Insert

Insert - Content structure

- Inserts are grouped in Positive type, Negative type, and CBN/PCD.
- The list is in alphabetical order.
- The order of the list: C (80°) → D (55°) → R (360°) → S (90°) → T (60°) → V (35°) → W (80°) → Y (25°) → Other shapes
- The order of inserts:
  - Negative type (each shape with hole → without hole)
  - Positive type (each shape with hole → without hole)
- The order of chipbreakers:
  From precision finishing to heavy cutting, in the order of the values of cutting depth and feed rate.
- Insert without chipbreaker is on the last page of each shape.
- Introduces the proposed inserts according to the workpiece materials and the shape of workpiece materials.
- The standard cutting conditions for typical chipbreakers are at the bottom of the pages.
- ● in the catalog describes our standard items, and ▲ means the item to be discontinued in the future.

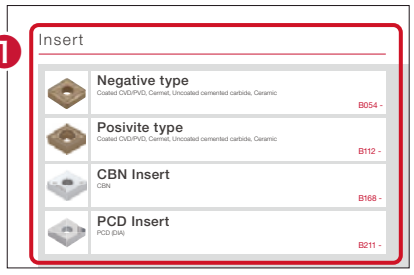
How to use the page

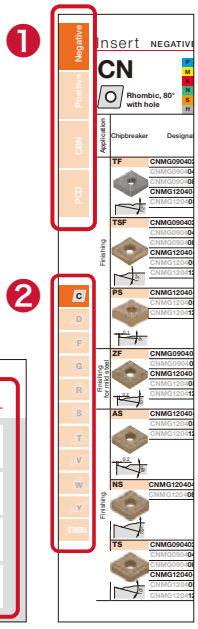
Method ①

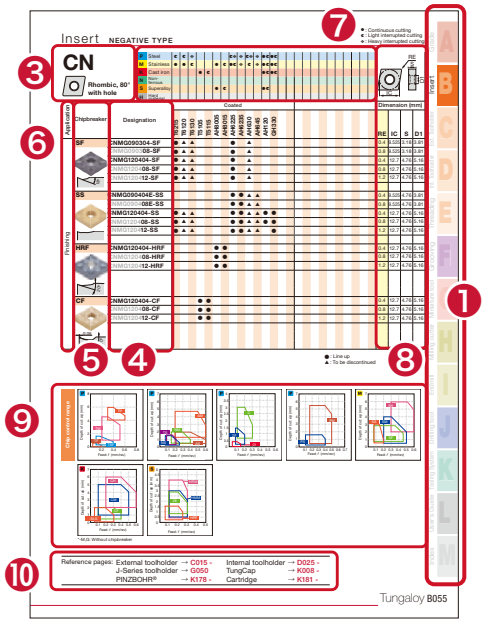
Select an insert at the right end, and choose the information page by the insert type (❶) and the outer shape of the insert (❷) at the left end.

Method ②

Check the page of each insert type from the index on B003 (❶), and choose the page of the setting information according to the outer shape of the insert (❷).

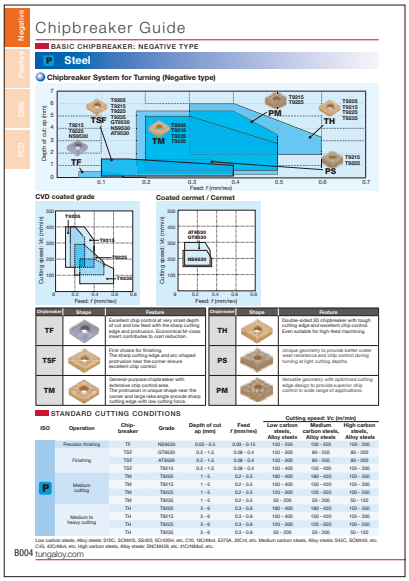


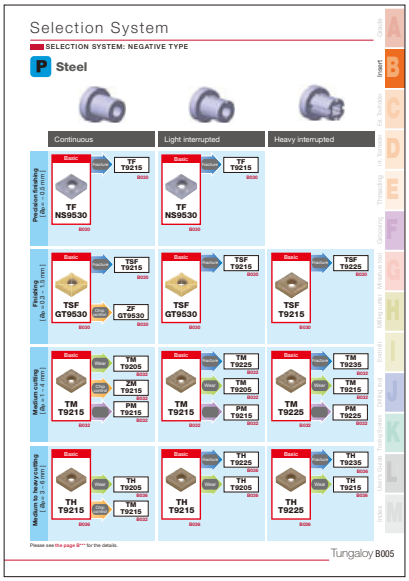




Method ③

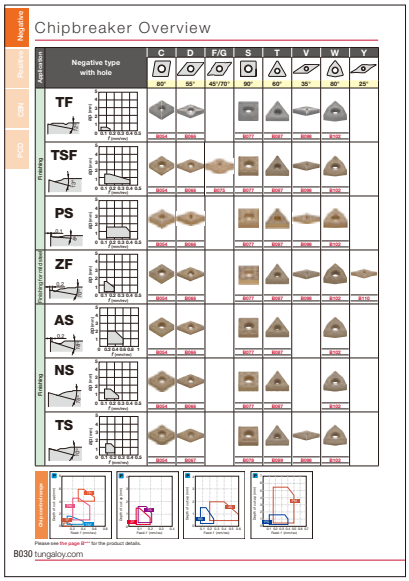
Select an insert at the chipbreaker introduction and the selection guide on B004 - B029 and check the details on the product page.





Method ④

Select an insert from the list of chipbreaker shapes on B030-B053 and check the details on each page.



When ordering

- Please specify the designation, grade, and quantity.
  e.g. **CNMG120408-TM T9215 ... 10 pieces** (10 inserts per package)
  *You will find a note if the number per package is not 10.

Insert

Negative type

Coated CVD/PVD, Cermet, Uncoated cemented carbide, Ceramic

B054 -

Posivite type

Coated CVD/PVD, Cermet, Uncoated cemented carbide, Ceramic

B112 -

CBN Insert

CBN

B168 -

PCD Insert

PCD (DIA)

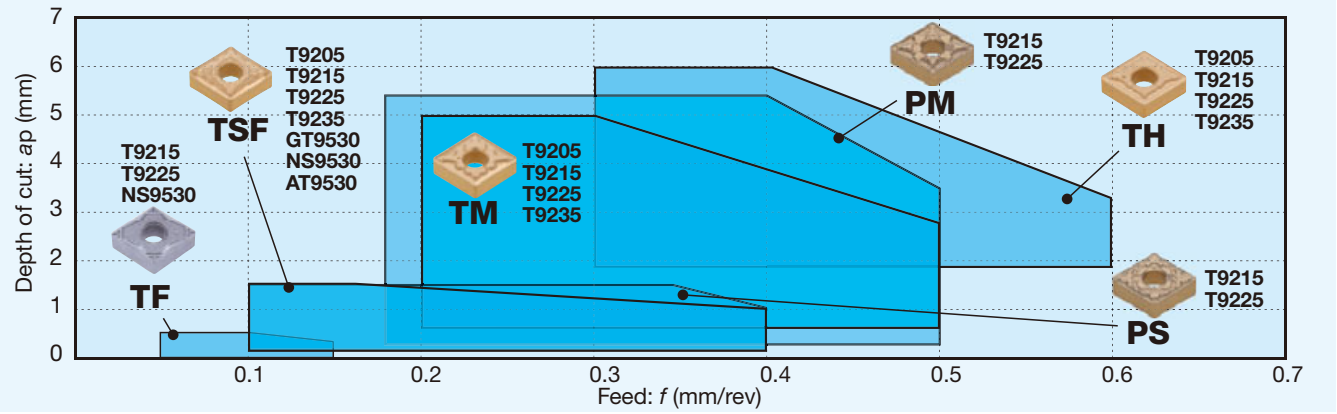
B211 -

Chipbreaker Guide

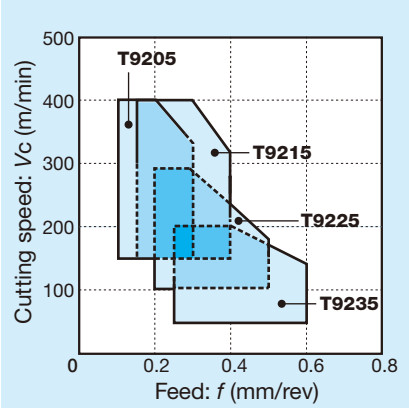
BASIC CHIPBREAKER: NEGATIVE TYPE

P Steel

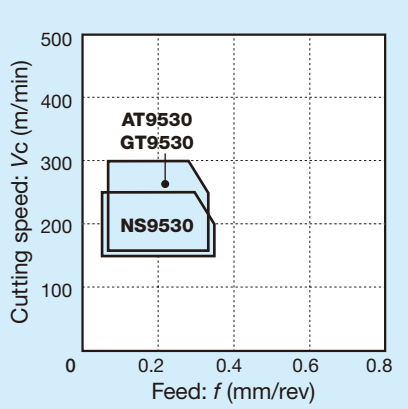
Chipbreaker System for Turning (Negative type)

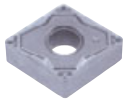


CVD coated grade



Coated cermet / Cermet



Chipbreaker	Shape	Feature
TF		Excellent chip control at very small depth of cut and low feed with the sharp cutting edge and protrusion. Economical M-class insert contributes to cost reduction.
TSF		First choice for finishing. The sharp cutting edge and arc-shaped protrusion near the corner ensure excellent chip control.
TM		General-purpose chipbreaker with extensive chip control area. The protrusion in unique shape near the corner and large rake angle provide sharp cutting edge with low cutting force.

Chipbreaker	Shape	Feature
TH		Double-sided 3D chipbreaker with tough cutting edge and excellent chip control. Even suitable for high-feed machining.
PS		Unique geometry to provide better crater wear resistance and chip control during turning at light cutting depths.
PM		Versatile geometry with optimized cutting edge design to provide superior chip control in wide range of applications.

STANDARD CUTTING CONDITIONS

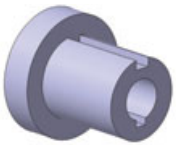
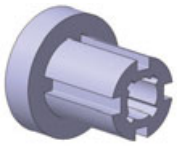
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min) Low carbon steels, Alloy steels	Medium carbon steels, Alloy steels	High carbon steels, Alloy steels
P	Precision finishing	TF	NS9530	0.05 - 0.5	0.03 - 0.15	150 - 250	100 - 250	100 - 200
	Finishing	TSF	GT9530	0.2 - 1.5	0.08 - 0.4	150 - 300	80 - 250	80 - 200
		TSF	AT9530	0.2 - 1.5	0.08 - 0.4	150 - 300	80 - 250	80 - 200
		TSF	T9215	0.2 - 1.5	0.08 - 0.4	150 - 400	150 - 400	120 - 300
	Medium cutting	TM	T9205	1 - 5	0.2 - 0.5	180 - 400	180 - 400	150 - 350
		TM	T9215	1 - 5	0.2 - 0.5	150 - 400	150 - 400	120 - 300
		TM	T9225	1 - 5	0.2 - 0.5	120 - 300	120 - 300	100 - 250
		TM	T9235	1 - 5	0.2 - 0.5	50 - 200	50 - 200	50 - 150
	Medium to heavy cutting	TH	T9205	3 - 6	0.3 - 0.6	180 - 400	180 - 400	150 - 350
		TH	T9215	3 - 6	0.3 - 0.6	150 - 400	150 - 400	120 - 300
		TH	T9225	3 - 6	0.3 - 0.6	120 - 300	120 - 300	100 - 250
		TH	T9235	3 - 6	0.3 - 0.6	50 - 200	50 - 200	50 - 150

Low carbon steels, Alloy steels: S10C、SCM415, SS400, SCr420H, etc. C10, 18CrMo4, E275A, 20Cr4, etc. Medium carbon steels, Alloy steels: S45C, SCM440, etc. C45, 42CrMo4, etc. High carbon steels, Alloy steels: SNCM439, etc. 41CrNiMo2, etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

P Steel

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic **TF NS9530** B030 → Fracture: **TF T9215** B030	Basic **TF NS9530** B030 → Fracture: **TF T9215** B030	
Finishing [a_p = 0.3 ~ 1.5 mm]	Basic **TSF GT9530** B030 → Fracture: **TSF T9215** B030; Chip control: **ZF GT9530** B030	Basic **TSF GT9530** B030 → Fracture: **TSF T9215** B030	Basic **TSF T9215** B030 → Fracture: **TSF T9225** B030
Medium cutting [a_p = 1 ~ 4 mm]	Basic **TM T9215** B032 → Wear: **TM T9205** B032; Chip control: **ZM T9215** B032; Crater wear: **PM T9215** B032	Basic **TM T9215** B032 → Fracture: **TM T9225** B032; Wear: **TM T9205** B032; Crater wear: **PM T9215** B032	Basic **TM T9225** B032 → Fracture: **TM T9235** B032; Wear: **TM T9215** B032; Crater wear: **PM T9225** B032
Medium to heavy cutting [a_p = 3 ~ 6 mm]	Basic **TH T9215** B036 → Wear: **TH T9205** B036; Chip control: **TM T9215** B032	Basic **TH T9215** B036 → Fracture: **TH T9225** B036; Wear: **TH T9205** B036	Basic **TH T9225** B036 → Fracture: **TH T9235** B036; Wear: **TH T9215** B036

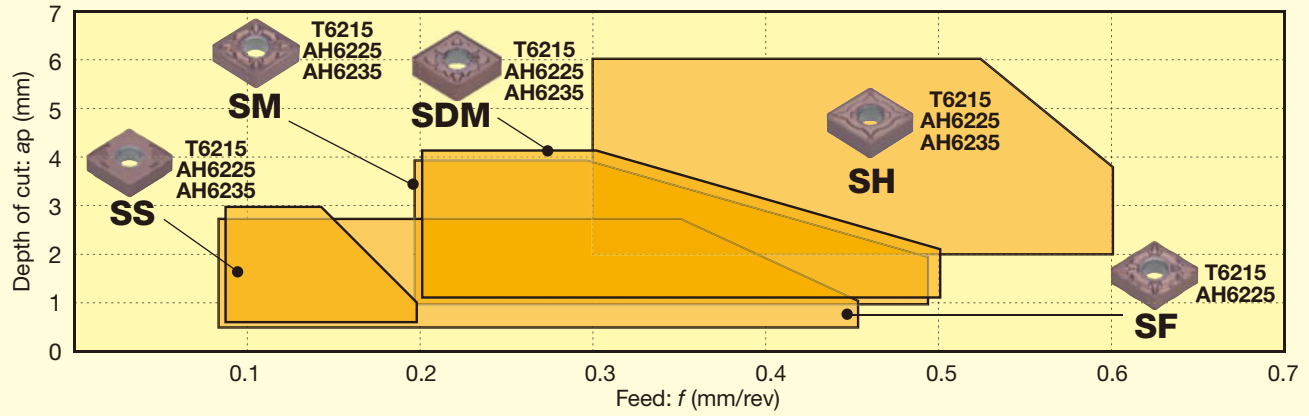
Please see the page B*** for the details.

Chipbreaker Guide

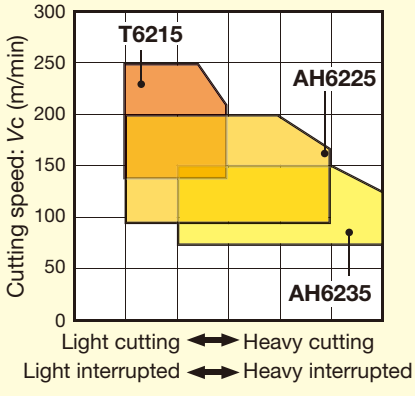
BASIC CHIPBREAKER: NEGATIVE TYPE

M Stainless Steel

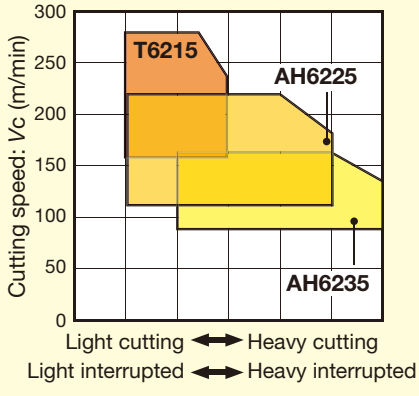
Chipbreaker System for Turning (Negative type)



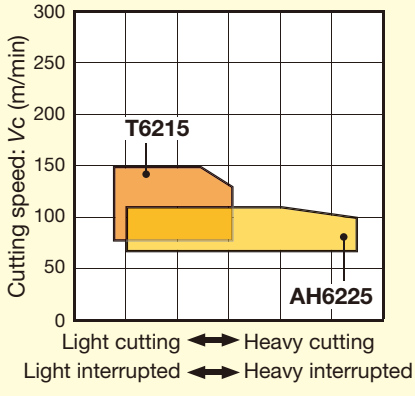
Austenitic stainless steel

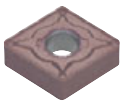


Ferritic / martensite stainless steel



Precipitation hardened stainless steel



Chipbreaker	Shape	Feature
SF		Excellent chip control with small depth of cut at high feed. Suitable for finishing stainless steel.
SH		Suitable for medium to heavy cutting. High fracture resistance with specially reinforced cutting edge. Ideal for machining that requires cutting edge strength. such as roughing and interrupted cutting.

Chipbreaker	Shape	Feature
SM		General-purpose chipbreaker with sharpness and good chip control. First choice for stainless steel.
SDM		Light cutting geometry for notch wear and crater wear resistance.

STANDARD CUTTING CONDITIONS

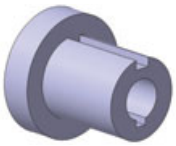
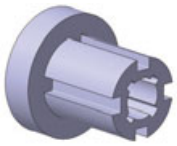
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)		
						Austenitic stainless steel	Ferritic / martensite stainless steel	Precipitation hardened stainless steel
M	Finishing	SF	T6215	0.5 - 2.5	0.08 - 0.45	140 - 240	160 - 280	80 - 150
			AH6225	0.5 - 2.5	0.08 - 0.45	90 - 200	110 - 240	60 - 110
			AH6235	0.5 - 2.5	0.08 - 0.45	50 - 150	70 - 170	-
	Medium cutting	SM	T6215	1 - 4	0.2 - 0.5	140 - 240	160 - 280	80 - 150
			AH6225	1 - 4	0.2 - 0.5	90 - 200	110 - 240	60 - 110
			AH6235	1 - 4	0.2 - 0.5	50 - 150	70 - 170	-
		SDM	T6215	1 - 4	0.2 - 0.5	140 - 240	160 - 280	80 - 150
			AH6225	1 - 4	0.2 - 0.5	90 - 200	110 - 240	60 - 110
			AH6235	1 - 4	0.2 - 0.5	50 - 150	70 - 170	-
	Heavy cutting	SH	T6215	2 - 6	0.3 - 0.6	140 - 240	160 - 280	80 - 150
			AH6225	2 - 6	0.3 - 0.6	90 - 200	110 - 240	60 - 110
			AH6235	2 - 6	0.3 - 0.6	50 - 150	70 - 170	-

Stainless steels: SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

M Stainless Steel

	Continuous	Light interrupted	Heavy interrupted
Finishing [a_p = 0.5 ~ 1.5 mm]	Basic **SF T6215** B031 Fracture → **SF AH6225** B031 Chip control → **SS AH6215** B031 Crater wear → **SDM T6215** B033	Basic **SF AH6225** B031 Fracture → **SF AH6235** B031 Wear → **SF T6215** B031 Chip control → **SS AH6225** B031 Crater wear → **SDM AH6225** B033	Basic **SF AH6225** B031 Fracture → **SM AH6225** B031 Wear → **SF T6215** B031
Medium cutting [a_p = 1 ~ 4 mm]	Basic **SM AH6225** B033 Wear → **SM T6215** B033 Chip control → **SS AH6225** B031 Crater wear → **SDM AH6225** B033	Basic **SM AH6225** B033 Fracture → **SM AH6235** B033 Wear → **SM T6215** B033 Chip control → **SS AH6225** B031 Crater wear → **SDM AH6225** B033	Basic **SM AH6235** B033 Fracture → **SH AH6235** B036 Wear → **SM AH6225** B033
Medium to heavy cutting [a_p = 2 ~ 6 mm]	Basic **SH AH6225** B036 Fracture → **SH AH6235** B036 Wear → **SH T6215** B036 Chip control → **SM AH6225** B033	Basic **SH AH6225** B036 Fracture → **SH AH6235** B036 Wear → **SH T6215** B036	Basic **SH AH6235** B036 Wear → **SH AH6225** B036

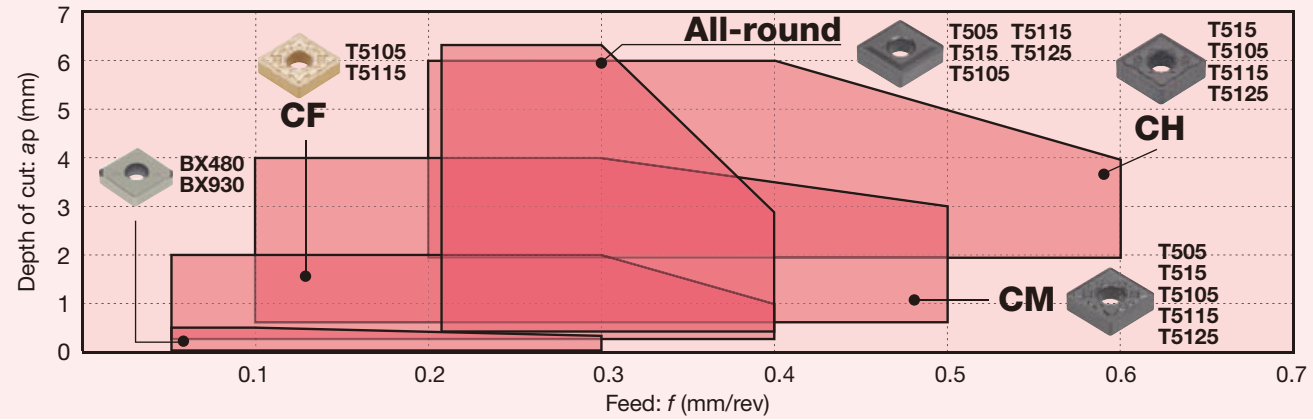
Please see the page B*** for the details.

