A240-A252

Dimensions (mm)

L	LC	S	d	r
12.9	12.7	4.76	5.16	0.8

Step 2: Details of inserts

- Shape, •Size, •Chipbreaker, •Grade, •Stock

Applicable tool holders

- Approach angle, Page

Applicable tool

DCLNR/L

Kr:95°

Page A154

PCBNR/L

Kr:75°

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Corresponding tool holders of insert CN P-type clamping

PCBNRL Kr:75°

R-type shown

Type	Stock				Basic dimension (mm)				Screw	Shim	Wrench	Lever	Shim pin
	R	L	a	b	L	h	a	a					
PCBNRL 2020M12	A	20	20	125	20	17	32		LEM8-121	CT5AP	WH30L	L4	SP4
2525M12	A	25	25	150	25	22	32						
3232P12	A	32	32	170	32	27	32						
2525M16	A	25	25	150	25	22	38						
3232P16	A	32	32	170	32	27	38						
4040M16	A	40	40	200	40	27	40						
3232P16	A	32	32	170	32	27	40						
4040M19	A	40	40	200	40	27	45						
4040M19	A	40	40	200	40	27	45						
4040M20T	A	40	40	200	40	27	50						
4040M20T	A	40	40	200	40	27	50						

Applicable inserts

Application	For finishing				For semi-finishing				For roughing				For heavy machining				For cast			
	DF	WGF	SF	EF	DF	WGF	SF	EF	DF	WGF	SF	EF	DF	WGF	SF	EF	DF	WGF	SF	EF
Inserts shape	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4	AS4

Tool holder type

Tool holder type	PCBNRLC20M12P1	PCBNRLC25M12P1	PCBNRLC32M12P1	PCBNRLC25M16P1	PCBNRLC32M16P1	PCBNRLC40M16P1
PCBNRLC20M12P1	CNCD12040C3	CNCD120412C3	CNCD120416C3	CNCD160608C3	CNCD160612C3	CNCD160616C3
PCBNRLC25M12P1	CNCD12040C3	CNCD120412C3	CNCD120416C3	CNCD160608C3	CNCD160612C3	CNCD160616C3
PCBNRLC32M12P1	CNCD12040C3	CNCD120412C3	CNCD120416C3	CNCD160608C3	CNCD160612C3	CNCD160616C3
PCBNRLC25M16P1	CNCD160608C3	CNCD160612C3	CNCD160616C3	CNCD190612C3	CNCD190616C3	CNCD190624C3
PCBNRLC32M16P1	CNCD160608C3	CNCD160612C3	CNCD160616C3	CNCD190612C3	CNCD190616C3	CNCD190624C3
PCBNRLC40M16P1	CNCD160608C3	CNCD160612C3	CNCD160616C3	CNCD190612C3	CNCD190616C3	CNCD190624C3

For roughing



A58

Step 4: Return to locate inserts

Selection B

Type Clamping system					
Approach angle Page A154	95° A155	93° A156	93° A156	93° A156	95° A156

P-type clamping system						
PCBN/L	PCLN/L	PDJN/L	PDNN/L	PSENN/L	PSDNN	PSKN/L
Approach angle 75°	95°	93°	63°	75°	45°	75°
±16°	±30°	±16°	±16°	±16°	±16°	±16°

S-type clamping system						
SCACRL	SCLCRL	SDACRL	SDJCRL	SDNCN	SVJBR/L	SVABR/L
Approach angle 90° 5/32"	95° 5/32"	90° 1/16"	93° 5/32"	62°30' 1/4" 3/32"	93° 5/32"	90° 1/32"



Guide to selecting turning tools

Approach angle	95°
Page	A154

Step 1: I want to order tool holders
• Approach angle. • Clamping system

Technical drawing of a PCB drill bit. The left part shows a 3D perspective view of the drill bit with the label "PCBNRIL Kr175". The right part shows a 2D cross-sectional view with dimensions: H (height), B (width), L (length), and D (diameter). A small detail view shows the drill bit's tip with a 0.5 mm dimension.

Type	Buck	Basic dimensions(mm)					Screw	Shim	Wrench	Lever	Shim pin		
		R	L	B	L	H							
PCBNRL	2020K12	A	26	20	125	20	17	32					
	2220M12	A	26	20	190	20	22	32					
	3230P12	A	32	32	170	32	27	32					
	2020M16	A	26	20	190	20	22	32					
	2220M16	A	26	20	250	20	22	32					
	4040R16	A	40	40	250	40	22	42					
	4040R16	A	40	40	250	40	22	42					
	3230P19	A	32	32	190	32	27	32					
	4040R19	A	40	40	250	40	22	42					
	4040R19	A	40	40	250	40	22	42					
4040S2500	A	40	40	250	40	35	50						
4040S2500	A	40	40	250	40	35	50						
4040S2500	A	40	40	250	40	35	50						
4040S2500	A	40	40	250	40	35	50						

▲ Stock available △ Make-to-order

[illegible]

DR  A58

Step **2**: **Details of tool holder**

- Tool holder type, Size, • Operation genre
- Applicable inserts

Good working condition Normal working condition Bad working condition

Material	Good working condition	Normal working condition	Bad working condition
P Steel	10	10	10
M Stainless steel	10	10	10
K Cast iron	10	10	10
N Non-ferrous metal	10	10	10

[illegible]



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Insert code key **A50, A51** Grade selection reference **A10/A36, A17** Chipbreaker selection reference **A10, A36** Recommended cutting parameters **A200, A202**

CLNR/L
Kr: 95°



age



A1

Step **4**: Return to locate tool holder

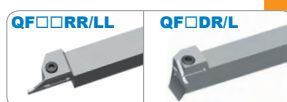
Guide to selecting parting and grooving tools

Parting and grooving tools



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1 Selection of tool holder type