Chipbreaker Guide

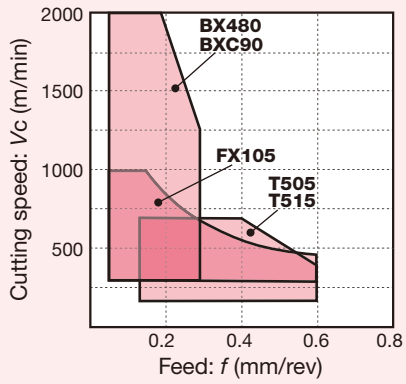
BASIC CHIPBREAKER: NEGATIVE TYPE

K Cast Iron

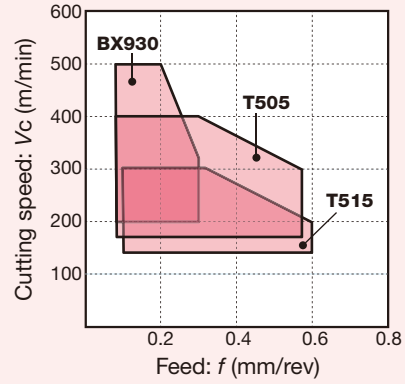
Chipbreaker System for Turning (Negative type)

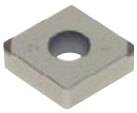


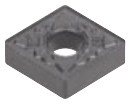
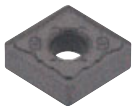
Grey cast iron



Ductile cast iron



Chipbreaker	Shape	Feature
-		Excellent performance in high-speed finishing of cast iron with CBN sintered body on the cutting edge.
CF		Low cutting force chipbreaker for cast iron. Combined with an arc-shaped high rake angle (substantially 20°) drastically reduces cutting force and prevents the deformation and burr of thin-walled components.
All-round		Excellent performance in interrupted cutting. Highly reliable chipbreaker with great stability.

Chip-breaker	Shape	Feature
CM		First choice for cast iron. Versatile chipbreaker for a wide range of applications from continuous to interrupted cutting thanks to the positive land and wide chip pocket.
CH		Chipbreaker with reinforced cutting edge. The negative land and the land support provide stable insert seating and increase cutting edge strength, resulting in no fracture even in heavy cutting.

STANDARD CUTTING CONDITIONS

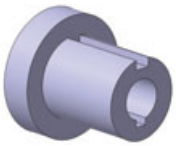
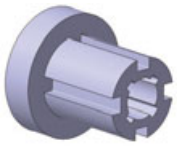
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)	
						Grey cast iron	Ductile cast iron
K	High speed cutting	-	BX930	0.05 - 0.5	0.05 - 0.2	300 - 1200	200 - 500
		-	BX480	0.05 - 0.5	0.05 - 0.3	300 - 2000	200 - 300
		-	BXC90	0.08 - 3	0.05 - 0.4	300 - 2000	200 - 300
	Finishing	All-round	T505	1 - 5	0.1 - 0.5	180 - 700	180 - 400
		All-round	T515	1 - 5	0.1 - 0.5	150 - 700	150 - 300
	Medium cutting	All-round	T505	1 - 5	0.1 - 0.5	180 - 700	180 - 400
		All-round	T515	1 - 5	0.1 - 0.5	150 - 700	150 - 300
		CH	T515	3 - 6	0.2 - 0.6	150 - 700	150 - 300
	Medium to heavy cutting	All-round	T515	1 - 5	0.1 - 0.5	150 - 700	150 - 300
		CH	T515	3 - 6	0.2 - 0.6	150 - 700	150 - 300

Grey cast iron: FC250, etc. 250, etc. Ductile cast iron: FCD450, etc. 450-10S, etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

K Cast Iron

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic **BX480** B168 - B188	Basic **BX480** B168 - B188 Fracture → **All-round T515** B033	Basic **BXC90** B168 - B188
Finishing [a_p = 0.5 ~ 2 mm]	Basic **All-round T505** B033 Fracture → **All-round T515** B033 Burr occurrence → **CF T5105** B031	Basic **All-round T515** B033 Wear → **All-round T505** B033 Fracture → **CH T515** B036 Burr occurrence → **CF T5115** B031	Basic **CH T515** B036 Wear → **All-round T505** B033 Burr occurrence → **All-round T515** B033
Medium cutting [a_p = 1 ~ 5 mm]	Basic **All-round T505** B033 Fracture → **All-round T515** B033 Burr occurrence → **CF T5105** B031	Basic **All-round T515** B033 Wear → **All-round T505** B033 Fracture → **CH T515** B036 Burr occurrence → **CF T5115** B031	Basic **CH T515** B036 Wear → **All-round T505** B033 Fracture → **CH T5125** B036 Burr occurrence → **All-round T515** B033
Medium to heavy cutting [a_p = 3 ~ 6 mm]	Basic **All-round T515** B033 Wear → **All-round T505** B033 Burr occurrence → **CF T5105** B031	Basic **All-round T515** B033 Wear → **All-round T505** B033 Fracture → **CH T515** B036 Burr occurrence → **CF T5115** B031	Basic **CH T515** B036 Wear → **All-round T505** B033 Fracture → **CH T5125** B036 Burr occurrence → **All-round T515** B033

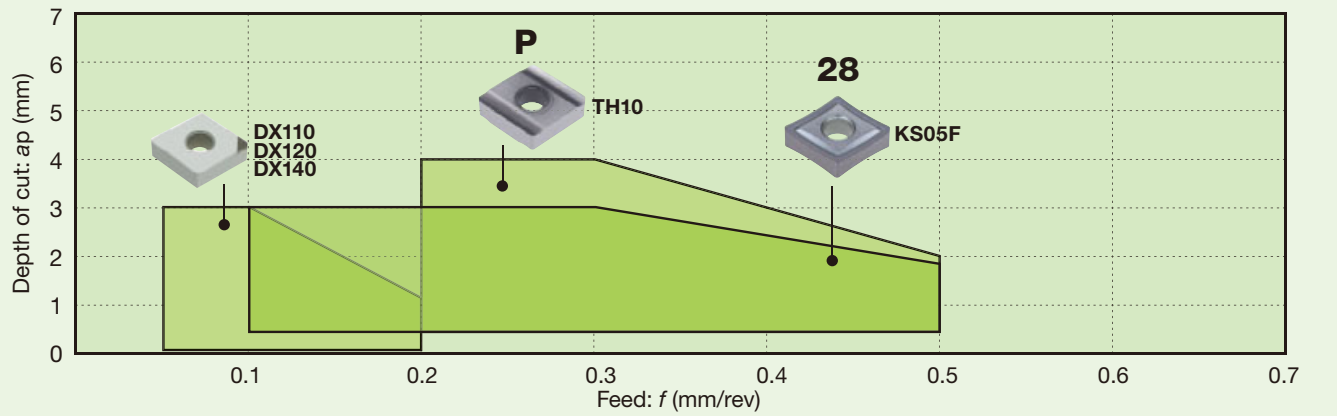
Please see the page B*** for the details.

Chipbreaker Guide

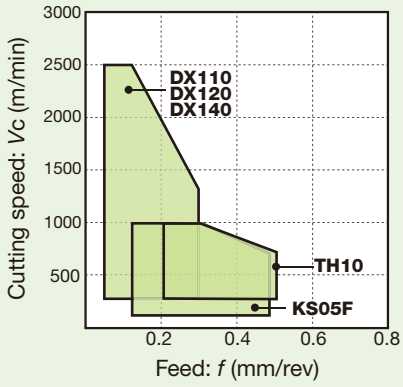
BASIC CHIPBREAKER: NEGATIVE TYPE

N Non-ferrous Metal

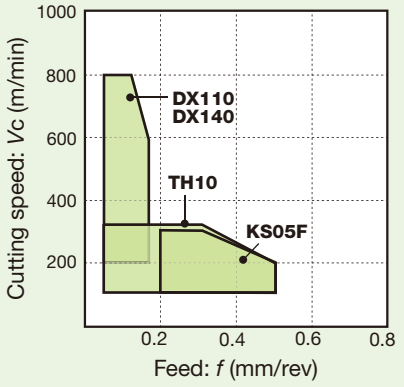
Chipbreaker System for Turning (Negative type)



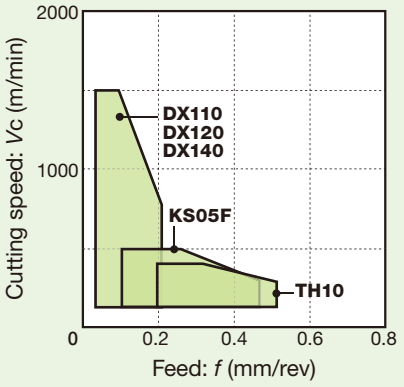
Aluminium alloy (Si < 12%)

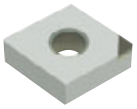
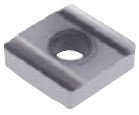


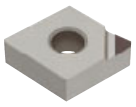
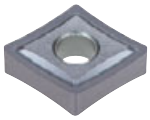
Aluminium alloy (Si ≥ 12%)



Copper alloy



Chipbreaker	Shape	Feature
-		Excellent performance in high-speed finishing of non-ferrous metal, such as aluminium and copper alloy, with diamond sintered body on the cutting edge.
P		Excellent sharpness for non-ferrous metal, such as aluminium and copper alloy.

Chipbreaker	Shape	Feature
With chip-breaker		Wide chipbreaker for excellent chip control.
28		Low cutting geometry with large inclination for finishing to medium cutting range.

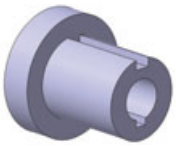
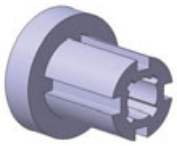
STANDARD CUTTING CONDITIONS

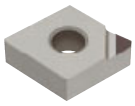
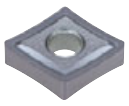
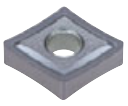
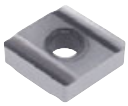
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min) Aluminium alloy (Si < 12%)	Aluminium alloy (Si ≥ 12%)	Copper alloy
N	Precision finishing	With	DX110	0.05 - 0.5	0.05 - 0.15	500 - 2500	400 - 800	500 - 1500
		-	DX140	0.05 - 0.5	0.05 - 0.20	300 - 2500	400 - 800	500 - 1500
	Finishing	With	DX110	0.05 - 2	0.05 - 0.15	500 - 2500	400 - 800	500 - 1500
		-	DX140	0.05 - 2	0.05 - 0.15	300 - 1800	400 - 600	400 - 1200
		P	TH10	0.5 - 4	0.2 - 0.5	100 - 1000	100 - 300	100 - 300
	Medium cutting	P	KS05F	0.5 - 3	0.1 - 0.5	100 - 1200	100 - 300	100 - 300
		P	KS05F	0.5 - 3	0.1 - 0.5	100 - 1200	100 - 300	100 - 300
		P	TH10	0.5 - 4	0.2 - 0.5	100 - 1000	100 - 300	100 - 300

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

N Non-ferrous Metal

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic  With chipbreaker **DX110** B211 - B212 → Wear → **DX140** B211 - B212	Basic **DX140** B211 - B212 → Surface quality → With chipbreaker **DX110** B211 - B212 / Wear → **DX160** B211 - B212	
Finishing [a_p = 0.5 ~2 mm]	Basic **DX140** B211 - B212 → Surface quality → With chipbreaker **DX110** B211 - B212 / Wear → **DX160** B211 - B212	Basic **DX140** B211 - B212 → Fracture → **P TH10** B035 / Wear → **DX160** B211 - B212	Basic **P TH10** B035
Medium cutting [a_p = 1 ~ 4 mm]	Basic  **28 KS05F** B035 → Wear → **DX140** B211 - B212	Basic  **28 KS05F** B035 → Wear → **DX140** B211 - B212	Basic  **P TH10** B035

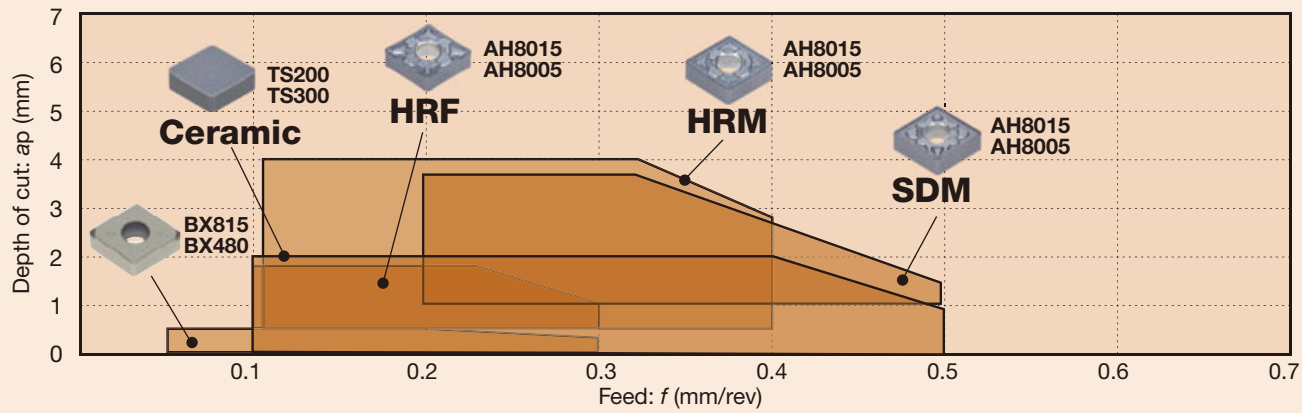
Please see the page B*** for the details.

Chipbreaker Guide

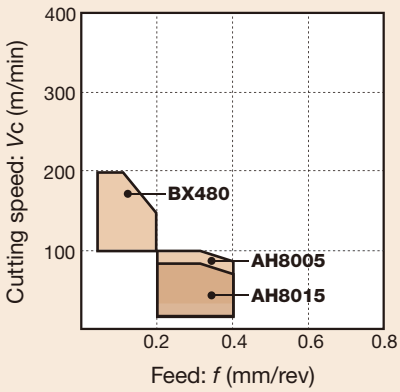
BASIC CHIPBREAKER: NEGATIVE TYPE

S Heat resistant superalloys

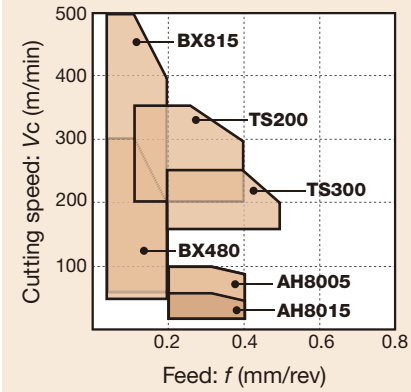
Chipbreaker System for Turning (Negative type)



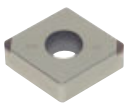
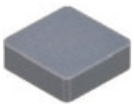
Titanium alloy



Ni-base alloy



Chipbreaker	Shape	Feature
HRF		Suitable for finishing superalloy. Unique protrusion improves chip control in cutting low depth.
HRM		First choice for heat-resistant alloy. The geometry optimized for a wide range of depths of cut.
SDM		Light cutting geometry for notch wear and crater wear resistance.

Chipbreaker	Shape	Feature
-		Excellent performance in finishing of heat-resistant alloy and titanium alloy with CBN sintered body on the cutting edge.
Ceramic		Suitable for roughing operation of heat-resistant alloy, due to the SiAlON ceramic with high-temperature strength.

STANDARD CUTTING CONDITIONS

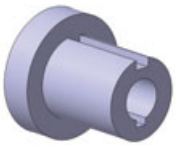
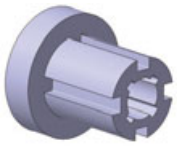
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)	
						Titanium alloy	Ni-base alloy
S	Precision finishing	-	BX480	0.1 - 0.5	0.05 - 0.2	100 - 200	70 - 300
		-	BX815	0.1 - 0.5	0.05 - 0.2	-	70 - 500
	Finishing to medium cutting	-	TS200	0.1 - 2	0.1 - 0.4	-	200 - 350
		-	TS300	0.1 - 2	0.2 - 0.5	-	150 - 250
		HRF	AH8005	0.5 - 1.5	0.05 - 0.25	20 - 100	20 - 100
		HRF	AH8015	0.5 - 1.5	0.05 - 0.25	20 - 80	20 - 50
		HRF	AH8015	0.5 - 1.5	0.05 - 0.25	10 - 60	10 - 40
	Medium cutting	HRM	AH8005	0.5 - 4	0.1 - 0.4	20 - 100	20 - 100
		HRM	AH8015	0.5 - 4	0.1 - 0.4	20 - 80	20 - 50
		HRM	AH8015	0.5 - 4	0.1 - 0.4	10 - 60	10 - 40

Ni-base alloy: INCONEL718, etc. Titanium alloy: Ti-6Al-4V, etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

S Heat resistant superalloys

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic **BX815** → Fracture → **HRF AH8005** B038 B168 - B188	Basic **BX480** → Fracture → **HRF AH8005** B038 B168 - B188	
Finishing [a_p = 0.5 ~ 1.5 mm]	Basic **HRF AH8005** B031 → Fracture → **HRF AH8015** B031; Chip control → **28 AH8005** B035; High-speed wear → **TS300** B038, B039; Crater wear → **SDM AH8005** B033	Basic **HRF AH8015** B031 → Fracture → **HRM AH8015** B035; Wear → **HRF AH8005** B031; Chip control → **28 AH8015** B035; Crater wear → **SDM AH8015** B033	Basic **HRF AH8015** B031 → Fracture → **HRM AH8015** B034; Wear → **HRF AH8005** B031; Crater wear → **SDM AH8015** B033
Medium cutting [a_p = 0.5 ~ 4 mm]	Basic **HRM AH8005** B034 → Fracture → **HRM AH8015** B034; Burr occurrence → **HRF AH8015** B031; Chip control → **28 AH8005** B035; Crater wear → **SDM AH8005** B033	Basic **HRM AH8015** B035 → Fracture → **SM AH630** B033; Wear → **HRM AH8005** B034; Chip control → **28 AH8015** B035; Crater wear → **SDM AH8015** B033	Basic **HRM AH8015** B034 → Wear → **HRF AH8005** B031; Crater wear → **SDM AH8015** B033

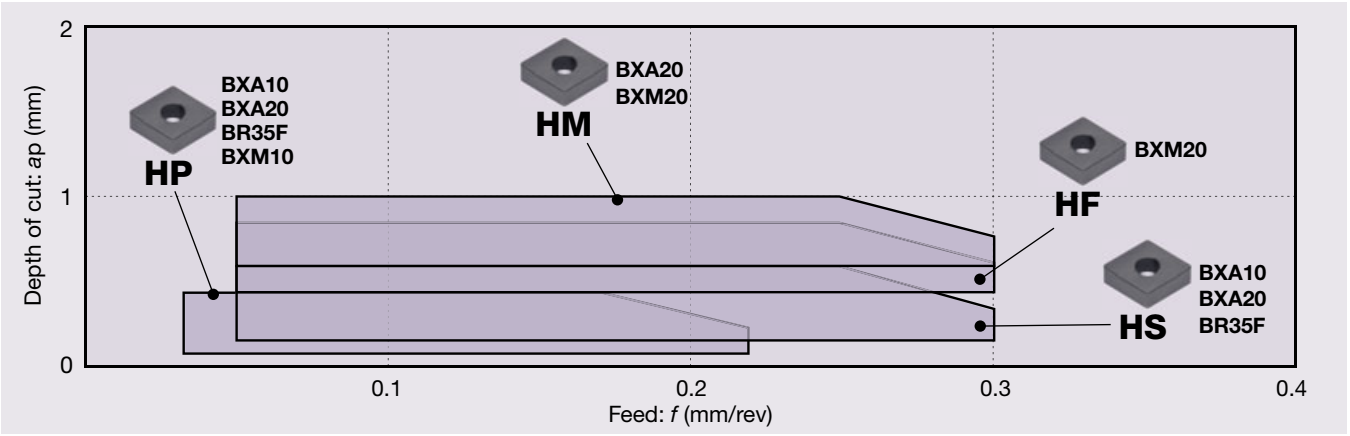
Please see the page B*** for the details.