2 Tool holder type, Size and applicable inserts

3 Insert type, Chip-breaker, Size and grade

External parting, grooving and turning tools

Type	Stock	Basic dimensions (mm)				Applicable inserts	Screw	Wrench
		R	L	H	S			
QEAD	1212RL07	A	121	12	125	12.15	7	ZC40015C32
	1212RL12	A	121	12	125	12.15	12	ZC40015C32
	1616RL07	A	161	16	125	16.15	7	ZC40015C32
	1616RL12	A	161	16	125	16.15	12	ZC40015C32
	2020RL07	A	201	20	125	20.15	7	ZC40015C32
QEBD	2020RL12	A	201	20	125	20.15	12	ZC40015C32
	1212RL07	A	121	12	125	12.15	2	ZC30020C21
	1212RL10	A	121	12	125	12.15	2	ZC30020C21
	1212RL14	A	121	12	125	12.15	2	ZC30020C21
	1616RL07	A	161	16	125	16.15	2	ZC30020C21
QEDD	1616RL10	A	161	16	125	16.15	2	ZC30020C21
	1616RL14	A	161	16	125	16.15	2	ZC30020C21
	2020RL07	A	201	20	125	20.15	2	ZC30020C21
	2020RL10	A	201	20	125	20.15	2	ZC30020C21
	2020RL14	A	201	20	125	20.15	2	ZC30020C21
QFDD	1616RL10	A	161	16	125	16.15	2	ZC30020C21
	1616RL14	A	161	16	125	16.15	2	ZC30020C21
	2020RL07	A	201	20	125	20.15	2	ZC30020C21
	2020RL10	A	201	20	125	20.15	2	ZC30020C21
	2020RL14	A	201	20	125	20.15	2	ZC30020C21
QEGD	2020RL10	A	201	20	125	20.15	2	ZC30020C21
	2020RL14	A	201	20	125	20.15	2	ZC30020C21
	2020RL17	A	201	20	125	20.15	2	ZC30020C21
	2020RL19	A	201	20	125	20.15	2	ZC30020C21
	2020RL22	A	201	20	125	20.15	2	ZC30020C21

Parting inserts

Type	Basic dimensions (mm)				Grade			
	W	R	L	Chip breaker	CVD Coating	PVD Coating	Coated carbide	YD101
ZP40015C32-MG	1.5	0.2	12		□	★	□	
ZP40020C21-MG	2.0	0.2	14		□	★	□	
ZP40030C17-MG	3.0	0.2	17		□	★	□	
ZP40040C12-MG	4.0	0.2	22		□	★	□	
ZP40050C08-MG	5.0	0.2	22		□	★	□	
ZP40060C04-MG	6.0	0.4	22		□	★	□	
ZP40080C03-MG	8.0	0.3			□	★	□	
ZP40100C02-MG	10.0	0.2			□	★	□	
ZP40150C01-MG	15.0	0.1			□	★	□	
ZP40200C01-MG	20.0	0.1			□	★	□	
ZP40300C01-MG	30.0	0.1			□	★	□	
ZP40400C01-MG	40.0	0.1			□	★	□	
ZP40500C01-MG	50.0	0.1			□	★	□	
ZP40600C01-MG	60.0	0.1			□	★	□	

Parting and grooving inserts

Little squirrel series		
ZP□□D-MG	ZP□□S-MG	ZT□□D-MG
Cutting edge width	1.5, 2.0, 2.5, 3.4, 5.6	2.5, 3.4, 5.6
Page	A246	A247

1 Selecting insert type

2 Insert type, Chip-breaker, Size and grade

Guide of selecting threading tools

Threading tools

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External threading tools

Type	Stock	Basic dimensions(mm)	Applicable inserts	Inserts screw	Start	Shim screw	Wrench
		A	H	S	L	h	
1016H16	A	16	16	16	100	20	
2020K16	A	20	20	20	125	25	
2020M16	A	20	20	20	100	30	
3030P16	A	30	30	30	175	30	
3030P16	A	30	30	30	175	40	
3030M32	A	30	30	30	100	30	
3030P32	A	30	30	30	175	40	
3030P32	A	30	30	30	175	40	
4040S32	A	40	40	40	200	50	

ISO metric thread (with end)

ISO 965-1983 DIN 13
GB/T 197-2003 Tolerance class: 6g/6H

Type	Basic dimensions(mm)	Recommended coating grade
	Pitch S ØD.C. ad	YBG203 YBG206
The right hand tools		
Z16R0.8S0	0.80 3.52 9.525 4.0	★ (1)
Z16R0.75S0	0.75 3.52 9.525 4.0	★ (1)
Z16R1.0S0	1.00 3.52 9.525 4.0	★ (1)
Z16R1.25S0	1.25 3.52 9.525 4.0	★ (1)
Z16R1.5S0	1.50 3.52 9.525 4.0	★ (1)
Z16R1.75S0	1.75 3.52 9.525 4.0	★ (1)
Z16R2.0S0	2.00 3.52 9.525 4.0	★ (1)
Z16R2.5S0	2.50 3.52 9.525 4.0	★ (1)
Z16R3.0S0	3.00 3.52 9.525 4.0	★ (1)
Z22R4.0S0	4.00 4.65 12.7 5.0	★ (1)
Z22R4.5S0	4.50 4.65 12.7 5.0	★ (1)
Z22R5.0S0	5.00 4.65 12.7 5.0	★ (1)
Z22R6.0S0	6.00 4.65 12.7 5.0	★ (1)

1 Selection of tool holder type

2 Tool holder type, Size and applicable inserts

3 Insert type, Chip-breaker, Size and grade

Threading inserts

Right hand type shown

	ISO metric thread	General pitch thread
	External thread	Internal thread
Pitch	0.5-6	0.5-6
Number of pitch	0.5-6	0.5-5
Page	A280	A281

ISO metric thread (with end)