Chipbreaker Guide

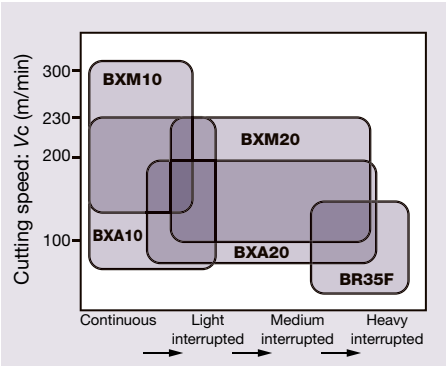
BASIC CHIPBREAKER: NEGATIVE TYPE

H Hard Materials

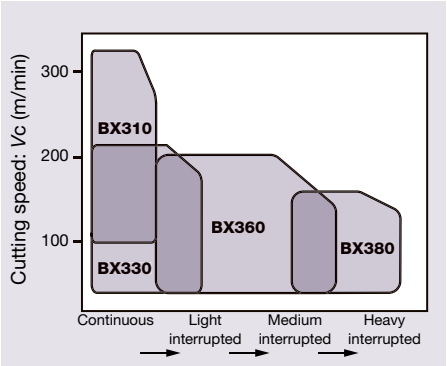
Chipbreaker System for Turning (Negative type)



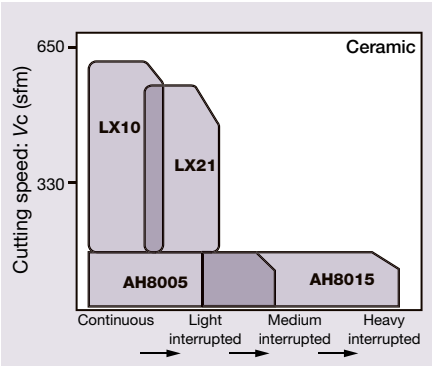
Coated CBN

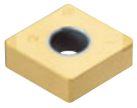
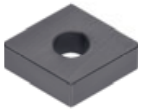


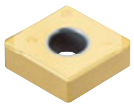
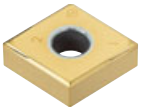
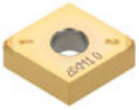
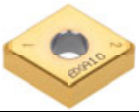
T-CBN



Ceramic, PVD coating



Chipbreaker	Shape	Feature
-		Excellent performance in finishing of hard material with CBN sintered body on the cutting edge.
- (Ceramic)		Realizes economical hardened steel medium speed finishing.
HRF		Excellent chip control in Hardent steel medium finishing.

Chipbreaker	Shape	Feature
HF		Excellent chip control in removing carburized layer at small depth of cut.
HM		Excellent chip control in removing carburized layer at large depth of cut.
HP		Excellent chip control in precision finishing.
HS		Provides the excellent chip-control at a high-feed condition in the precise finishing operation.

STANDARD CUTTING CONDITIONS

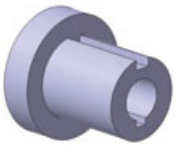
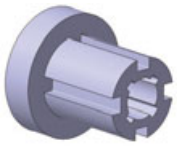
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed *Vc* (m/min)
H	Precision finishing	HP	BXA10 BXA20 BR35F	0.03 - 0.25	0.03 - 0.22	70 - 350
		HS	BXA10 BXA20 BR35F	0.1 - 0.35	0.05 - 0.3	70 - 350
	Finishing	-	BXM10 BXM20 BXA20	0.05 - 0.5	0.05 - 0.25	70 - 350
		-	LX10 LX21	0.05 - 0.5	0.05 - 0.25	60 - 180
	Removing of carburized layer	HF	BXM20	0.3 - 0.75	0.05 - 0.3	70 - 200
		HM	BXA20 BXM20	0.5 - 1	0.05 - 0.3	70 - 200
	Medium cutting	HRF	AH8005 AH8015	0.05 - 2	0.05 - 0.25	10 - 50

Hardened steels, Pre-hardened steels: SKD11, SKD61, etc. X153CrMoV12, X40CrMoV5-1, etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

H Hard Materials

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.35 mm]	Basic **HP BXA10** B168 - B188 → High feed → **HS BXA10** B168 - B188	Basic **BXA20** B168 - B188 → Fracture → **-H BXA20** B168 - B188; → High-speed wear → **BXA10** B168 - B188	
Finishing [a_p = ~ 0.5 mm]	Basic **BXA10** B168 - B188 → High-speed → **LX10** B038, B039	Basic **BXA20** B168 - B188 → Fracture → **-H BXA20** B168 - B188; → High-speed → **LX21** B038, B039; → High-speed wear → **BXA10** B168 - B188	Basic **BR35F** B168 - B188 → Fracture → **-HC BR35F** B168 - B188
Removing of carburized layer [a_p = ~ 1 mm]	Basic **HF BXM20** B168 - B188	Basic **HM BXA20** B168 - B188	
Medium cutting [a_p = ~ 2 mm]	Basic **HRF AH8005** B031 → Fracture → **HRF AH8015** B034	Basic **HRF AH8015** B031 → Fracture → **HRM AH8015** B034	Basic **HRF AH8015** B031 → Fracture → **HRM AH8015** B034

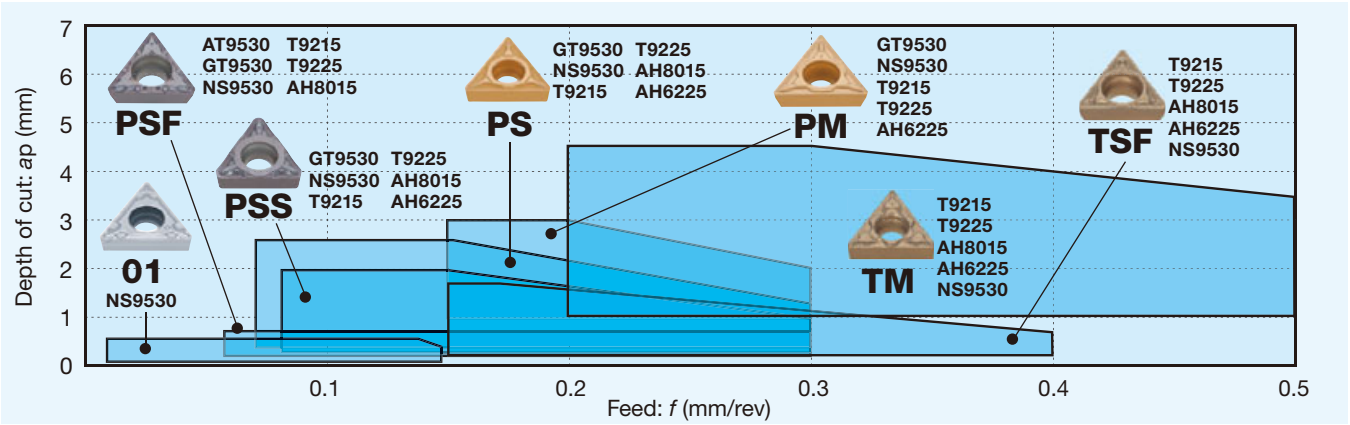
Please see the page B*** for the details.

Chipbreaker Guide

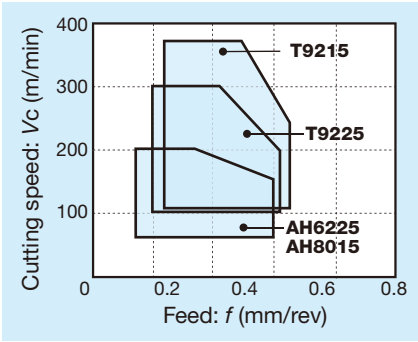
BASIC CHIPBREAKER: POSITIVE TYPE

P Steel

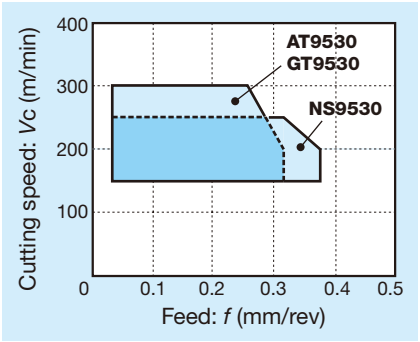
Chipbreaker System for Turning (Positive Type)

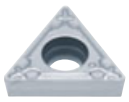
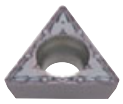
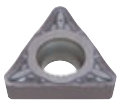


CVD / PVD coated grade



Coated cermet / Cermet



Chipbreaker	Shape	Feature
01		Excellent chip control in machining very small depth of cut thanks to the sharp cutting edge and protrusion.
PSF		Low cutting force and high wear resistance. First choice for finishing. Excellent chip control in finishing prevents chip entanglement in internal machining.
PSS		3D chipbreaker for finishing to medium cutting with excellent chip control and low cutting force.
PS		3D chipbreaker for finishing to medium cutting with excellent chip control and sharpness. M-class insert delivers cost reduction and highly efficient boring in a wide range of applications.

Chipbreaker	Shape	Feature
PM		First choice for medium cutting with excellent sharpness and good chip control. Delivers stable machining of stainless steel.
TSF		Optimal chipbreaker width and geometry enable smooth chip control in high-feed machining.
TM		Optimal cutting edge design and chipbreaker shape achieve excellent chip control in large depth of cut machining.

STANDARD CUTTING CONDITIONS

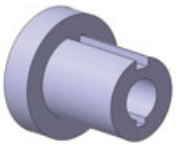
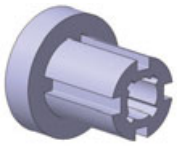
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min) Low carbon steels, Alloy steels	Medium carbon steels, Alloy steels	High carbon steels, Alloy steels
P	Precision finishing	01	NS9530	0.05 - 0.5	0.03 - 0.15	150 - 250	80 - 220	80 - 180
		01	NS9530	0.05 - 0.5	0.03 - 0.15	150 - 250	80 - 220	80 - 180
	Finishing	PSS	NS9530	0.1 - 0.5	0.05 - 0.3	150 - 250	80 - 220	80 - 180
		PSS	NS9530	0.1 - 0.5	0.05 - 0.3	150 - 250	80 - 220	80 - 180
		PSS	NS9530	0.1 - 0.5	0.05 - 0.3	150 - 250	80 - 220	80 - 180
	Finishing to light cutting	PS	T9215	0.3 - 2	0.08 - 0.3	120 - 350	100 - 350	80 - 250
		PS	T9215	0.3 - 2	0.08 - 0.3	120 - 350	100 - 350	80 - 250
		PS	T9215	0.3 - 2	0.08 - 0.3	120 - 350	100 - 350	80 - 250
	Finishing to Medium cutting	PS	T9215	0.5 - 2.5	0.08 - 0.3	120 - 350	100 - 350	80 - 250
		PS	T9225	0.5 - 2.5	0.08 - 0.3	100 - 300	80 - 300	80 - 250
	Medium cutting	PM	T9215	1 - 3	0.15 - 0.3	150	100 - 200	80 - 180
		PM	T9225	1 - 3	0.15 - 0.3	120	80 - 180	80 - 120

Low carbon steels, Alloy steels: S10C, SCM415, SS400, SCr420H, etc. C10, 18CrMo4, E275A, 20Cr4, etc. Medium carbon steels, Alloy steels: S45C, SCM440, etc. C45, 42CrMo4, etc. Hi carbon steels, Alloy steels: SNCM439, etc. 41CrNiMo2, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

P Steel

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic: 01 NS9530 — B040, B045	Basic: 01 NS9530 — B040, B045 Fracture: PSF NS9530 — B040, B045, B049	
Finishing [a_p = 0.1 ~ 0.5 mm]	Basic: PSS NS9530 — B042, B046, B049 Fracture: PSS T9215 — B042, B045, B049 Wear: PSS GT9530 — B042, B045, B049 Chip control: PSF NS9530 — B040, B045, B049	Basic: PSS NS9530 — B042, B046, B049 Fracture: PSS T9215 — B042, B046, B049 Wear: PSS GT9530 — B042, B046, B049 Chip control: PSF NS9530 — B040, B045, B049	Basic: PSS NS9530 — B042, B046, B049 Fracture: PSS T9215 — B042, B046, B049 Wear: PSS GT9530 — B042, B046, B049 Chip control: PSF NS9530 — B040, B045, B049
Finishing to medium cutting [a_p = 0.5 ~ 2.5 mm]	Basic: PS T9215 — B042, B046, B049 Fracture: PS T9225 — B042, B046, B049 Wear: PS NS9530 — B042, B046, B049 Chip control: TSF, TM T9215 — B040, B042, B045, D046, B049	Basic: PS T9215 — B042, B046, B049 Fracture: PS T9225 — B042, B046, B049 Wear: PS NS9530 — B042, B046, B049 Chip control: TSF, TM T9215 — B040, B042, B045, D046, B049	Basic: PS T9215 — B042, B046, B049 Fracture: PS T9225 — B042, B046 Chip control: TSF, TM T9215 — B040, B042, B045, D046, B049
Medium cutting [a_p = 1 ~ 3 mm]	Basic: PM T9215 — B044, B048 Fracture: PM T9225 — B044, B048 Wear: PM NS9530 — B044, B048 Chip control: TSF, TM T9215 — B040, B042, B045, D046, B049	Basic: PM T9215 — B044, B048 Fracture: PM T9225 — B044, B048 Chip control: TSF, TM T9215 — B040, B042, B045, D046, B049	Basic: PM T9215 — B044, B048 Fracture: PM T9225 — B044, B048 Chip control: TSF, TM T9215 — B040, B042, B045, D046, B049

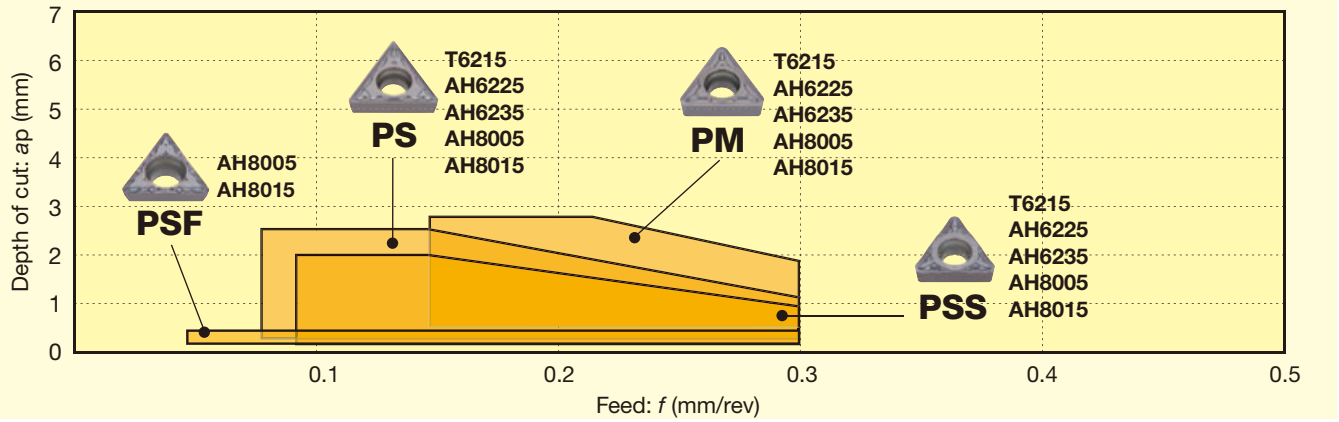
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle.

Chipbreaker Guide

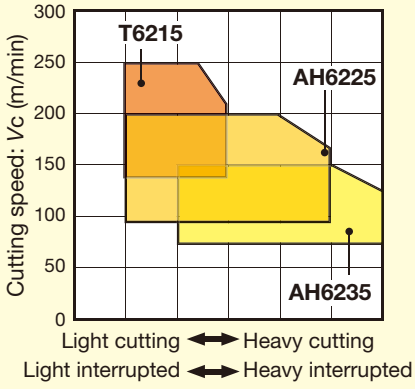
BASIC CHIPBREAKER: POSITIVE TYPE

M Stainless Steel

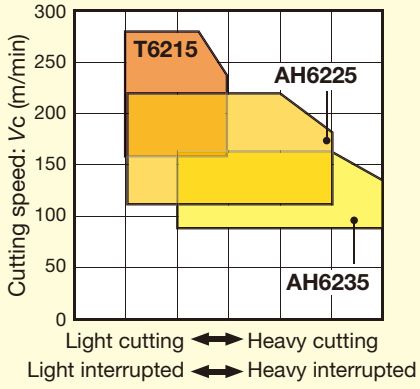
Chipbreaker System for Turning (Positive Type)



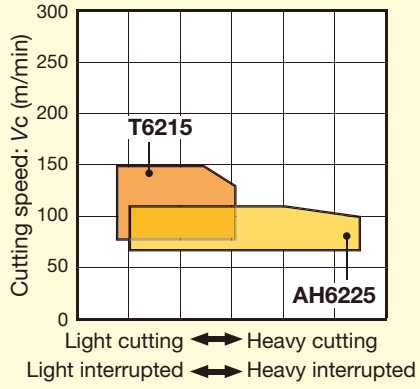
Austenitic stainless steel

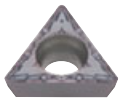
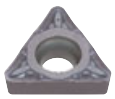


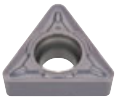
Ferritic / martensite stainless steel



Precipitation hardened stainless steel



Chipbreaker	Shape	Feature
PSF		Low cutting force and high wear resistance. First choice for finishing. Excellent chip control in finishing prevents chip entanglement in internal machining.
PSS		3D chipbreaker for finishing to medium cutting with excellent chip control and low cutting force.

Chipbreaker	Shape	Feature
PS		3D chipbreaker for finishing to medium cutting with excellent chip control and sharpness. M-class insert delivers cost reduction and highly efficient boring in a wide range of applications.
PM		First choice for medium cutting with excellent sharpness and good chip control. Delivers stable machining of stainless steel.

STANDARD CUTTING CONDITIONS

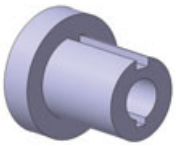
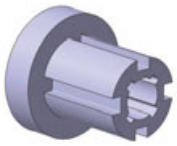
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)		
						Austenitic stainless steel	Ferritic / martensite stainless steel	Precipitation hardened stainless steel
M	Finishing	PSS	T6215	0.3 - 2	0.08 - 0.3	140 - 240	160 - 280	80 - 150
			AH6225	0.3 - 2	0.08 - 0.3	90 - 200	110 - 240	60 - 110
			AH6235	0.3 - 2	0.08 - 0.3	50 - 150	70 - 170	-
	Finishing to medium cutting	PS	T6215	0.5 - 2.5	0.08 - 0.3	140 - 240	160 - 280	80 - 150
			AH6225	0.5 - 2.5	0.08 - 0.3	90 - 200	110 - 240	60 - 110
			AH6235	0.5 - 2.5	0.08 - 0.3	50 - 150	70 - 170	-
	Medium cutting	PM	T6215	1 - 3	0.15 - 0.3	140 - 240	160 - 280	80 - 150
			AH6225	1 - 3	0.15 - 0.3	90 - 200	110 - 240	60 - 110
			AH6235	1 - 3	0.15 - 0.3	50 - 150	70 - 170	-

* For CCMT0602 and DCMT0702 type inserts, *ap* = 0.5 - 2.5
Stainless steels: SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

M Stainless Steel

	Continuous	Light interrupted	Heavy interrupted
Finishing [a_p = 0.3 ~ 1.5 mm]	Basic: **PSS AH6225** (B042, B046, B049) Wear: **PSS T6215** (B042, B046, B049)	Basic: **PSS AH6225** (B042, B046, B049) Fracture: **PSS AH6235** (B042, B046, B049) Wear: **PSS T6215** (B042, B046, B049)	Basic: **PSS AH6225** (B042, B046, B049) Fracture: **PSS AH6235** (B042, B046, B049) Wear: **PSS T6215** (B042, B046, B049)
Finishing to medium cutting [a_p = 0.5 ~ 2.5 mm]	Basic: **PS AH6225** (B042, B046, B049) Wear: **PS T6215** (B042, B046, B049)	Basic: **PS AH6225** (B042, B046, B049) Fracture: **PM AH6235** (B044, B048) Wear: **PS T6215** (B042, B046, B049)	Basic: **PS AH6225** (B042, B046, B049) Fracture: **PM AH6235** (B044, B048) Wear: **PS T6215** (B042, B046, B049)
Medium cutting [a_p = 1 ~ 3 mm]	Basic: **PM AH6225** (B044, B048) Wear: **PM T6215** (B044, B048)	Basic: **PM AH6225** (B044, B048) Fracture: **PM AH6235** (B044, B048) Wear: **PM T6215** (B044, B048)	Basic: **PM AH6225** (B044, B048) Fracture: **PM AH6235** (B044, B048)

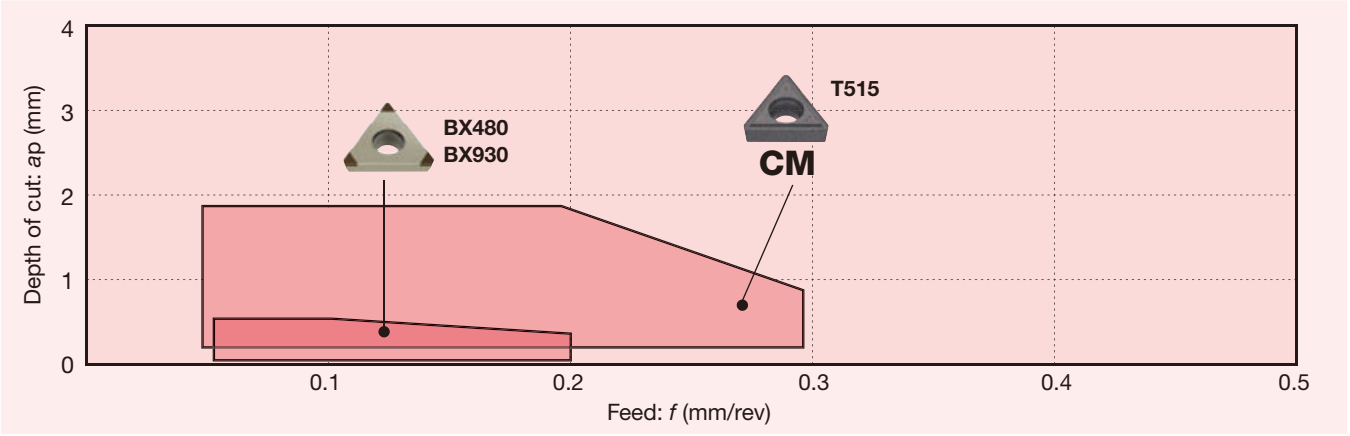
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle.

Chipbreaker Guide

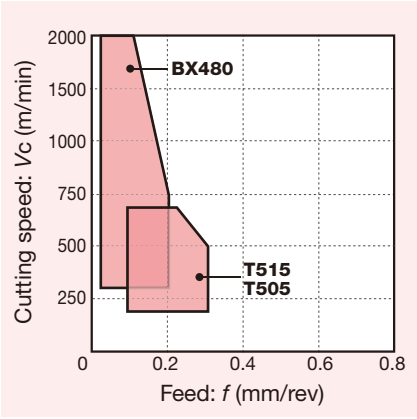
BASIC CHIPBREAKER: POSITIVE TYPE

K Cast Iron

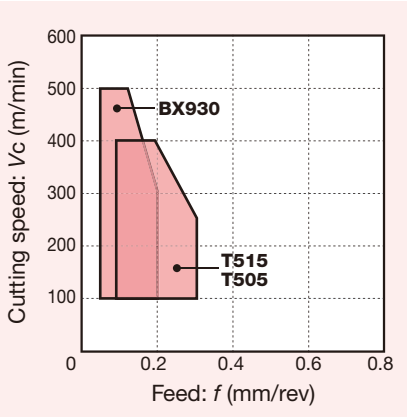
Chipbreaker System for Turning (Positive Type)



Grey cast iron



Ductile cast iron



Chipbreaker	Shape	Feature
-		Excellent performance in high-speed finishing of cast iron with CBN sintered body on the cutting edge.

Chipbreaker	Shape	Feature
CM		Highly versatile all-round chipbreaker with low cutting force. Suitable for finishing to medium cutting.

STANDARD CUTTING CONDITIONS

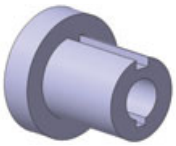
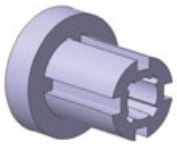
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)	
						Grey cast iron	Ductile cast iron
K	Precision finishing	-	BX930	0.05 - 0.5	0.05 - 0.2	300 - 1200	100 - 500
		-	BX480	0.05 - 0.5	0.05 - 0.2	300 - 2000	-
	Finishing	CM	T515	0.05 - 2	0.05 - 0.3	150 - 700	150 - 300
		CM	T515	0.05 - 2	0.05 - 0.3	100 - 200	100 - 200
	Medium cutting	CM	T515	0.05 - 2	0.05 - 0.3	100 - 300	100 - 250

Grey cast iron: FC250, etc. 250, etc.
Ductile cast iron: FCD450, etc. 450-10S, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

K Cast Iron

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic - BX480 B189 - B209	Basic - BX480 B189 - B209	
Finishing to Medium cutting [a_p = 0.5 ~ 3 mm]	Basic CM T515 B042, B046, B049 Wear → CM T505 B042, B046, B049	Basic CM T515 B042, B046, B049 Wear → CM T505 B042, B046, B049	Basic CM T515 B042, B046, B049 Wear → CM T505 B042, B046, B049

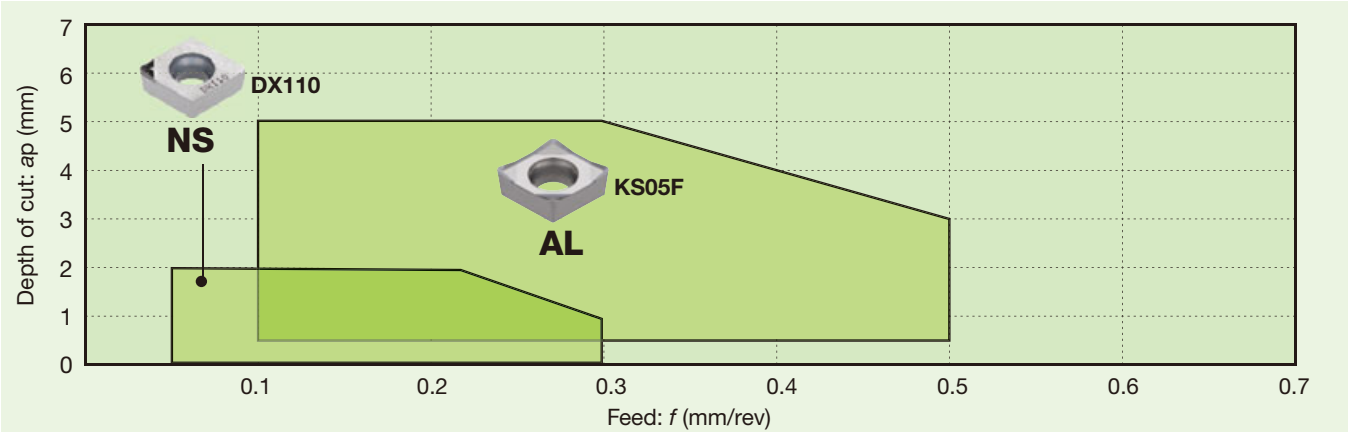
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle.

Chipbreaker Guide

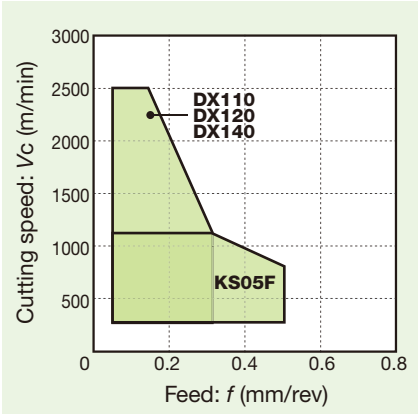
BASIC CHIPBREAKER: POSITIVE TYPE

N Non-ferrous Metal

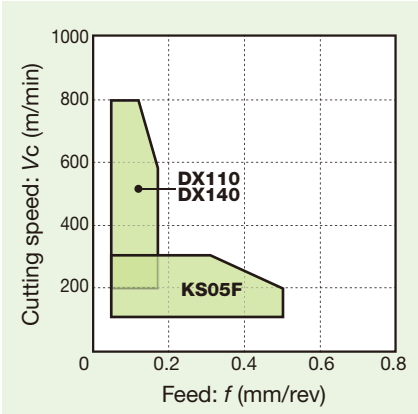
Chipbreaker System for Turning (Positive Type)



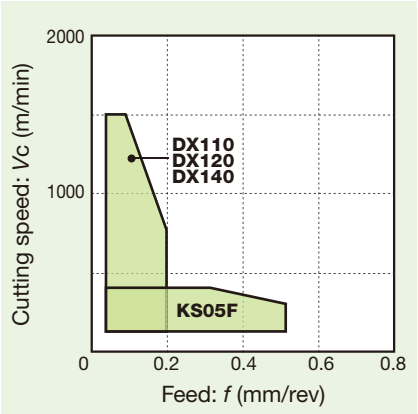
Aluminium alloy (Si < 12%)

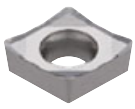


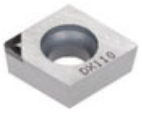
Aluminium alloy (Si ≥ 12%)



Copper alloy



Chipbreaker	Shape	Feature
-		Excellent performance in high-speed finishing of non-ferrous metal with diamond sintered body on the cutting edge.
AL		Large rake angle and sharp cutting edge reduce cutting force. Lapped rake face prevents adhesion. Large inclination on the cutting edge (wavy cutting edge) for more stable chip control.

Chipbreaker	Shape	Feature
NS		A unique three-dimensional chipbreaker. Covers a wide range of condition from roughing to finishing.

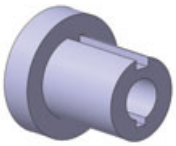
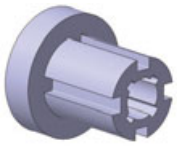
STANDARD CUTTING CONDITIONS

ISO	Operation	Work condition	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min) Aluminium alloy (Si < 12%)	Aluminium alloy (Si ≥ 12%)	Copper alloy
N	Precision finishing	Continuous	NS	DX110	0.05 - 2	0.05 - 0.15	500 - 2500	400 - 800	500 - 1500
		Light interrupted	-	DX140	0.05 - 1	0.05 - 0.2	300 - 2500	-	500 - 1500
	Finishing	Continuous	NS	DX110	0.05 - 2	0.05 - 0.3	500 - 2500	400 - 800	500 - 1500
		Light interrupted	-	DX140	0.05 - 1	0.05 - 0.15	300 - 1800	400 - 600	400 - 1200
		Heavy interrupted	AL	KS05F	0.5 - 5	0.1 - 0.5	100 - 600	100 - 200	-
	Medium cutting	Continuous	AL	KS05F	0.5 - 5	0.1 - 0.5	100 - 1200	100 - 300	100 - 300
		Light interrupted	AL	KS05F	0.5 - 5	0.1 - 0.5	100 - 900	100 - 200	100 - 200
		Heavy interrupted	AL	KS05F	0.5 - 5	0.1 - 0.5	100 - 600	100 - 200	-

Selection System

SELECTION SYSTEM: POSITIVE TYPE

N Non-ferrous Metal

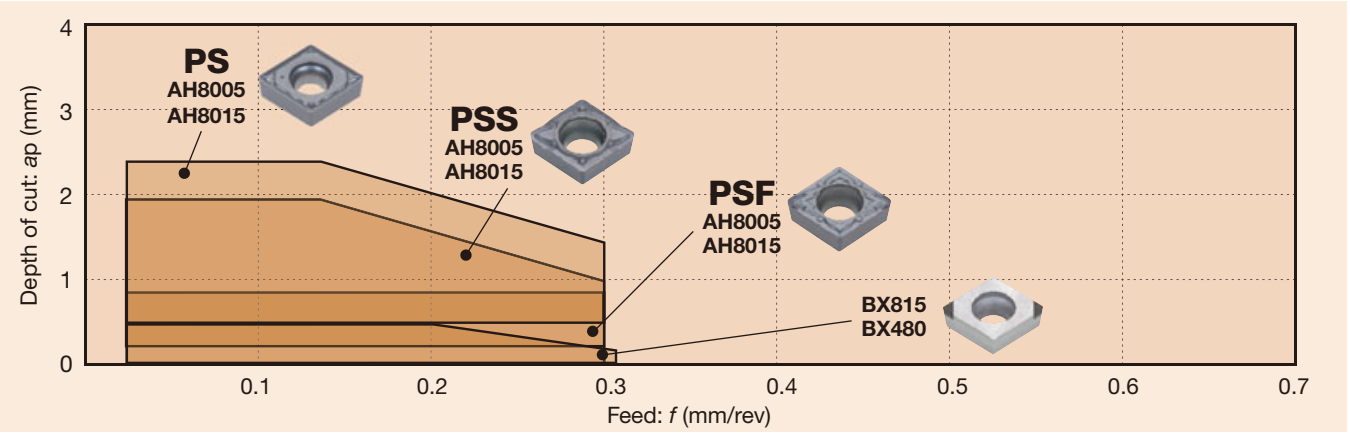
	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic **NS DX110** B213 - → Wear → **DX140** B213 -	Basic With chipbreaker **DX110** B213 - → Wear → **DX140** B213 -	
Finishing [a_p = 0.5 ~ 2 mm]	Basic **NS DX110** B213 - → Wear → **DX160** B213 -	Basic **DX140** B213 - → Fracture → **AL KS05F** B042; → Wear → **DX160** B213 -	Basic **AL KS05F** B043
Medium cutting [a_p = 1 ~ 5 mm]	Basic **AL KS05F** B043 → Wear → With chipbreaker **DX120** B213 -	Basic **AL KS05F** B043 → Wear → **DX140** B213 -	Basic **AL KS05F** B043

Chipbreaker Guide

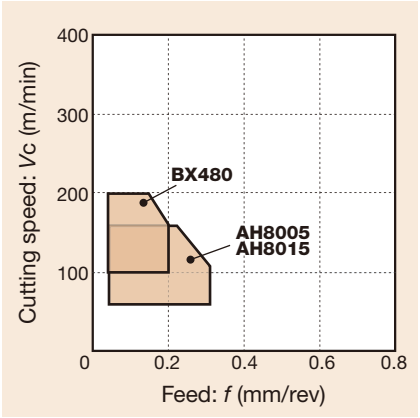
BASIC CHIPBREAKER: POSITIVE TYPE

S Heat resistant superalloys

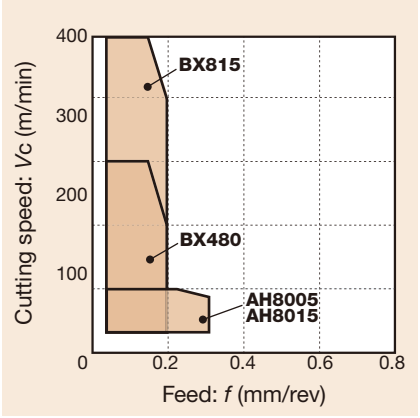
Chipbreaker System for Turning (Positive Type)

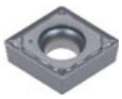
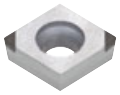


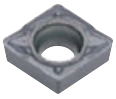
Titanium alloy



Ni-base alloy



Chipbreaker	Shape	Feature
PS		3D chipbreaker for finishing to medium cutting with excellent chip control and sharpness. M-class insert delivers cost reduction and highly efficient boring in a wide range of applications.
-		Excellent performance in finishing of heat-resistant alloy and titanium alloy with CBN sintered body on the cutting edge.

Chipbreaker	Shape	Feature
PSF		Low cutting force and high wear resistance. First choice for finishing. Excellent chip control in finishing prevents chip entanglement in internal machining.
PSS		3D chipbreaker for finishing to medium cutting with excellent chip control and low cutting force.

STANDARD CUTTING CONDITIONS

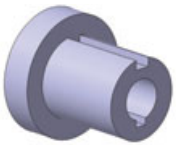
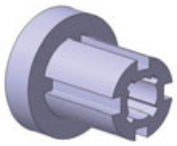
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)	
						Titanium alloy	Ni-base alloy
S	Precision finishing	-	BX480	0.1 - 0.5	0.05 - 0.2	100 - 200	70 - 300
		-	BX815	0.1 - 0.5	0.05 - 0.2	-	70 - 500
	Finishing	PSS	AH8015	0.3 - 2	0.02 - 0.3	20 - 150	20 - 100
		PSS	AH8015	0.3 - 2	0.02 - 0.3	20 - 150	20 - 100
	Finishing to medium cutting	PS	AH8015	0.5 - 2.5	0.02 - 0.3	20 - 150	20 - 100
		PS	AH8015	0.5 - 2.5	0.02 - 0.3	20 - 150	20 - 100

Ni-base alloy: INCONEL718, etc. Titanium alloy: Ti-6Al-4V, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

S Heat resistant superalloys

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic: **BX815** — B189 - B209	Basic: **BX480** — B189 - B209	
Finishing [a_p = 0.3 ~ 2 mm]	Basic: **PSS AH8015** — B042, B046, B049 → Wear: **PSS AH8005** — B042, B046, B049	Basic: **PSS AH8015** — B042, B046, B049 → Wear: **PSS AH8005** — B042, B046, B049; Fracture: **PS AH8015** — B042, B046, B049	
Finishing to medium cutting [a_p = 0.5 ~ 2.5 mm]	Basic: **PS AH8015** — B042, B046, B049 → Wear: **PSS AH8005** — B042, B046, B049	Basic: **PS AH8015** — B042, B046, B049 → Fracture: **All-round AH8015** — B043, B047	Basic: **PS AH8015** — B042, B046, B049 → Fracture: **All-round AH8015** — B043, B047

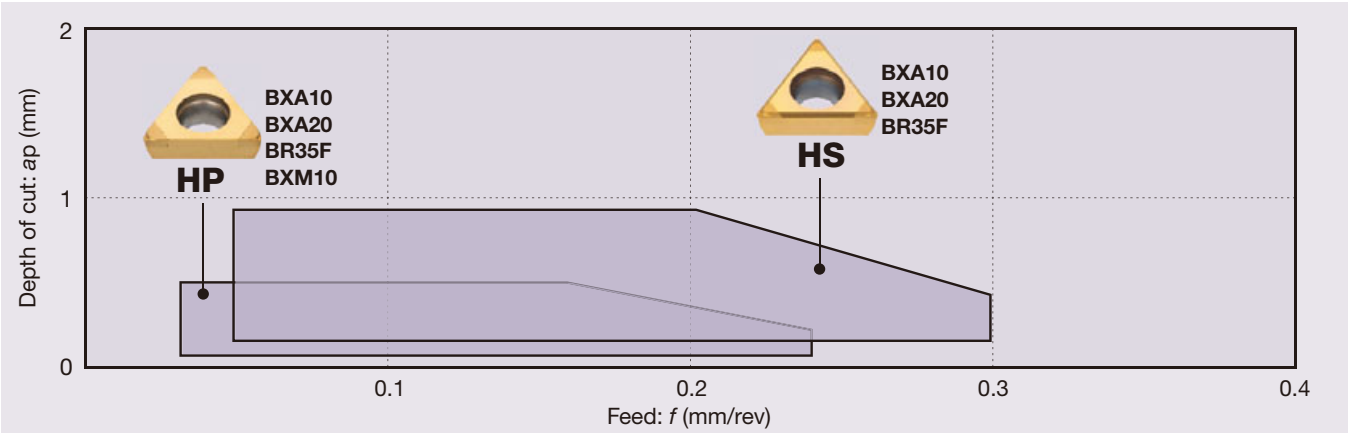
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle.