ISO 965-1983 DIN 13
GB/T 197-2003 Tolerance class: 6g/6H

Type	Basic dimensions(mm)	Recommended coating grade
	Pitch S ØD.C. ad	YBG203 YBG206
The right hand tools		
Z16R0.8S0	0.80 3.52 9.525 4.0	★ (1)
Z16R0.75S0	0.75 3.52 9.525 4.0	★ (1)
Z16R1.0S0	1.00 3.52 9.525 4.0	★ (1)
Z16R1.25S0	1.25 3.52 9.525 4.0	★ (1)
Z16R1.5S0	1.50 3.52 9.525 4.0	★ (1)
Z16R1.75S0	1.75 3.52 9.525 4.0	★ (1)
Z16R2.0S0	2.00 3.52 9.525 4.0	★ (1)
Z16R2.5S0	2.50 3.52 9.525 4.0	★ (1)
Z16R3.0S0	3.00 3.52 9.525 4.0	★ (1)
Z22R4.0S0	4.00 4.65 12.7 5.0	★ (1)
Z22R4.5S0	4.50 4.65 12.7 5.0	★ (1)
Z22R5.0S0	5.00 4.65 12.7 5.0	★ (1)
Z22R6.0S0	6.00 4.65 12.7 5.0	★ (1)

1 Selecting insert category

2 Insert type, Chip-breaker, Size and grade

Cemented carbide and cermet inserts

For finishing**DNEG-NGF****VNEG-NGF****CNMG-DF****CNMG-SF****CNMG-EF****CNEG-NF****DNMG-DF**

Cutting edge length

15

16

09,12

09,12

09,12

12

11,15

Page

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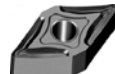
A54

A54

A54

A55

A61

**DNMG-SF****DNMG-EF****DNEG-NF****SNMG-DF****SNMG-EF****SNMG-SF****TNMG-DF****TNMG-SF**

Cutting edge length

11,15

11,15

15

09,12

09,12,15

09,12,15

16,22

11,16,22

Page

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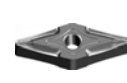
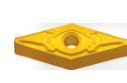
A67

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A67

A75

A75

**TNMG-EF****VNMG-DF****VNMG-EF****VNEG-NF****VNMG-SF****WNMG-DF****WNMG-SF****WNMG-EF**

Cutting edge length

11,16,22

16

16

16

16

06,08

06,08

06,08

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**Wiper****For finishing****WNEG-NF****CNMG-WGF****DNMX-WGF****TNMX-WGF****WNMG-WGF**

Cutting edge length

08

12

11,15

16

06,08

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For semi-finishing**For semi-finishing****CNMG-WGM****DNMX-WGM****TNMX-WGM****WNMG-WGM****CNMG-PM**

Cutting edge length

12

15

16

06,08

09,12,16,19

Page

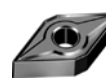
A55

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**CNMG-DM****CNMG-EM****CNMG-NM****DNMG-PM****DNMG-DM****DNMG-EM****DNMG-NM****SNMG-PM**

Cutting edge length

09,12,16,19

12,16

12

11,15

11,15

11,15

15

09,12,15,19

Page

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**SNMG-DM****SNMG-EM****SNMG-NM****TNMG-PM****TNMG-DM****TNMG-EM****VNMG-PM****VNMG-DM**

Cutting edge length

09,12,15,19

12,15

12

11,16,22

11,16,22

16,22

16

16

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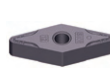
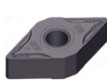
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VNMG-EM	VNMG-NM	WNMG-PM	WNMG-DM	WNMG-EM	WNMG-NM	
Cutting edge length	16	16	06,08	06,08	06,08	08
Page	A82	A82	A85	A85	A85	A86

For roughing



CNMG-SNR	DNMG-SNR	SNMG-SNR	TNMG-SNR	VNMG-SNR	WNMG-SNR	
Cutting edge length	12,16,19	15	12	16	16	08
Page	A58	A65	A72	A78	A82	A86



CNMM-LR	DNMM-LR	SNMM-LR	TNMM-LR	CNMG-DR	CNMM-DR	CNMG-ER	CNMM-ER	
Cutting edge length	12,16,19,25	15	12,15,19,25	16,22	12,16,19	12,16,19,25	12,16,19	25
Page	A57	A65	A69	A77	A58	A58	A58	A58



DNMG-DR	DNMM-DR	DNMG-ER	DNMM-ER	SNMG-DR	SNMM-DR	SNMG-ER	SNMM-ER	
Cutting edge length	15	15	15	15	12,15,19	12,15,19,25	12,15,19	25
Page	A65	A65	A65	A65	A70	A70-71	A71	A72



TNMG-DR	TNMM-DR	TNMG-ER	WNMG-DR	
Cutting edge length	16,22,27	16,22,27	16,22	06,08
Page	A78	A78	A78	A86

For heavy machining



CNMM-HPR	SNMM-HPR	175.32-22/227	175.32-24	175.32-25	175.32-28	
Cutting edge length	19,25	19,25	19	19,30	19	19
Page	A59	A72	A88	A88	A88	A88

For profiling



All round

KNUX	CNMG	CNMM	DNMG	
Cutting edge length	16	12,16,19	12,19	15,19
Page	A87	A60	A60	A66



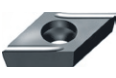
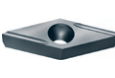
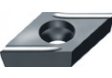
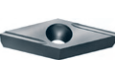
SNMG	SNMM	TNMG	TNMM	VNMG	
Cutting edge length	09,12,15,19,25	09,12,19,25	11,16,22,27,33	16,22,27	16
Page	A73	A73-74	A79	A80	A82

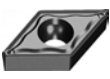
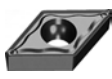
Negative inserts

Without chipbreaker

					
	CNMA	DNMA	SNMA	TNMA	WNMA
Cutting edge length	12,16,19	11,15	09,12,15,19	16,22,27	06,08
Page	A59	A66	A74	A80	A86

For extra finishing

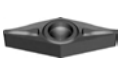
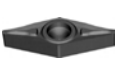
							
		CCGT-USF	DCGT-USF	TCGT-USF	VCGT-USF	DPGT-USF	VPGT-USF
Cutting edge length		09	07,11	11	08,11	07,11	08,11
Page		A89	A93	A100	A105	A111	A114

								
	CCGT-SF	DCGT-SF	TCGT-SF	VCGT-SF	VBGT-SF	CPGT-SF	DPGT-SF	TBGH-L
Cutting edge length	06,09	07,11	06,09,11	11	11	06,09	07,11	06
Page	A89	A93	A100	A105	A108	A110	A111	A113

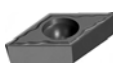
		
	TPGT-SF	TPGH-L
Cutting edge length	09,11	09,11
Page	A113	A113

For finishing

							
	VCGT-NGF	VBET-NGF	CCMT-HF	CCMT-EF	DCMT-HF	DCMT-EF	SCMT-HF
Cutting edge length	16	16	06,09,12	06,09,12	07,11	07,11	09
Page	A105	A108	A89	A90	A93	A94	A98

								
	SCMT-EF	TCMT-HF	TCMT-EF	VCGT-HF	VCGT-NF	VBMT-EF	VBMT-HF	VBET-NF
Cutting edge length	09	06,09,11,16	09,11,16	11	16	11,16	11	16
Page	A98	A101	A102	A105	A105	A108	A108	A108

For semi-finishing

							
	CCMT-HM	CCMT-EM	DCMT-HM	DCMT-EM	SCMT-HM	SCMT-EM	TCMT-HM
Cutting edge length	06,09,12	06,09,12	07,11	07,11	09,12	09,12	09,11,16
Page	A90	A90	A94	A94	A98	A98	A103

Positive inserts



TCMT-EM



VBMT-EM



VBMT-HM

Cutting edge
length 09,11,16

11

16

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**For
roughing**

VBMT-SNR



CCMT-HR



DCMT-HR



SCMT-HR



TCMT-HR



VBMT-HR

Cutting edge
length 16

06,09,12

11

09,12

09,11,16,22

16

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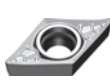
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**For AI
machining**

CCGX-LC



DCGX-LC



SCGX-LC



TCGX-LC



VCGX-LC

Cutting edge
length 06,09,12

07,11

09,12

09,11,16

11,16,22

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CCGX-LH



DCGX-LH



RCGX-LH



SCGX-LH



TCGX-LH



VCGX-LH

Cutting edge
length 06,09,12

07,11

08

09,12

09,11,16

11,16,22

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All round

RCM(G)T



RCMX



SCMT



TCMT



WCMX-53

Cutting edge
length 08,10,12,16

08,10,12,16,20,25,32

09,12

22

04,06,08

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**Without
chipbreaker**

CCMW



DCMW



SCMW



TCMW



SPMW

Cutting edge
length 06,09,12

07,11

06,09,12

11,16,22

09,12

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New PCBN&PCD inserts

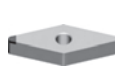
CNGA



DNGA



TNGA



VNGA



WNGA

Cutting edge
length 12

15

16

16

08

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Negative inserts

**PCBN inserts
turning case****CNGN****DNGN****SNGN****RNGN**Cutting edge
length

12

11

12,15

09,12,15

Page

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Positive inserts

**CCGW****CCMX****DCGW****DCMX****TCGW****TCMX****VBGW****VBMX**Cutting edge
width

06,09,12

06,09,12

07,11

07,11

09,11,16

09,11,16

16

16

Page

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**VCGW****VCMX**Cutting edge
width

16

16

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Ceramic inserts**RCGN****RPGN**Cutting edge
width

09,12

09,12

Page

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Parting and grooving inserts

Little squirrel series



ZP□D-MG

ZP□S-MG

ZT□D-MG

ZT□D-MM

ZT□S-MG

ZT□D-EG

Cutting edge width

1.5,2.0,2.5,3,4,5,6

2.5,3,4,5,6

2.5,3,4,5,6

1.5,2,3,4,5,6,8

5,6

1-2.4(tailor-made)

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ZT□D-EG

ZIMF-NM

ZIMF-SM

ZR□D-MG

ZR□D-NM

ZR□D-EG

ZIGQ-NM

Cutting edge width

2.4-6.5(tailor-made)

3,4,5,6

3,4,5,6

2.5,3,4,5,6

3,4,5,6

3,4,5,6

3,4,5,6

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Supplemental series



ZIGQ-NF

ZR□D-LH

ZILD-LC

ZQMX-1E

Cutting edge width

3,4,5,6

6,8

8

3.125,4.125,5.125,6.4,7.05

Page

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Threading inserts

Right hand type shown

ISO metric thread

General pitch thread

Whitworth thread



External thread

Internal thread

External thread

Internal thread

External thread

Internal thread

Pitch/
Number of pitch

0.5~6

0.5~6

0.5~5

0.5~5

8~19

8~19

Page

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Right hand type shown

Unified thread

British Standard pipe thread

American standard pipe thread



External thread

Internal thread

External thread

Internal thread

External thread

Internal thread

Pitch/
Number of pitch

8~24

8~24

11~28

11~28

8~27

8~27

Page

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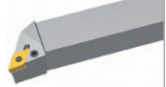
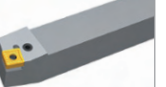


Tool holders for external turning

D-type clamping system

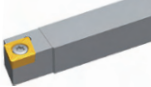
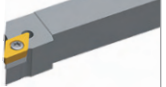
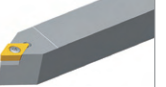
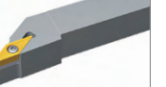
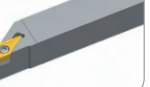
DCLNR/L	DDJNR/L	DSBNR/L	DTGNR/L	DVVNN	DVJNR/L	DWLNR/L
						
Approach angle 95°	93°	75°	91°	72°30'	93°	95°
Page A154	A155	A156	A157	A158	A159	A160

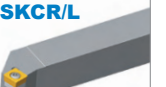
P-type clamping system

PCBNR/L	PCLNR/L	PDJNR/L	PDPNN	PSBNR/L	PSDNN	PSKNR/L
						
Approach angle 75°	95°	93°	62°30'	75°	45°	75°
Page A161	A162	A163	A164	A165	A166	A167