Chipbreaker Guide

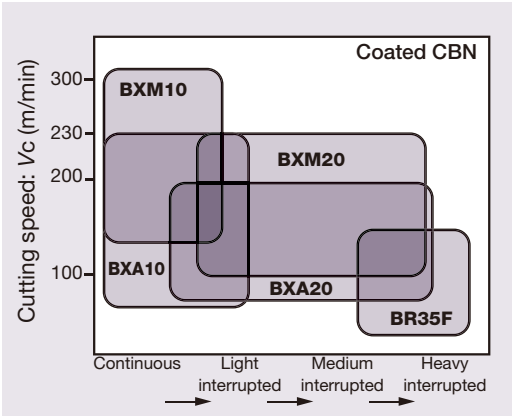
BASIC CHIPBREAKER: POSITIVE TYPE

H Hard Materials

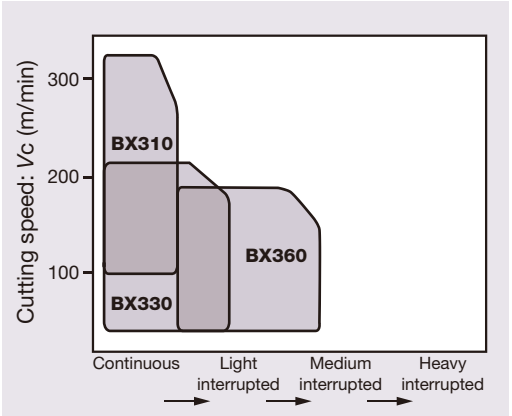
Chipbreaker System for Turning (Positive Type)



Coated CBN



CBN



Chipbreaker	Shape	Feature
-		Excellent performance in high-speed finishing of hard material with CBN sintered body on the cutting edge.

Chipbreaker	Shape	Feature
HP		Excellent chip control in precision finishing.
HS		Provides the excellent chip-control at a high-feed condition in the precise finishing operation.

STANDARD CUTTING CONDITIONS

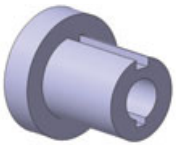
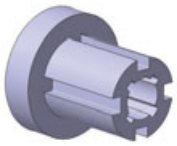
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed *Vc* (m/min)
H	Precision finishing	HP	BXM10 BXA20 BR35F	0.03 - 0.25	0.03 - 0.22	70 - 350
		HS	BXM10 BXA20 BR35F	0.1 - 0.35	0.05 - 0.3	70 - 350
	Finishing	-	BXM10 BXA20 BR35F	0.05 - 0.5	0.05 - 0.25	70 - 350

Hardened steels, Pre-hardened steels: SKD11, SKD61, etc. X153CrMoV12, X40CrMoV5-1, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

H Hard Materials

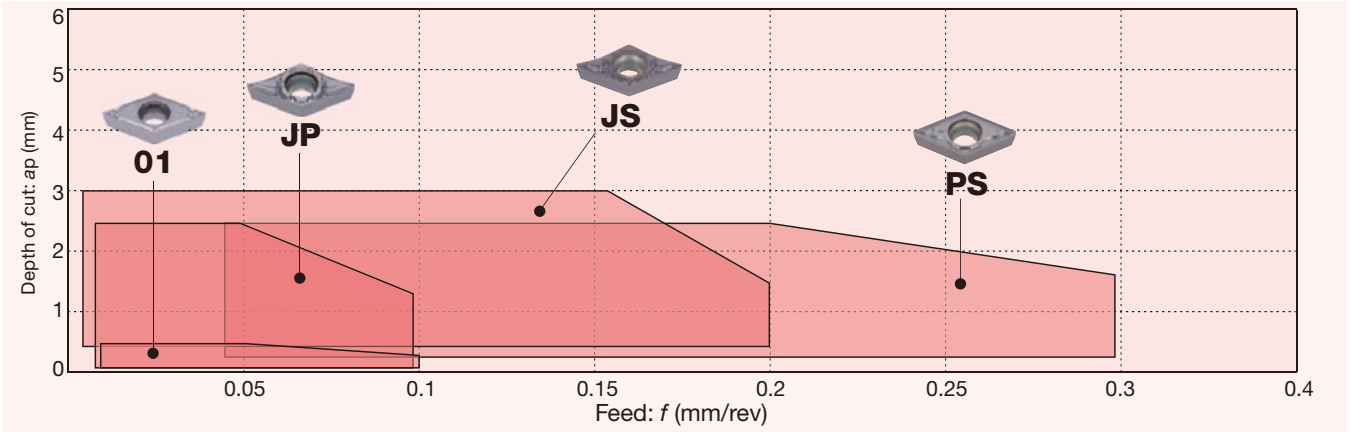



	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.35 mm]	Basic **HP BXA10** B189 - → High-feed → **HS BXA10** B189 -	Basic **BXA20** B189 - → Fracture → **-H BXA20** B189 -	
Finishing [a_p = ~ 0.5 mm]	Basic **BXA10** B189 -	Basic **BXA20** B189 - → Fracture → **-H BXA20** B189 - ; → High-speed wear → **BXA10** B189 -	Basic **SR BR35F** B189 - → Fracture → **HC BR35F** B189 -

Chipbreaker Guide

For Miniature machining

BASIC CHIPBREAKER: POSITIVE TYPE

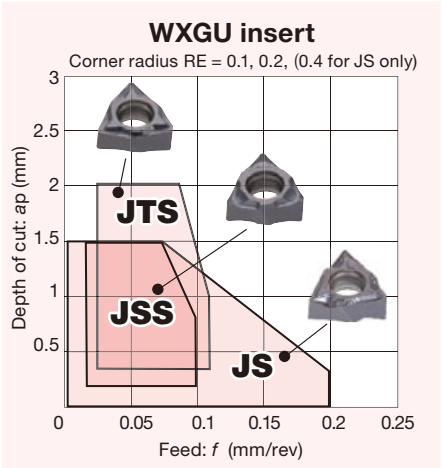


Chipbreaker	Shape	Feature
JP		Excellent performance in finishing of hard material with CBN sintered body on the cutting edge.

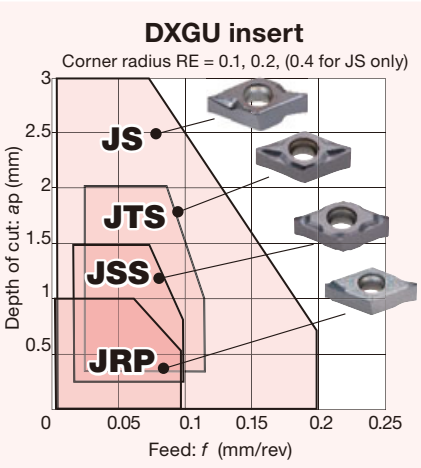
Chipbreaker	Shape	Feature
JS		Excellent chip control in removing carburized layer at small depth of cut.

BASIC CHIPBREAKER: DOUBLE-SIDED POSITIVE TYPE

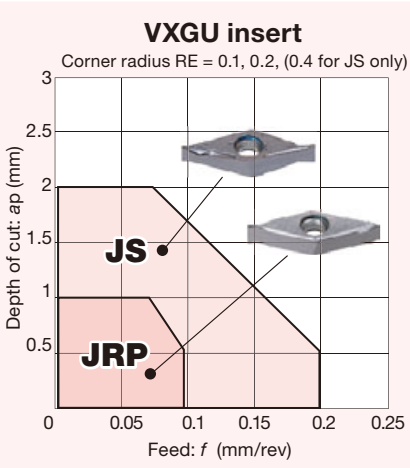
WXGU insert



DXGU insert



VXGU insert



STANDARD CUTTING CONDITIONS POSITIVE TYPE

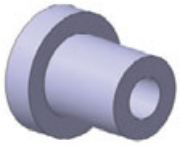
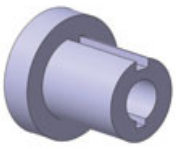
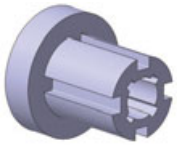
Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed *Vc* (m/min)
Precision finishing	JP	SH725	0.05 - 2.5	0.02 - 0.1	10 - 200
Finishing	JP	SH725	0.05 - 2.5	0.02 - 0.1	50 - 250
	JS	SH725	0.2 - 3	0.02 - 0.2	10 - 200
Finishing to light cutting	JP	SH725	0.05 - 2.5	0.02 - 0.1	50 - 250
	JS	SH725	0.5 - 2	0.02 - 0.2	10 - 200
Medium cutting	JS	SH725	0.5 - 3	0.03 - 0.15	10 - 200
	PS	AH8015	0.5 - 2.5	0.02 - 0.2	20 - 200
	PS	AH6225	0.5 - 2.5	0.02 - 0.2	60 - 240

STANDARD CUTTING CONDITIONS DOUBLE-SIDED POSITIVE TYPE

Operation	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed *Vc* (m/min)
Precision finishing	JRP	SH725	0.05 - 0.5	0.03 - 0.08	50 - 250
Finishing	JSS	SH725	0.2 - 1.5	0.03 - 0.1	50 - 250
	JS	SH725	0.2 - 3	0.03 - 0.2	50 - 250
Finishing to light cutting	JS	SH725	0.5 - 3	0.03 - 0.2	50 - 250
	JTS	SH725	0.5 - 2	0.03 - 0.1	50 - 250
Medium cutting	JS	SH725	0.5 - 3	0.03 - 0.2	50 - 250

Selection System

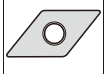
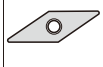
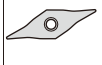
SELECTION SYSTEM: POSITIVE TYPE/DOUBLE-SIDED POSITIVE TYPE

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.5 mm]	Basic Positive **JP SH725** Double-sided positive **JRP SH725** B040, B052	Basic Positive **JP SH725** Double-sided positive **JRP SH725** B040, B052	
Finishing [a_p = 0.1 ~ 0.5 mm]	Basic Positive **JS SH725** Double-sided positive **JSS SH725** Chip control → **JP SH725** B040 Fracture → **JSS AH725** B052 B040, B045, B049, B052	Basic Positive **JS SH725** Double-sided positive **JSS AH725** Chip control → **JP SH725** B040 Fracture → **JSS AH725** B052 B040, B045, B049, B052	Basic Positive **JS SH725** Double-sided positive **JSS AH725** B040, B045, B049, B052
Finishing to medium cutting [a_p = 0.5 ~ 3 mm]	Basic Positive **JS SH725** Double-sided positive **JTS SH725** Chip control → **JP SH725** B040 Fracture → **JSS AH725** B052 B040, B045, B049, B052	Basic Positive **JS SH725** Double-sided positive **JTS SH725** Chip control → **JP SH725** B040 Fracture → **JSS AH725** B052 B040, B045, B049, B052	Basic Positive **JS AH725** Double-sided positive **JTS AH725** Fracture → **TS AH8015** B052 B040, B045, B049, B052
Medium cutting [a_p = 1 ~ 4 (3) mm]	Basic Positive **JS SH725** Double-sided positive **JS SH725** Fracture → **PS AH8015 AH6225** B042, B046, B049 Fracture → **JSS AH725** B052 B040, B045, B049, B052	Basic Positive **PS AH8015 AH6225** Double-sided positive **JS SH725** Fracture → **JTS AH725** B052 B042, B046, B049, B052	Basic Positive **PS AH8015 AH6225** Double-sided positive **JS SH725** B042, B046, B049, B052

Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle, B***/Double-sided.

Chipbreaker Overview

Application	Negative type with hole	C	D	F	G	S	T	V	W	Y
										
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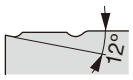
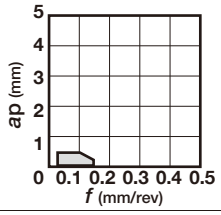
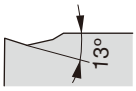
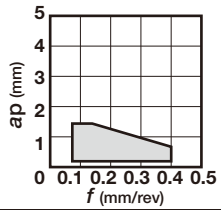
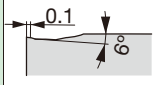
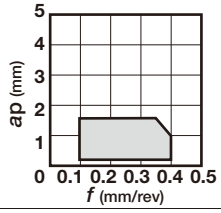
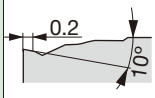
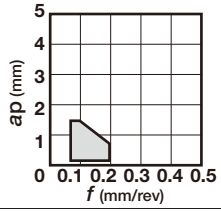
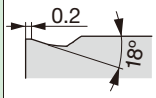
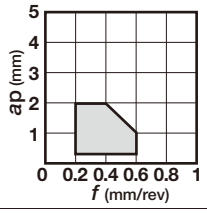
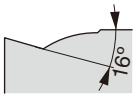
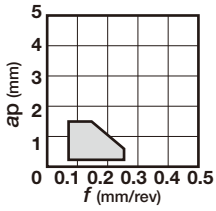
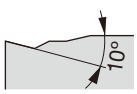
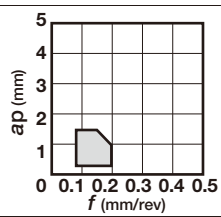
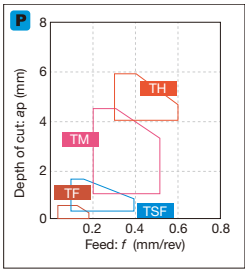
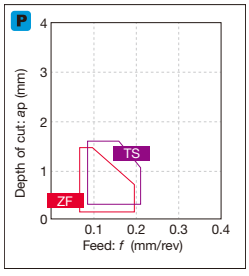
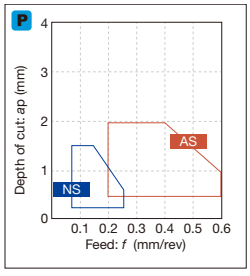
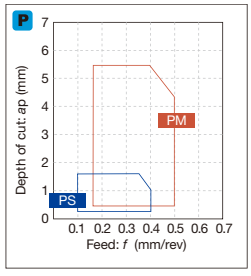
Finishing	TF  	B054	B066			B077	B087	B098	B102	
	TSF  	B054	B066	B075	B075	B077	B087	B098	B102	
	PS  	B054	B066			B077	B087	B098	B102	
Finishing for mild steel	ZF  	B054	B066			B077	B087	B098	B102	B110
Finishing	AS  	B054	B066			B077	B087		B102	
	NS  	B054	B066			B077	B087		B102	
	TS  	B054	B067			B078	B089	B098	B103	

Chip control range

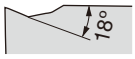
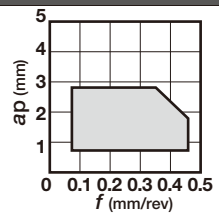
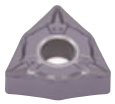
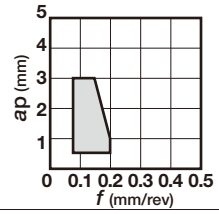
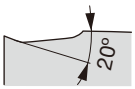
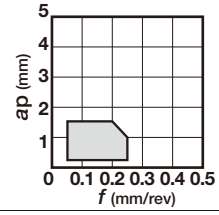
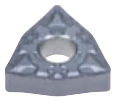
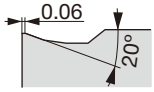
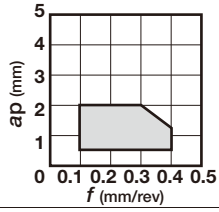
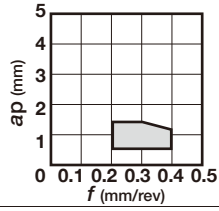
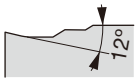
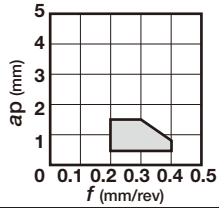
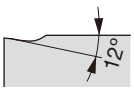
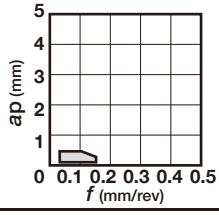
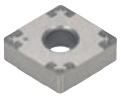
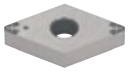




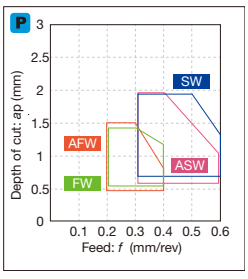


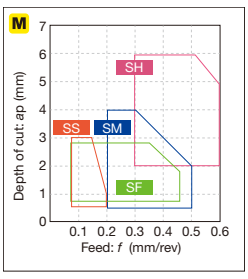


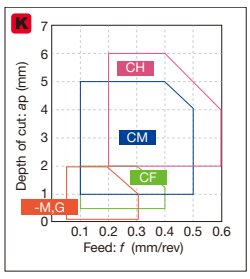
Please see the page B*** for the product details.

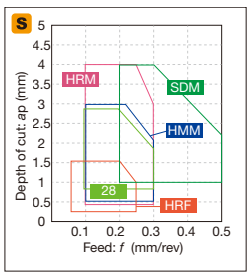
Application	Negative type with hole	C 80°	D 55°	S 90°	T 60°	V 35°	W 80°	Y 25°
Finishing	**SF**  	B055	B067	B078	B088	B098	 B103	
	SS 	B055	B067	B078	B088	B098	B103	
	HRF  	B055	B067	B078	B088	B098	 B103	
	CF  	B055	B067	B078	B088	B099	B104	
Finishing (wiper)	**FW** 	B056	B067		B088		B104	
	AFW  	B056					B104	
Finishing	**01**  	 B056	 B067	B078	B089	B099	B104	

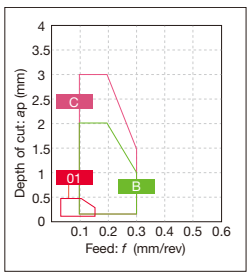
Chip control range











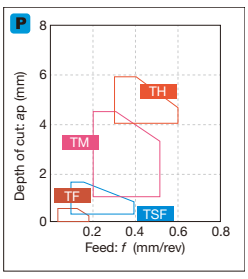
Please see the page B*** for the product details.

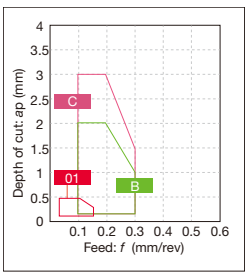
*-M,G: Without chipbreaker

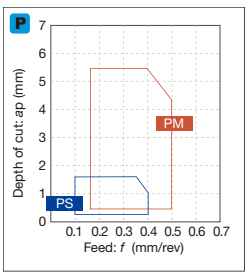
Chipbreaker Overview

Application	Negative type with hole	C	D	F	G	S	T	V	W
		80°	55°	45°	70°	90°	60°	35°	80°
Finishing	11	B056	B068			B078	B089	B099	B104
Finishing for mild steel	17	B056	B068			B079	B089		B104
Boring (double side)	CB	B056	B068				B089		B104
Finishing	A~D	B056				B079	B090		
Finishing	W						B090		
Medium cutting	TM	B057	B069	B075	B075	B079	B090	B099	B105
Medium cutting	PM	B057	B069			B079	B091	B099	B105

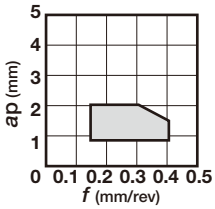
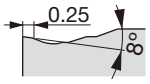
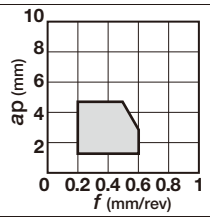
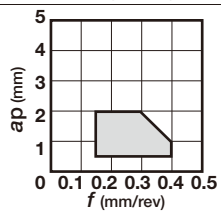
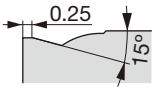
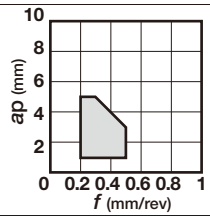
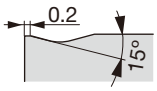
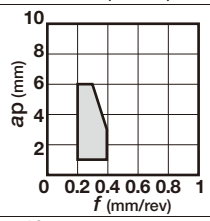
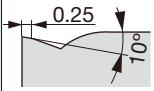
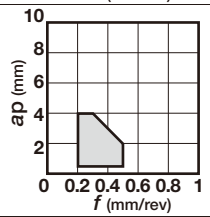
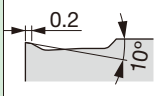
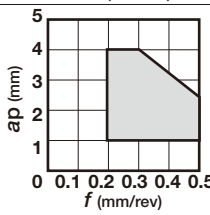
Chip control range



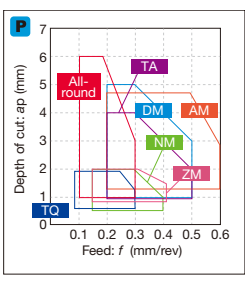


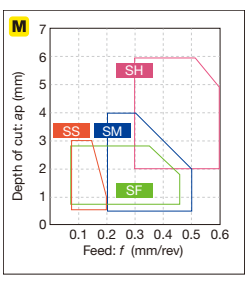


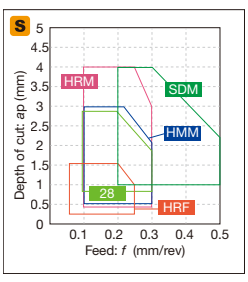
Please see the page B*** for the product details.

Application	Negative type with hole	C	D	S	T	V	W	Y
		80°	55°	90°	60°	35°	80°	25°
Medium cutting for mild steel	**ZM** 	B057	B069	B080	B091	B099	B105	B110
Medium cutting	**AM**  	B058	B069		B091		B106	
	NM 	B058	B070		B091		B106	
	DM  	B058	B070	B080	B092	B100	B106	
	All-round  	B058	B070	B080	B092	B100	B106	
	SM  	B059	B070	B080	B092	B100	B106	
	SDM  	B059	B070	B080	B092	B100	B106	

Chip control range

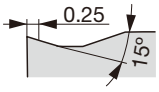
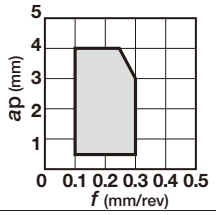
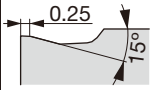
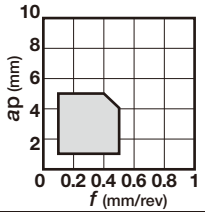
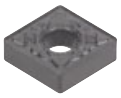
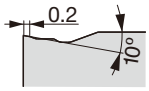
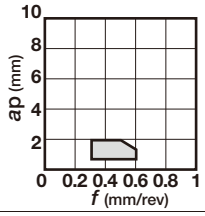
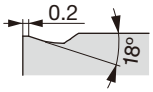
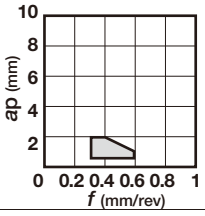
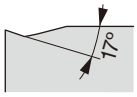
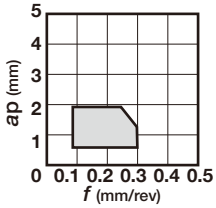
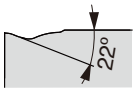
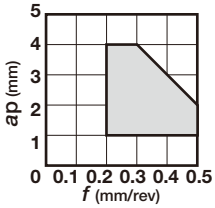
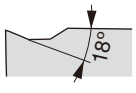
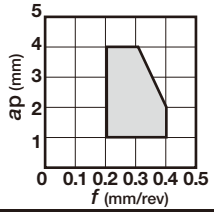
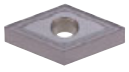




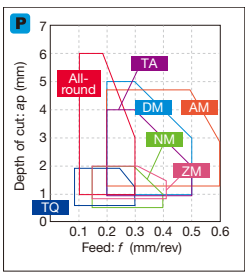


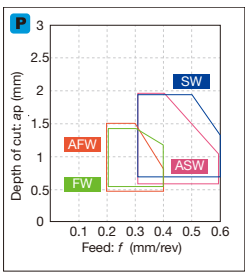
Please see the page B*** for the product details.

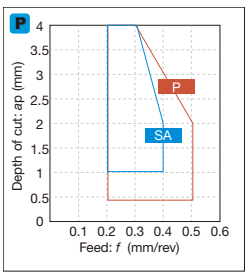
Chipbreaker Overview

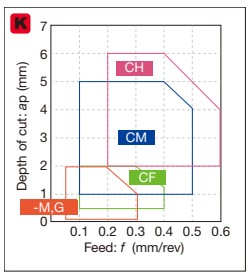
Application	Negative type with hole	C 80°	D 55°	S 90°	T 60°	V 35°	W 80°	Y 25°
Medium cutting	**HRM**  	B059	B070	B081	B092	B100	B106	
Medium cutting	**CM**  	 B059	B071	B080	B092	B100	B107	
Medium cutting (wiper)	**SW**  	B059	B071		B093		B107	
	ASW  	B060					B107	
Medium cutting	**TQ**  	B060	B071		B093	B100	B107	
	TA  	B060		B081	B093		B107	
	SA  	B060	 B071	B081	B093		B108	

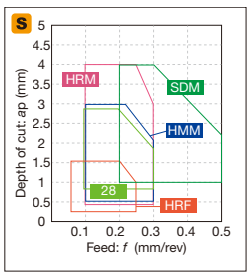
Chip control range





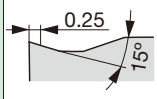
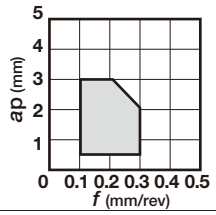
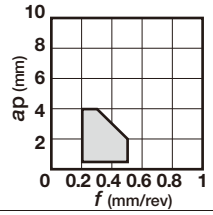
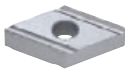
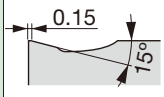
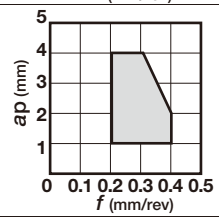
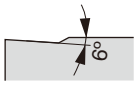
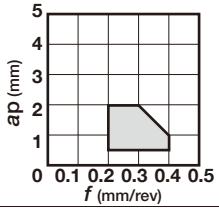
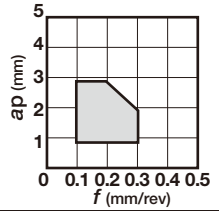
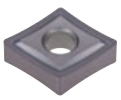
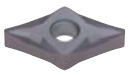
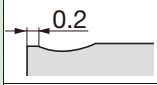
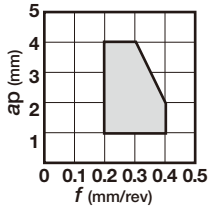
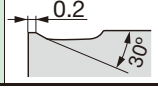
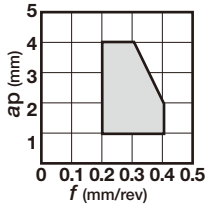
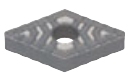




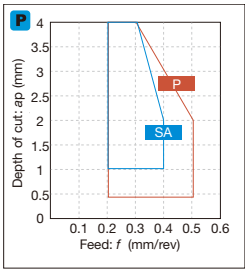


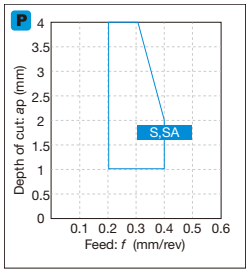
Please see the page B*** for the product details.

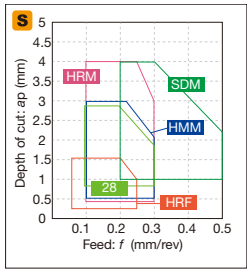
*-M,G: Without chipbreaker

Application	Negative type with hole	C	D	S	T	V	W	Y
		80°	55°	90°	60°	35°	80°	25°
Medium cutting	**HMM**  	B060	B071	B081	B093	B100	B108	
	P 	B060	 B072	B081	B094			
	S  	B060	B072	B082	B094			
	27  	B061	B072	B082	B094		B108	
	28 	 B061	 B072		B094	B101		
	33  	B061	B072	B082	B094	B101	B108	
	37  	B061	 B072	B082	B094		B108	

Chip control range

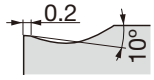
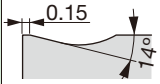
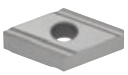
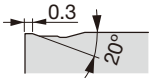
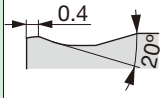
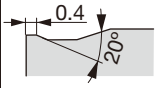
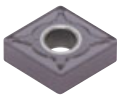
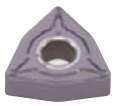
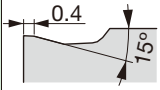
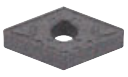
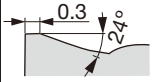




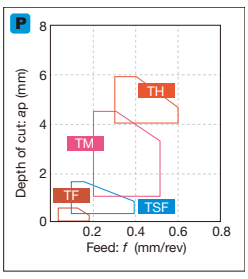


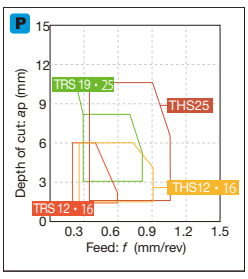
Please see the page B*** for the product details.

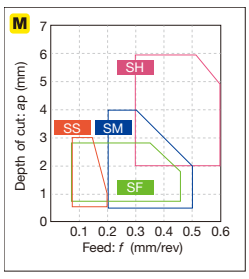
Chipbreaker Overview

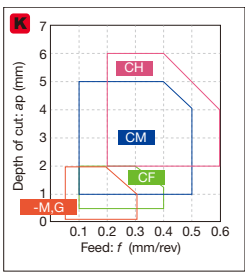
Application	Negative type with hole	C 80°	D 55°	S 90°	T 60°	V 35°	W 80°	Y 25°
Medium cutting	**38** 	B061	B072		B095			
Medium cutting	**Parallel** 		 B072					
Medium to heavy cutting	**TH** 	B061	B073	B082	B095		B108	
Medium to heavy cutting	**THS** 	B062	B073	B082	B095		B108	
Medium to heavy cutting	**SH** 	 B062	B073	B083			 B109	
Medium to heavy cutting	**CH** 	B062	 B073	B083	B095		B109	
Medium to heavy cutting (single side)	**TRS** 	B062		B083				

Chip control range



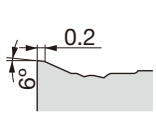
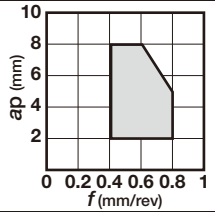
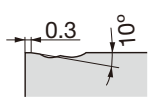
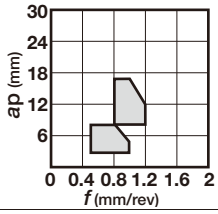
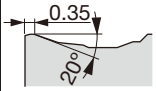
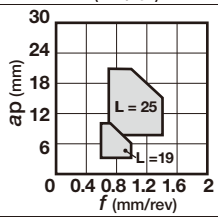
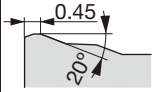
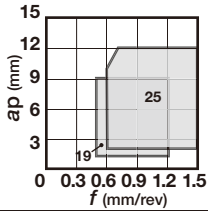
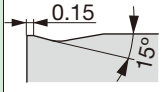
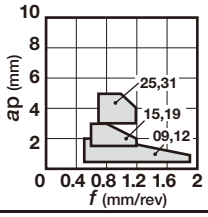




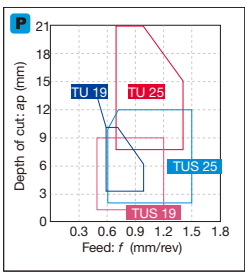


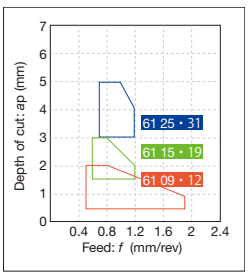
Please see the page B*** for the product details.

*-M,G: Without chipbreaker

Application	Negative type with hole	C	D	R	S	T	V	W
		80°	55°		90°	60°	35°	80°
Medium to heavy cutting (single side)	57  	B062	B073		B083	B095		
	65  	B062			B083			
Heavy cutting (single side)	TU  	B063			B084			
	TUS  	B063			B084			
Heavy cutting	61  			B076				

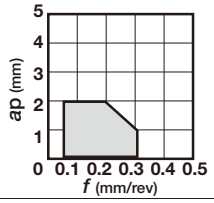
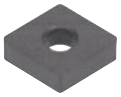
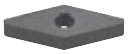
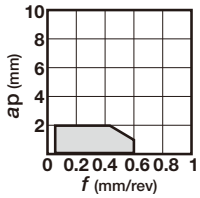
Chip control range

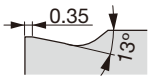
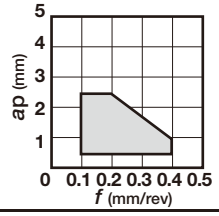




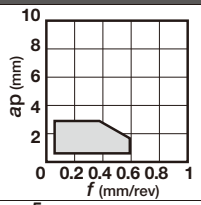
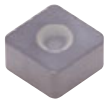
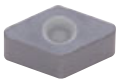
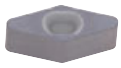
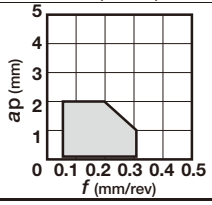
Please see the page B*** for the product details.

Chipbreaker Overview

Application	Negative type with hole	C	D	R	S	T	V	W
		80°	55°		90°	60°	35°	80°
Finishing to medium cutting	— M,G-class 	 B063	B073, B074	B076	B084	B096	 B101	B109
	Wiper M-class 	B064						

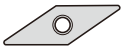
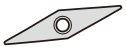
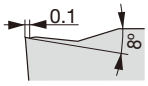
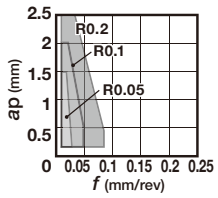
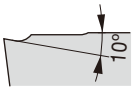
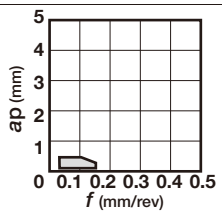
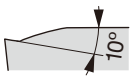
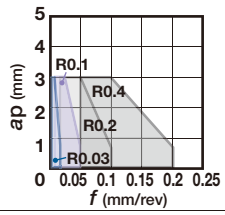
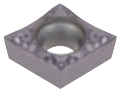
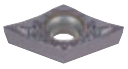
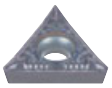
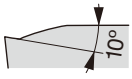
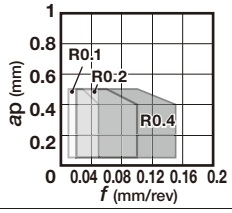
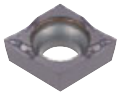
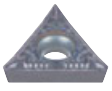
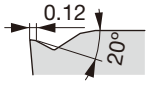
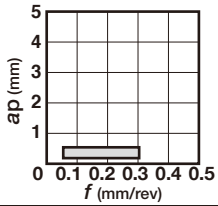
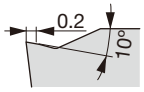
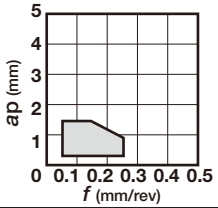
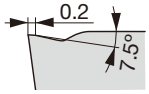
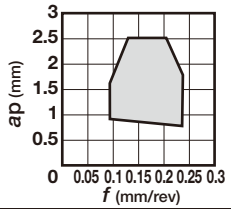
Application	Negative type without hole	C	D	KNMX	LNGN	R	S	T
		80°	55°	55°	90°		90°	60°
Finishing	S1  			B110				

Please see the page B*** for the product details.

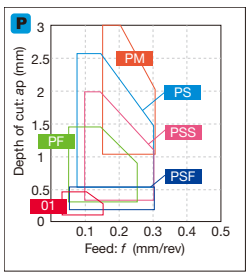
Application	Negative type without hole	C	D	H	R	S	T	V
		80°	55°	120°		90°	60°	35°
Finishing to medium cutting	— G-class 	 B065	 B074	B111		B085		 B101
	— M,G-class 	B065	B074		B076	B085	B097	

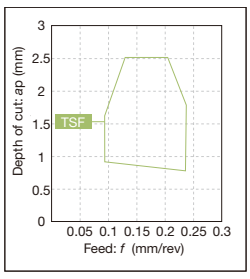
Please see the page B*** for the product details.

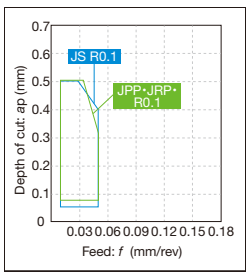
Chipbreaker Overview

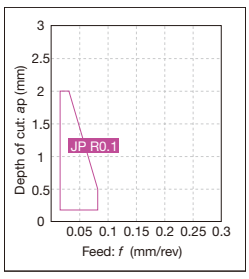
Application	Positive 7° with hole	C	D	R	S	T	V	Y
								
		80°	55°		90°	60°	35°	25°
Precision finishing (sharp edge)	**JP**  	B112	B121			B138		
	01  	B112	B121			B138		
Finishing (sharp edge)	**JS**  	 B112	 B121			 B138		
Finishing	**JS**  	 B112	B121			 B138		
	PSF  	B113	B121			B138	B152	
	PF  	B113	B122				B152	
	TSF  	B113	B122			B138	B152	

Chip control range

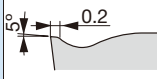
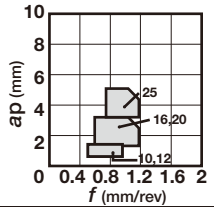
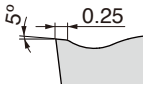
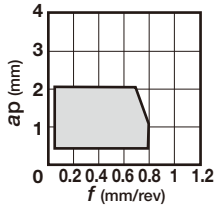
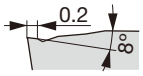
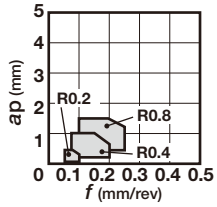
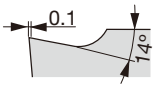
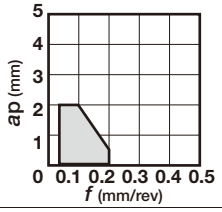
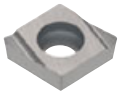
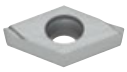
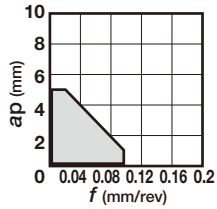
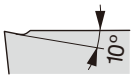
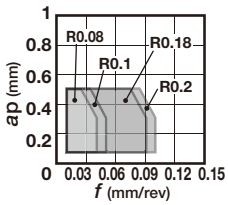
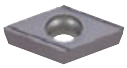
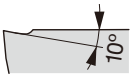
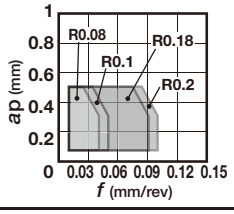
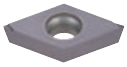




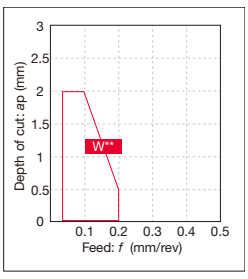


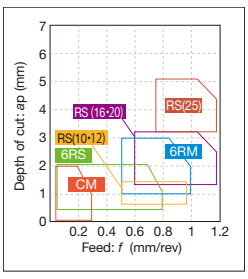


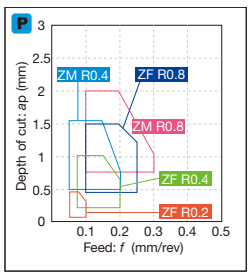
Please see the page B*** for the product details.