PSSNR/L	PTFNR/L	PTTNR/L	PTGNR/L	PWLNR/L
				
Approach angle 45°	90°	60°	90°	95°
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S-type clamping system

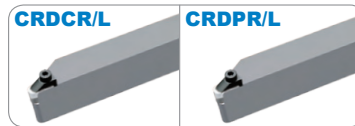
SCACR/L	SCLCR/L	SDACR/L	SDJCR/L	SDNCN	SVJBR/L	SVABR/L
						
Approach angle 90°	95°	90°	93°	62°30'	93°	90°
Page A173	A174	A175	A176	A177	A178	A179

SVVBN	SVVCN	SVJCR/L	SSBCR/L	SSDCN	SSKCR/L	SSSCR/L
						
Approach angle 72°30'	72°30'	93°	75°	45°	75°	45°
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STACR/L	STFCR/L	STGCR/L	STECR/L	SWACR/L	SRDCN	SRGCR/L
						
Approach angle 90°	90°	91°	60°	90°		
Page A187	A187	A188	A189	A190	A191	A192

C-type clamping system

Approach angle	93°	63°
Page	A193	A194

Turning tool holders for ceramic inserts

Approach angle		
Page	A195	A195

Turning tool holders for internal machining**P-type clamping system**

Approach angle	95°	62°30'	93°	75°	90°	95°
Page	A202	A203	A204	A205	A206	A207

S-type clamping system

Approach angle	95°	107°30'	93°	95°	75°	90°	107°30'
Page	A208	A209	A210	A211	A212	A213	A214



Approach angle	93°	107°30'	93°	95°	107°30'	93°	93°
Page	A215	A216	A217	A218	A219	A220	A221



Approach angle	90°	95°
Page	A222	A223

Damping tool holders



Approach angle	95°	107°30'	93°	93°	107°30'	93°
Page	A225	A226	A227	A228	A229	A229

Parting and grooving tools



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Threading tools



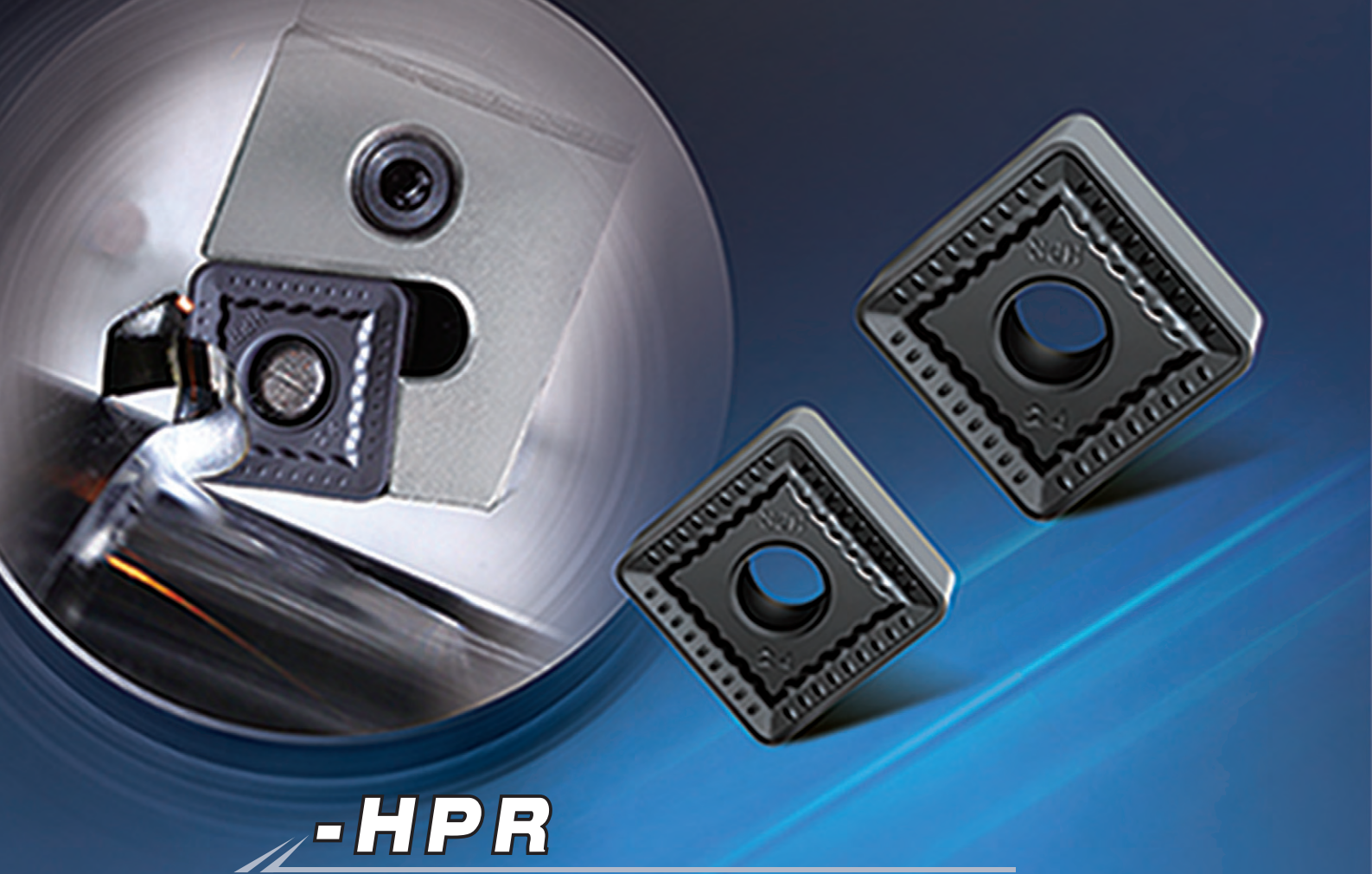
Page	A288	A289
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-WGM