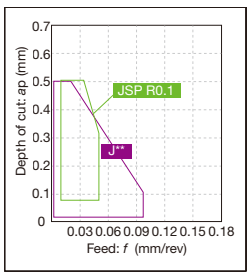
Application	Positive 7° with hole	C 80°	D 55°	R	S 90°	T 60°	V 35°	Y 25°
Finishing	**RS**  			 B130				
Finishing	**6RS**  			 B130				
Finishing	**ZF**  							 B159
Finishing	**W****  	 B114, B115	 B122			 B139		
Finishing	**J**** 	 B113	 B122			 B139		
Finishing (sharp edge)	**JPP**  		 B123					
Finishing (sharp edge)	**JRP**  		 B123					

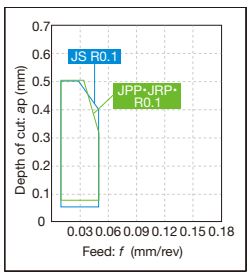
Chip control range





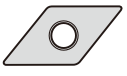
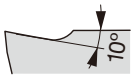
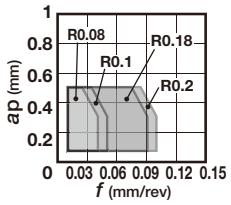
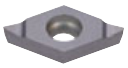
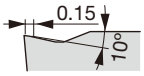
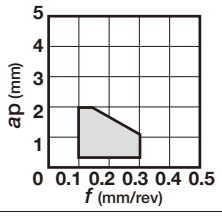
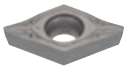
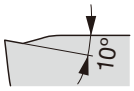
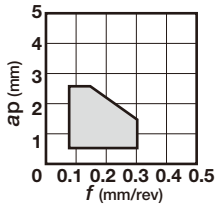
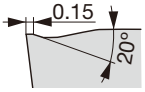
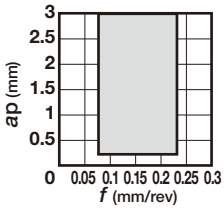
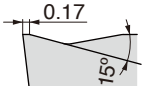
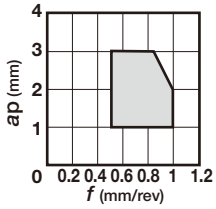
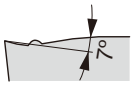
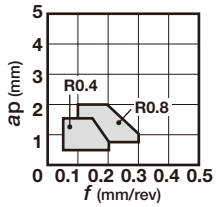
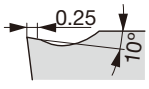
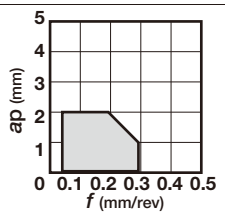




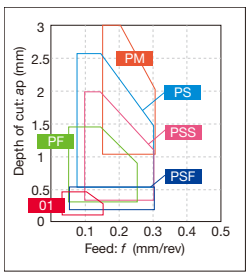


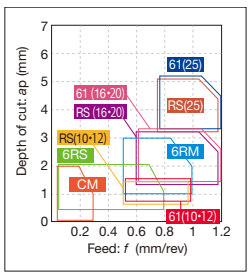
Please see the page B*** for the product details.

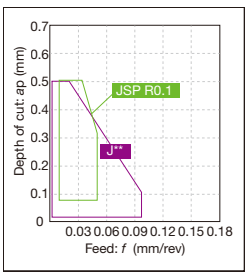
Chipbreaker Overview

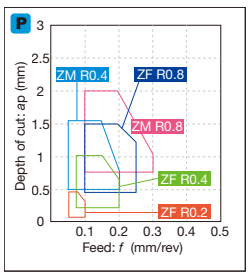
Application	Positive 7° with hole	C	D	R	S	T	V	Y
								
		80°	55°		90°	60°	35°	25°
Finishing (sharp edge)	**JSP**  		 B123					
Finishing to medium cutting	**PSS**  	B115	 B124			B140	B152	
	PS  	B115	B124		B134	B140	B152	
	TM  	B115	B124			B140	B152	
	6RM  			B130				
	ZM  							B159
	CM  	B115	B124	B130	B134	B140	B152	

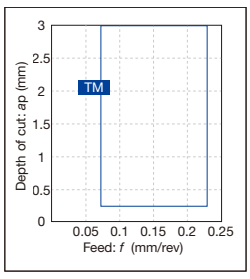
Chip control range



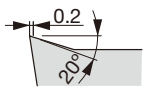
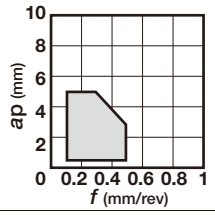
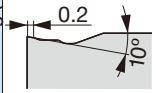
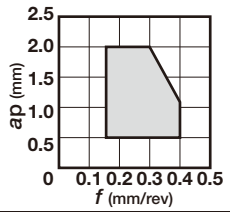
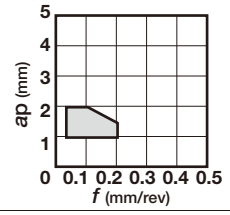
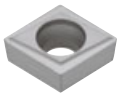
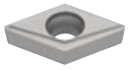
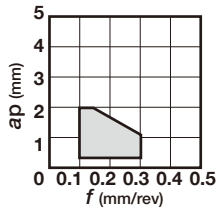
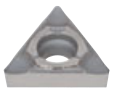
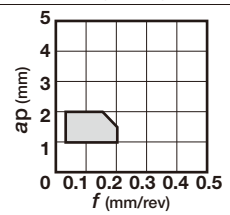
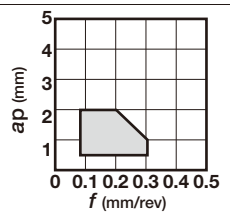
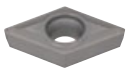
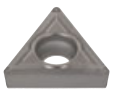
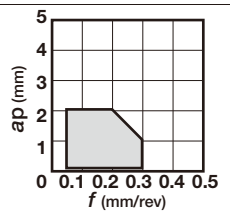




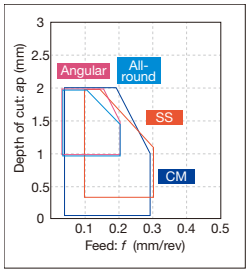


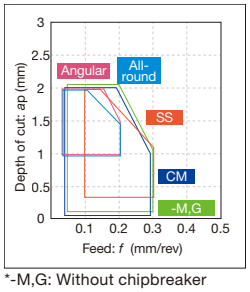


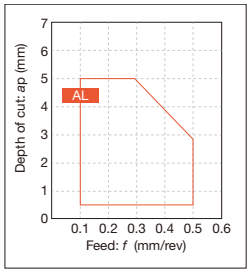
Please see the page B*** for the product details.

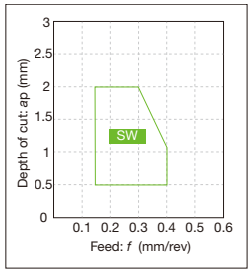
Application	Positive 7° with hole	C	D	R	S	T	V	Y
		80°	55°		90°	60°	35°	25°
Finishing to medium cutting (for non-ferrous alloys)	**AL**  	B116	B124	B130		B140	B153	
Finishing to medium cutting (wiper)	**SW**  	B116						
Finishing to medium cutting	**All-round** 	 B116	 B124				B153	
	SS 					 B140		
	Angular 	B116	B124					
	23 	B116	 B125		B134	 B140		
	— **M,G-class** 	B116, B117	B125					

Chip control range





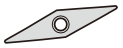
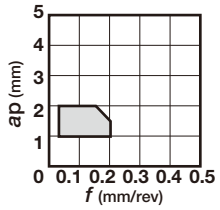
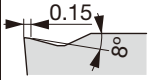
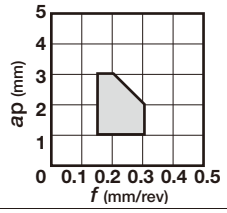
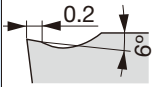
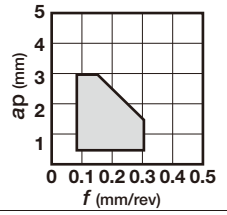
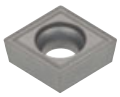
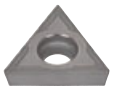
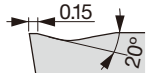
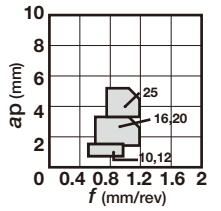




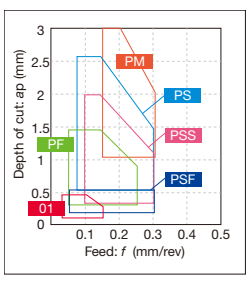
*-M,G: Without chipbreaker

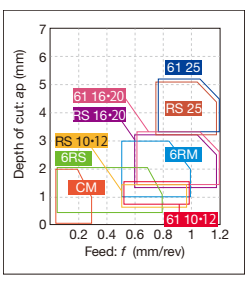
Please see the page B*** for the product details.

Chipbreaker Overview

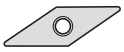
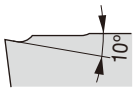
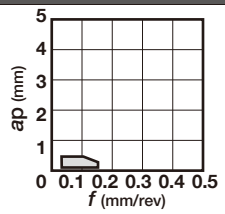
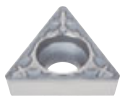
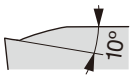
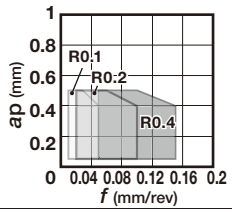
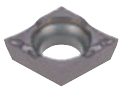
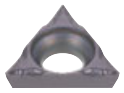
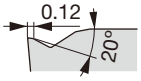
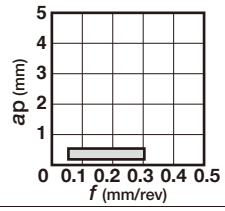
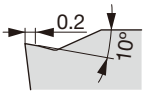
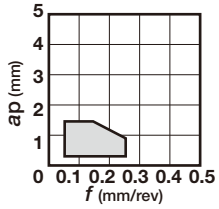
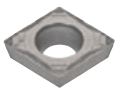
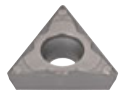
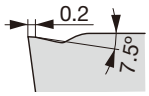
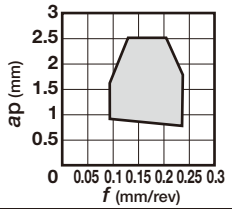
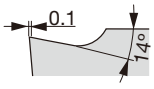
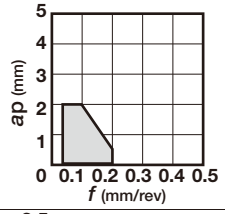
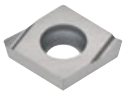
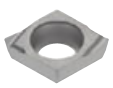
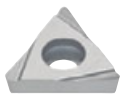
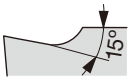
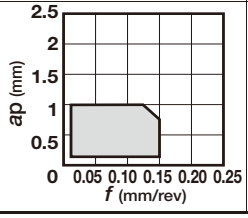
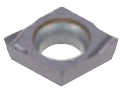
Application	Positive 7° with hole	C	D	R	S	T	V	Y
								
		80°	55°		90°	60°	35°	25°
Finishing to medium cutting	— (with hand) 					B141		
	PM  	B117	B125		B134	B141		
	24  	 B117	B125		B134	 B141	B153	
Heavy cutting	61  			B131				

Chip control range

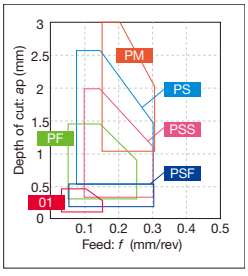


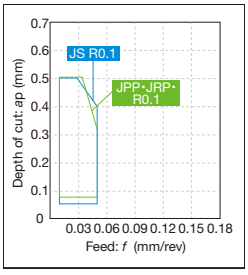


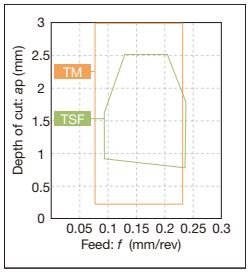
Please see the page B*** for the product details.

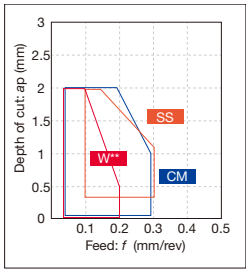
Application	Positive 11° with hole	C	E	S	T	V
						
		80°	75°	90°	60°	35°
Precision finishing	**01**  				 B142	
Precision finishing	**JS**  		 B128		 B142	
Finishing	**PSF**  	B118			B142	
Finishing	**PF**  	 B118			 B142	
Finishing	**TSF**  	B118			B143	
Finishing	**W****  	 B118	 B129	B135	 B143, B144	
Finishing	**J08**  		 B128			

Chip control range



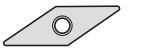
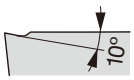
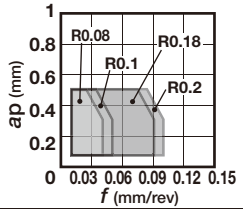
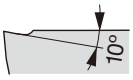
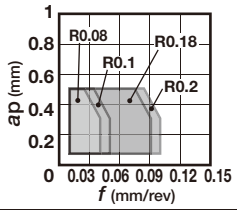
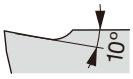
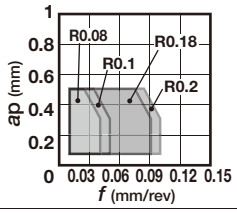
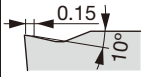
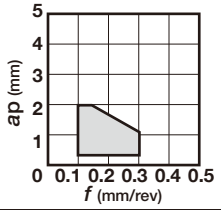
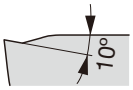
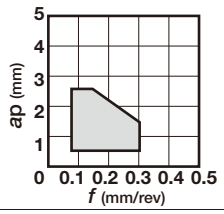
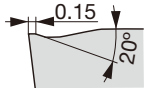
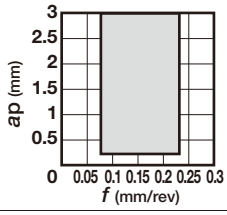
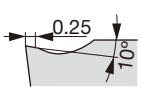
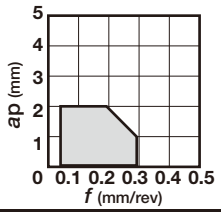




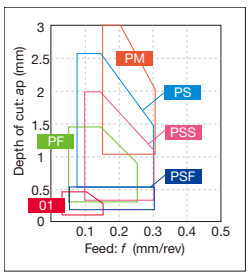


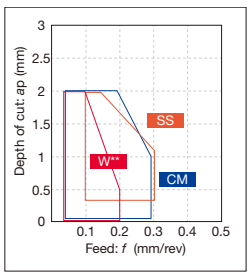
Please see the page B*** for the product details.

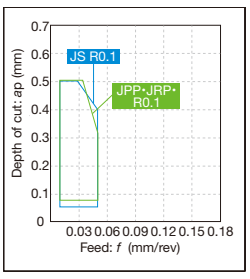
Chipbreaker Overview

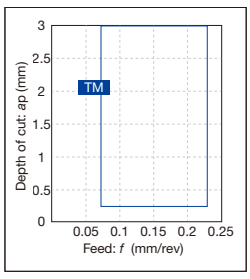
Application	Positive 11° with hole	C	D	S	T	V
						
		80°	55°	90°	60°	35°
Finishing (sharp edge)	**JPP**  					B154
Finishing (sharp edge)	**JRP**  					B154
Finishing (sharp edge)	**JSP**  					B154
Finishing to medium cutting	**PSS**  	B118			B145	
Finishing to medium cutting	**PS**  	B119	B126	B135	B145	
Finishing to medium cutting	**TM**  	B119			B145	
Finishing to medium cutting	**CM**  	B119		B135	B146	

Chip control range

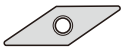
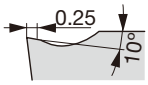
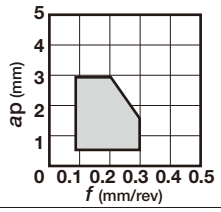
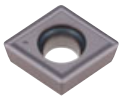
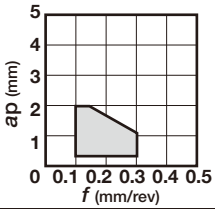
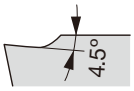
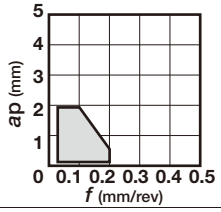
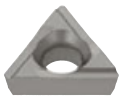
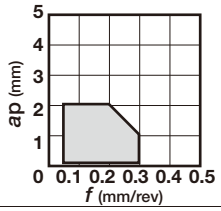
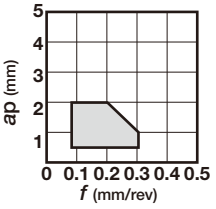
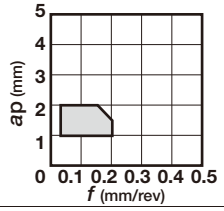
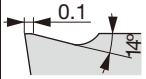
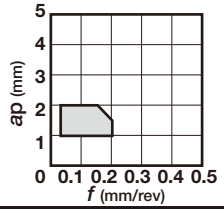




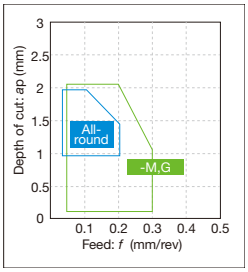




Please see the page B*** for the product details.

Application	Positive 11° with hole	C	S	T	V
					
		80°	90°	60°	35°
Finishing to medium cutting	**All-round**  	 B119			
	SS 			B144	
	H**  			 B146	
	— **M,G-class** 	B120	B138	B147	
	23 		B135	B146	
	— (with hand) 		(Tungaloy standard hole specification) ISO non-compliant B136		
	— (with hand)  			(Tungaloy standard hole specification) ISO non-compliant B146	

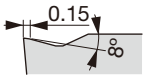
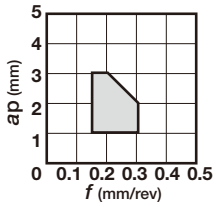
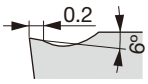
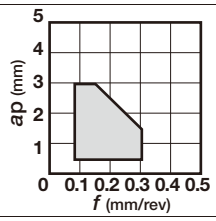
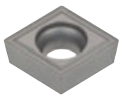
Chip control range

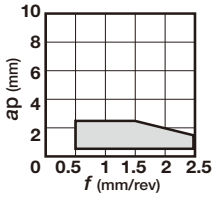


*-M,G: Without chipbreaker

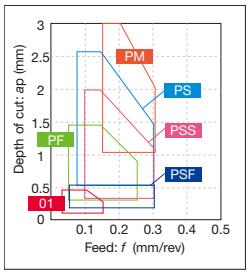
Please see the page B*** for the product details.