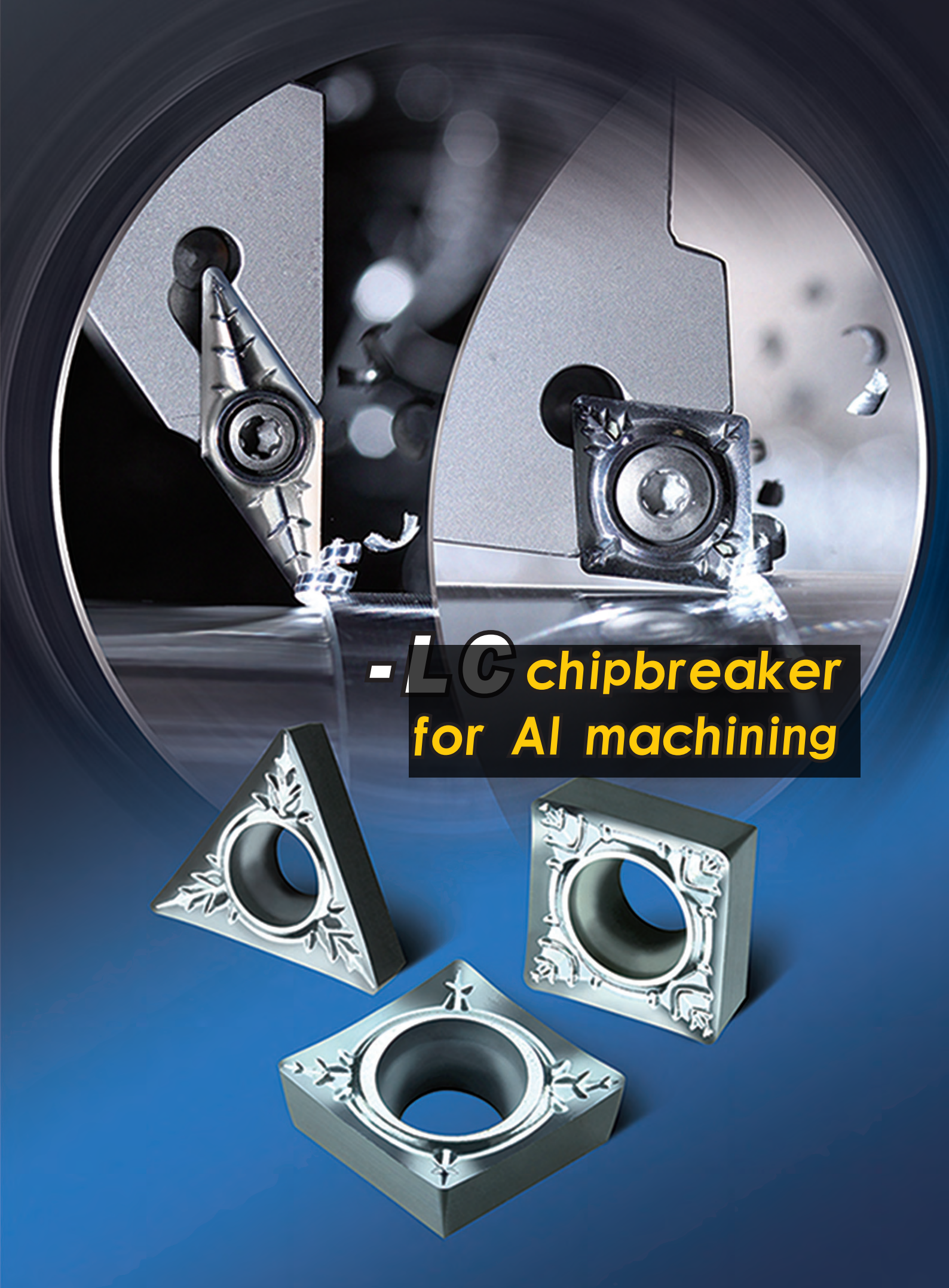
Wiper

-WGF

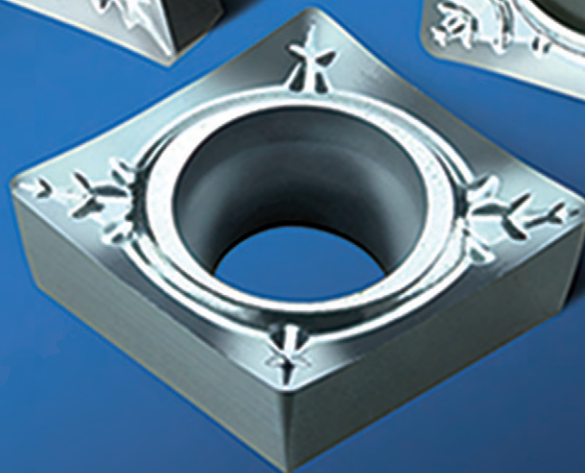
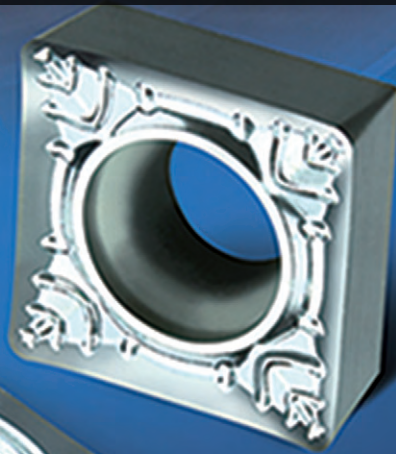
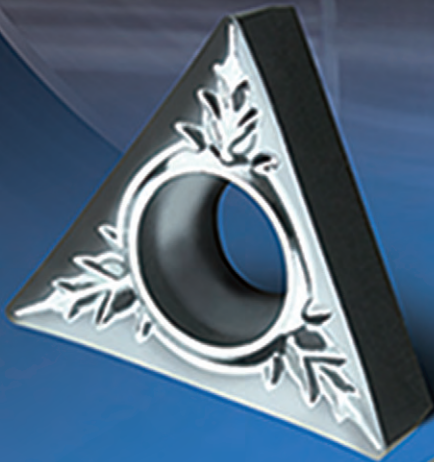


New Generation of Roughing Chipbreaker





**- LC chipbreaker
for Al machining**





New product
for turning

YBM153

Grade for stainless
steel machining

Best choice for cutting stainless
steel with high speed under good
working condition

ISO	General turning								Threading	Parting and grooving			
Code	Coating			Cermet	Coated cermet	Ceramic	Cemented carbide	PCBN	PCD	Coating	Coating		Cemented carbide
	CVD		PVD							PVD	CVD	PVD	
P Steel	01												
	10	YBC151								YBG202	YBG203		
	20	YBC251	YBC152									YBG205	
	30		YBC252	YBC351		CN2000	YC10				YBC251		YBG302
	40			YBC352			YC40						
M Stainless steel	01												
	10	YBM151	YBM153							YBG202	YBG203		
	20	YBM251										YBG205	
	30		YBM253										YBG302
	40												
K Cast iron	01												
	10	YBD052	YBD102					YCB011					
	20		YBD152		YNG151			YZB221		YBG202	YBG203	YBG205	
	30	YBD252				YNG151C						YBG302	YD201
	40												
N Non ferrous metal	01												
	10						YD101		YCD011				
	20									YBG202	YBG203		
	30												YD201
	40												
S Heat resistant alloy & Ti alloy	01												
	10	YBG102											
	20	YBG105								YBG202	YBG203	YBG102	
	30	YBG212										YBG302	
	40											YBG212	YD201
H Super hard material	01							YCB012					
	10												
	20									YBG202	YBG203		
	30												
	40												

General turning

Recommended grade overview for turning inserts

How to select general turning inserts

Turning inserts list

- Turning inserts listed according to shape
- Sequence of listed inserts
 - ▶ Negative inserts (with hole – without hole)
 - ▶ Positive inserts (with hole – without hole)
- Sequence of listed chipbreaker
 - For finishing – For semi-finishing – For roughing – For heavy cutting – Without chipbreaker – Through chipbreaker

Selecting grade according to workpiece material and working condition

Prior to select grade for insert according to working condition that is suitable for workpiece material

😊 Good working condition: machine works well and stably. There are high requirements for dimensional precision of components and quality surface.

😐 Normal working condition: machine works normally. There are certain requirements for dimensional precision of components and surface quality.

😞 Bad working condition: machine works with bad stability. There are high requirements for metal evacuation rate.

Main category of products

Positive or negative inserts

Shape and dimensions

L: cutting edge length
 ØI.C: diameter of inscribed circle
 S: Thickness
 ød: Hole diameter
 r: Nose radius

Type

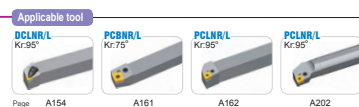
CN		[] []		[] (Negative inserts)		Good working condition 😊 Normal working condition 😐 Bad working condition 😞																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
						Steel P Stainless steel M Cast iron K Non-ferrous metal S Heat resistant alloy Ti alloy																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Inserts shape	Type	Dimensions (mm)					Coated cemented carbide										Cemented carbide	Cemented carbide																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		L	ØI.C	S	ad	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBM151	YBM153	YBM251	YBM253	YBM351	YBM352	YBM451	YBM453	YBM551	YBM553	YBM651	YBM653	YBM751	YBM753	YBM851	YBM853	YBM951	YBM953	YBM1051	YBM1053	YBM1151	YBM1153	YBM1251	YBM1253	YBM1351	YBM1353	YBM1451	YBM1453	YBM1551	YBM1553	YBM1651	YBM1653	YBM1751	YBM1753	YBM1851	YBM1853	YBM1951	YBM1953	YBM2051	YBM2053	YBM2151	YBM2153	YBM2251	YBM2253	YBM2351	YBM2353	YBM2451	YBM2453	YBM2551	YBM2553	YBM2651	YBM2653	YBM2751	YBM2753	YBM2851	YBM2853	YBM2951	YBM2953	YBM3051	YBM3053	YBM3151	YBM3153	YBM3251	YBM3253	YBM3351	YBM3353	YBM3451	YBM3453	YBM3551	YBM3553	YBM3651	YBM3653	YBM3751	YBM3753	YBM3851	YBM3853	YBM3951	YBM3953	YBM4051	YBM4053	YBM4151	YBM4153	YBM4251	YBM4253	YBM4351	YBM4353	YBM4451	YBM4453	YBM4551	YBM4553	YBM4651	YBM4653	YBM4751	YBM4753	YBM4851	YBM4853	YBM4951	YBM4953	YBM5051	YBM5053	YBM5151	YBM5153	YBM5251	YBM5253	YBM5351	YBM5353	YBM5451	YBM5453	YBM5551	YBM5553	YBM5651	YBM5653	YBM5751	YBM5753	YBM5851	YBM5853	YBM5951	YBM5953	YBM6051	YBM6053	YBM6151	YBM6153	YBM6251	YBM6253	YBM6351	YBM6353	YBM6451	YBM6453	YBM6551	YBM6553	YBM6651	YBM6653	YBM6751	YBM6753	YBM6851	YBM6853	YBM6951	YBM6953	YBM7051	YBM7053	YBM7151	YBM7153	YBM7251	YBM7253	YBM7351	YBM7353	YBM7451	YBM7453	YBM7551	YBM7553	YBM7651	YBM7653	YBM7751	YBM7753	YBM7851	YBM7853	YBM7951	YBM7953	YBM8051	YBM8053	YBM8151	YBM8153	YBM8251	YBM8253	YBM8351	YBM8353	YBM8451	YBM8453	YBM8551	YBM8553	YBM8651	YBM8653	YBM8751	YBM8753	YBM8851	YBM8853	YBM8951	YBM8953	YBM9051	YBM9053	YBM9151	YBM9153	YBM9251	YBM9253	YBM9351	YBM9353	YBM9451	YBM9453	YBM9551	YBM9553	YBM9651	YBM9653	YBM9751	YBM9753	YBM9851	YBM9853	YBM9951	YBM9953	YBM10051	YBM10053	YBM10151	YBM10153	YBM10251	YBM10253	YBM10351	YBM10353	YBM10451	YBM10453	YBM10551	YBM10553	YBM10651	YBM10653	YBM10751	YBM10753	YBM10851	YBM10853	YBM10951	YBM10953	YBM11051	YBM11053	YBM11151	YBM11153	YBM11251	YBM11253	YBM11351	YBM11353	YBM11451	YBM11453	YBM11551	YBM11553	YBM11651	YBM11653	YBM11751	YBM11753	YBM11851	YBM11853	YBM11951	YBM11953	YBM12051	YBM12053	YBM12151	YBM12153	YBM12251	YBM12253	YBM12351	YBM12353	YBM12451	YBM12453	YBM12551	YBM12553	YBM12651	YBM12653	YBM12751	YBM12753	YBM12851	YBM12853	YBM12951	YBM12953	YBM13051	YBM13053	YBM13151	YBM13153	YBM13251	YBM13253	YBM13351	YBM13353	YBM13451	YBM13453	YBM13551	YBM13553	YBM13651	YBM13653	YBM13751	YBM13753	YBM13851	YBM13853	YBM13951	YBM13953	YBM14051	YBM14053	YBM14151	YBM14153	YBM14251	YBM14253	YBM14351	YBM14353	YBM14451	YBM14453	YBM14551	YBM14553	YBM14651	YBM14653	YBM14751	YBM14753	YBM14851	YBM14853	YBM14951	YBM14953	YBM15051	YBM15053	YBM15151	YBM15153	YBM15251	YBM15253	YBM15351	YBM15353	YBM15451	YBM15453	YBM15551	YBM15553	YBM15651	YBM15653	YBM15751	YBM15753	YBM15851	YBM15853	YBM15951	YBM15953	YBM16051	YBM16053	YBM16151	YBM16153	YBM16251	YBM16253	YBM16351	YBM16353	YBM16451	YBM16453	YBM16551	YBM16553	YBM16651	YBM16653	YBM16751	YBM16753	YBM16851	YBM16853	YBM16951	YBM16953	YBM17051	YBM17053	YBM17151	YBM17153	YBM17251	YBM17253	YBM17351	YBM17353	YBM17451	YBM17453	YBM17551	YBM17553	YBM17651	YBM17653	YBM17751	YBM17753	YBM17851	YBM17853	YBM17951	YBM17953	YBM18051	YBM18053	YBM18151	YBM18153	YBM18251	YBM18253	YBM18351	YBM18353	YBM18451	YBM18453	YBM18551	YBM18553	YBM18651	YBM18653	YBM18751	YBM18753	YBM18851	YBM18853	YBM18951	YBM18953	YBM19051	YBM19053	YBM19151	YBM19153	YBM19251	YBM19253	YBM19351	YBM19353	YBM19451	YBM19453	YBM19551	YBM19553	YBM19651	YBM19653	YBM19751	YBM19753	YBM19851	YBM19853	YBM19951	YBM19953	YBM20051	YBM20053	YBM20151	YBM20153	YBM20251	YBM20253	YBM20351	YBM20353	YBM20451	YBM20453	YBM20551	YBM20553	YBM20651	YBM20653	YBM20751	YBM20753	YBM20851	YBM20853	YBM20951	YBM20953	YBM21051	YBM21053	YBM21151	YBM21153	YBM21251	YBM21253	YBM21351	YBM21353	YBM21451	YBM21453	YBM21551	YBM21553	YBM21651	YBM21653	YBM21751	YBM21753	YBM21851	YBM21853	YBM21951	YBM21953	YBM22051	YBM22053	YBM22151	YBM22153	YBM22251	YBM22253	YBM22351	YBM22353	YBM22451	YBM22453	YBM22551	YBM22553	YBM22651	YBM22653	YBM22751	YBM22753	YBM22851	YBM22853	YBM22951	YBM22953	YBM23051	YBM23053	YBM23151	YBM23153	YBM23251	YBM23253	YBM23351	YBM23353	YBM23451	YBM23453	YBM23551	YBM23553	YBM23651	YBM23653	YBM23751	YBM23753	YBM23851	YBM23853	YBM23951	YBM23953	YBM24051	YBM24053	YBM24151	YBM24153	YBM24251	YBM24253	YBM24351	YBM24353	YBM24451	YBM24453	YBM24551	YBM24553	YBM24651	YBM24653	YBM24751	YBM24753	YBM24851	YBM24853	YBM24951	YBM24953	YBM25051	YBM25053	YBM25151	YBM25153	YBM25251	YBM25253	YBM25351	YBM25353	YBM25451	YBM25453	YBM25551	YBM25553	YBM25651	YBM25653	YBM25751	YBM25753	YBM25851	YBM25853	YBM25951	YBM25953	YBM26051	YBM26053	YBM26151	YBM26153	YBM26251	YBM26253	YBM26351	YBM26353	YBM26451	YBM26453	YBM26551	YBM26553	YBM26651	YBM26653	YBM26751	YBM26753	YBM26851	YBM26853	YBM26951	YBM26953	YBM27051	YBM27053	YBM27151	YBM27153	YBM27251	YBM27253	YBM27351	YBM27353	YBM27451	YBM27453	YBM27551	YBM27553	YBM27651	YBM27653	YBM27751	YBM27753	YBM27851	YBM27853	YBM27951	YBM27953	YBM28051	YBM28053	YBM28151	YBM28153	YBM28251	YBM28253	YBM28351	YBM28353	YBM28451	YBM28453	YBM28551	YBM28553	YBM28651	YBM28653	YBM28751	Y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Grade

Size

Stock

Illustration of stock



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Insert code key	Grade selection reference	Chipbreaker selection reference	Recommended cutting parameters
A50-A51	A19/A36-A47	A22-A35	A230-A232

Reference page of tool holders

Application of inserts

Shape

Insert chipbreaker
Chipbreaker code

Recommended cutting parameters
Chipbreaker selection reference
Grade selection reference
Insert code key