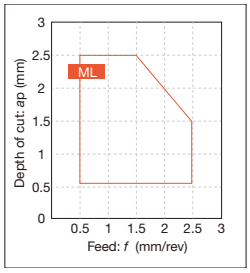
Chipbreaker Overview

Application	Positive 11° with hole	C	T
		80°	60°
Medium cutting	**PM**  	B120	B147
	24  	 B120	B147

Application	Positive 11° with hole	W
		80°
Heavy cutting	**ML** 	B155

Chip control range

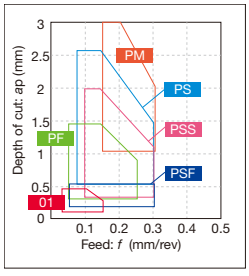


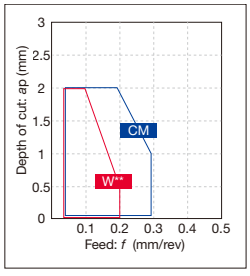


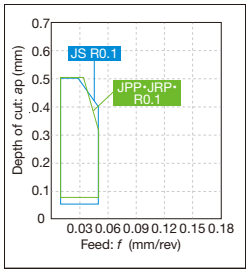
Please see the page B*** for the product details.

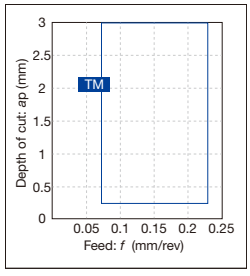
Application	Positive 5° with hole	V 35°	W 80°
Finishing (sharp edge)	**JS**	B150	
Finishing (sharp edge)	**JS**		B156
Finishing	**PSF**	B150	
Finishing	**PF**	B150	
Finishing	**TSF**	B150	
Finishing	**W08**		B156
Finishing	**W11**		B156
Finishing (sharp edge)	**J10**	B150	
Finishing	**J10**	B150	
Finishing to medium cutting	**TM**	B151	
Finishing to medium cutting	**PSS**	B151	
Finishing to medium cutting	**PS**	B151	
Finishing to medium cutting	**CM**	B151	
Medium cutting	**24**	B151	

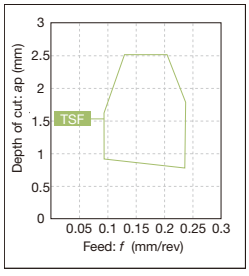
Chip control range





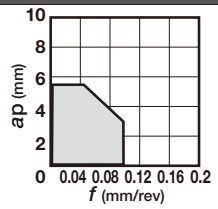


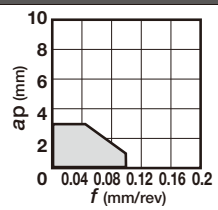


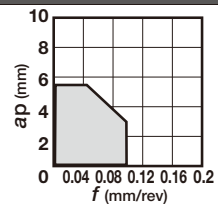


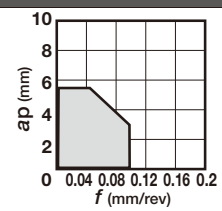
Please see the page B*** for the product details.

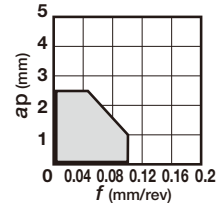
Chipbreaker Overview

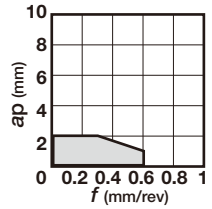
Application	Positive type with hole	JXF
Front turning	— 	B159

Application	Positive type with hole	J10E
Back turning	— 	B161

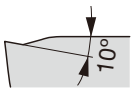
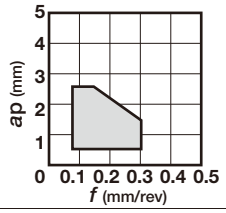
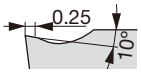
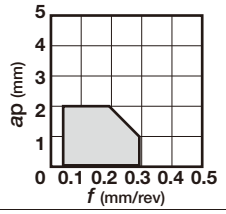
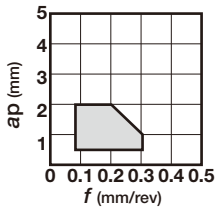
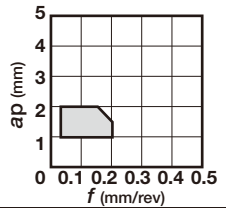
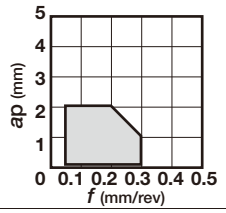
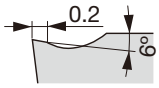
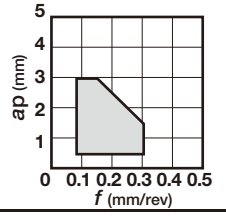
Application	Positive type with hole	JXB
Back turning	— 	B160

Application	Positive type with hole	JXR
Reverse turning	— 	B160

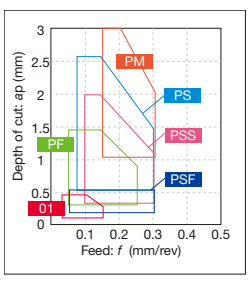
Application	Positive type with hole	JTB
Back turning	— 	B161

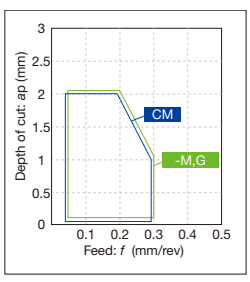
Application	Round	RT
Medium cutting	— 	Special round insert B131

Please see the page B*** for the product details.

Application	Positive 11° without hole	R	S	T
			90°	60°
Finishing to medium cutting	**PS**  			B148
	CM  		B137	B148
	23 		B137	B148
	— (with hand) 		B137	B148
	— M,G-class 		B137	B148, B149
Medium cutting	**24**  			B149

Chip control range

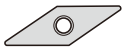
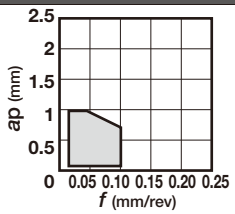
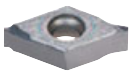
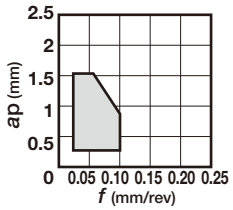
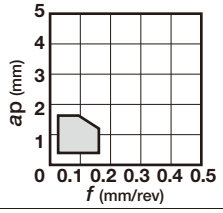
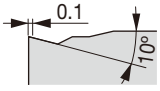
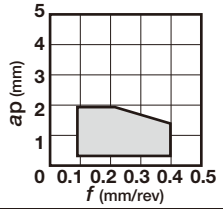
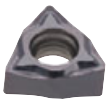
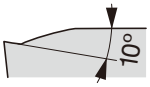
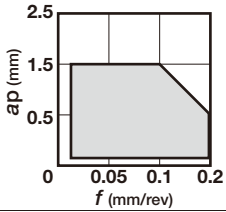
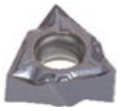
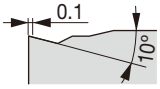
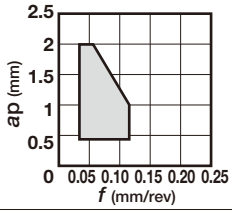
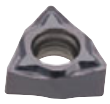
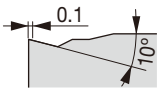
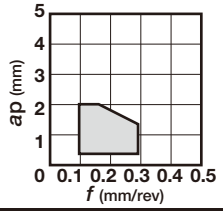
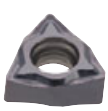




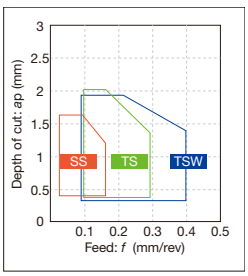
*-M,G: Without chipbreaker

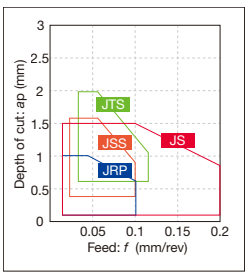
Please see the page B*** for the product details.

Chipbreaker Overview

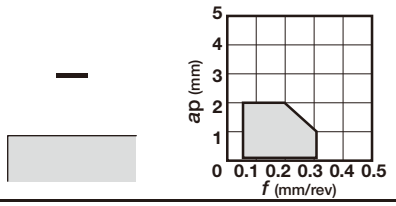
Application	Double-sided positive type with hole	D	V	W
				
		55°	35°	80°
Finishing (sharp edge)	**JRP** 	 B126	B155	
Finishing (sharp edge)	**JSS** 	B126		B157
Finishing to medium cutting	**SS** 	B126		B157
Finishing	**TSW**  			 B157
Finishing to medium cutting (sharp edge)	**JS**  	B127	B155	 B157
Finishing to medium cutting (sharp edge)	**JTS**  	B127		 B158
Finishing to medium cutting	**TS**  	B127		 B158

Chip control range





Please see the page B*** for the product details.

Application	Positive 7° without hole	RCGX
		Special round insert
Medium cutting		B132

Please see the page B*** for the product details.

Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

		T9205	T9215	T9225	T9235	T6215	T505	T515	AH8015	AH6225	AH120	GT9530	AT9530	NS9530	NS520	TH10	RE	IC	S	D1
		Coated										Coated cermet		Cermet		Uncoated	Dimension (mm)			
Application	Chipbreaker	Designation																		
P	Steel		●	●ɔ	●✣	✣	ɔ				●✣	●ɔ			●ɔ		●ɔ		●		
M	Stainless			●ɔ			●			ɔ	●ɔ	●ɔ			●ɔ		●ɔ		●		
K	Cast iron		●ɔ	●ɔ				●	●ɔ		●ɔ		●ɔ	●ɔ		●ɔ	●ɔ		●		
N	Non-ferrous																●			
S	Superalloy								ɔ		●ɔ									
H	Hard material																			
Finishing	TF	CNMG090402E-TF		●	●		●			●	●				●			0.2	9.525	4.76	3.81
		CNMG090404E-TF		●	●		●			●	●				●			0.4	9.525	4.76	3.81
		CNMG090408E-TF		●	●		●			●	●				●			0.8	9.525	4.76	3.81
		CNMG120402-TF		●	●		●			●	●				●			0.2	12.7	4.76	5.16
		CNMG120404-TF		●	●		●			●	●				●		●	0.4	12.7	4.76	5.16
		CNMG120408-TF		●	●		●			●	●				●			0.8	12.7	4.76	5.16
	TSF	CNMG090402E-TSF		●	●		●			●	●	●		●		●			0.2	9.525	4.76	3.81
		CNMG090404E-TSF		●	●		●			●	●	●		●	●	●			0.4	9.525	4.76	3.81
		CNMG090408E-TSF		●	●		●			●	●	●		●	●	●			0.8	9.525	4.76	3.81
		CNMG120402-TSF		●	●		●			●	●					●			0.2	12.7	4.76	5.16
		CNMG120404-TSF	●	●	●		●		●	●	●	●		●	●	●			0.4	12.7	4.76	5.16
		CNMG120408-TSF	●	●	●	●	●		●	●	●	●		●	●	●			0.8	12.7	4.76	5.16
		CNMG120412-TSF		●	●		●	●	●	●	●	●							1.2	12.7	4.76	5.16
	PS	CNMG090402E-PS		●	●		●			●	●				●				0.2	9.525	4.76	3.81
		CNMG090404E-PS		●	●		●			●	●				●				0.4	9.525	4.76	3.81
		CNMG090408E-PS		●	●		●			●	●				●				0.8	9.525	4.76	3.81
		CNMG120402-PS		●	●		●			●	●				●				0.2	12.7	4.76	5.16
		CNMG120404-PS		●	●		●			●	●				●				0.4	12.7	4.76	5.16
		CNMG120408-PS		●	●		●			●	●				●				0.8	12.7	4.76	5.16
		CNMG120412-PS		●	●		●			●	●				●				1.2	12.7	4.76	5.16
Finishing for mild steel	ZF	CNMG090402E-ZF		●	●		●			●	●				●				0.2	9.525	4.76	3.81
		CNMG090404E-ZF		●	●		●			●	●				●				0.4	9.525	4.76	3.81
		CNMG090408E-ZF		●	●		●			●	●				●				0.8	9.525	4.76	3.81
		CNMG120402-ZF		●	●		●			●	●				●				0.2	12.7	4.76	5.16
		CNMG120404-ZF		●	●		●			●	●				●				0.4	12.7	4.76	5.16
		CNMG120408-ZF		●	●	●	●			●	●				●				0.8	12.7	4.76	5.16
		CNMG120412-ZF		●	●		●			●	●				●				1.2	12.7	4.76	5.16
Finishing	AS	CNMG120404-AS	●	●	●										●				0.4	12.7	4.76	5.16
		CNMG120408-AS	●	●	●	●									●				0.8	12.7	4.76	5.16
		CNMG120412-AS		●	●	●													1.2	12.7	4.76	5.16
	NS	CNMG120404-NS													●				0.4	12.7	4.76	5.16
		CNMG120408-NS		●	●										●				0.8	12.7	4.76	5.16
	TS	CNMG090402E-TS		●	●		●			●	●			●		●			0.2	9.525	4.76	3.81
		CNMG090404E-TS		●	●		●			●	●			●		●			0.4	9.525	4.76	3.81
		CNMG090408E-TS		●	●		●			●	●			●		●			0.8	9.525	4.76	3.81
		CNMG120402-TS		●	●		●			●	●					●			0.2	12.7	4.76	5.16
		CNMG120404-TS		●	●	●	●			●	●			●	●	●	●		0.4	12.7	4.76	5.16
		CNMG120408-TS	●	●	●	●	●			●	●			●	●	●	●		0.8	12.7	4.76	5.16
		CNMG120412-TS		●	●	●	●			●	●					●			1.2	12.7	4.76	5.16

● : Line up

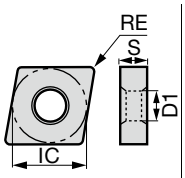
Reference pages: External toolholder → C015 - Internal toolholder → D025 - J-Series toolholder → G050
TungCap → K008 - PINZBOHR® → K178 - Cartridge → K181 -

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

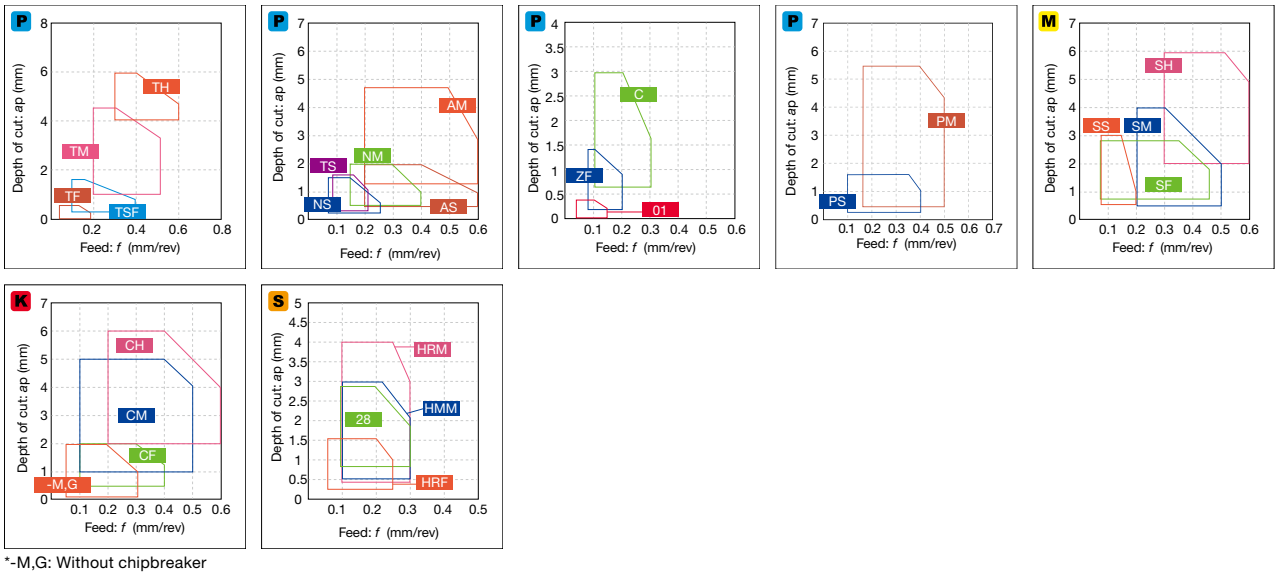
P	Steel	ɔ					ɔ✣	✣	●ɔ	●ɔ																							
M	Stainless	●			●	ɔ	●ɔ	✣	●ɔ	●ɔ																							
K	Cast iron		●	ɔ					●ɔ	●ɔ																							
N	Non-ferrous																																
S	Superalloy				●	ɔ			●ɔ																								
H	Hard material																																



Application	Chipbreaker	Designation	Coated									Dimension (mm)			
			T6215	T5105	T5115	AH8005	AH8015	AH6225	AH6235	AH120	GH330	RE	IC	S	D1
Finishing	SF	CNMG090304-SF	●					●				0.4	9.525	3.18	3.81
		CNMG090308-SF	●					●				0.8	9.525	3.18	3.81
		CNMG120404-SF	●					●				0.4	12.7	4.76	5.16
		CNMG120408-SF	●					●				0.8	12.7	4.76	5.16
		CNMG120412-SF	●					●				1.2	12.7	4.76	5.16
	SS	CNMG090404E-SS						●	●			0.4	9.525	4.76	3.81
		CNMG090408E-SS						●	●			0.8	9.525	4.76	3.81
		CNMG120404-SS	●					●	●	●	●	0.4	12.7	4.76	5.16
		CNMG120408-SS	●					●	●	●	●	0.8	12.7	4.76	5.16
		CNMG120412-SS	●					●	●		●	1.2	12.7	4.76	5.16
	HRF	CNMG120404-HRF				●	●					0.4	12.7	4.76	5.16
		CNMG120408-HRF				●	●					0.8	12.7	4.76	5.16
		CNMG120412-HRF				●	●					1.2	12.7	4.76	5.16
	CF	CNMG120404-CF		●	●							0.4	12.7	4.76	5.16
		CNMG120408-CF		●	●							0.8	12.7	4.76	5.16
		CNMG120412-CF		●	●							1.2	12.7	4.76	5.16

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: External toolholder → C015 - | Internal toolholder → D025 -
J-Series toolholder → G050 | TungCap → K008 -
PINZBOHR® → K178 - | Cartridge → K181 -

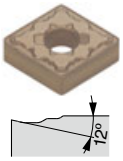
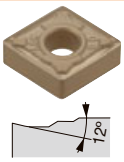
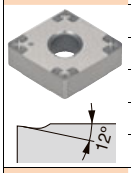
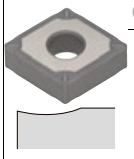
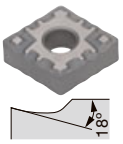
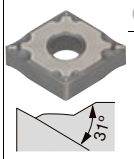
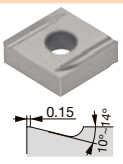
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

		Coated					Coated cermet		Cermet		Uncoated		Dimension (mm)			
		T9205	T9215	T9225	T9235	GH110	GT9530	GT720	NS9530	NS520	TH10		RE	IC	S	D1
P	Steel	●	●ɔ	ɔ✣	✣	●	●ɔ	●ɔ	●ɔ	●ɔ	●					
M	Stainless		●ɔ			●					●					
K	Cast iron	●ɔ	●ɔ			●	●ɔ	●ɔ	●ɔ	●ɔ	●					
N	Non-ferrous										●					
S	Superalloy					●										
H	Hard material															

Application	Chipbreaker	Designation											RE	IC	S	D1
Finishing (wiper)	FW	CNMG090404E-FW	●	●	●			●		●			0.4	9.525	4.76	3.81
		CNMG090408E-FW	●	●	●			●		●			0.8	9.525	4.76	3.81
		CNMG120404-FW		●				●		●			0.4	12.7	4.76	5.16
		CNMG120408-FW	●	●	●			●		●			0.8	12.7	4.76	5.16
		*Wiper														
	AFW	CNMG120404-AFW		●	●			●		●			0.4	12.7	4.76	5.16
		CNMG120408-AFW	●	●	●	●		●					0.8	12.7	4.76	5.16
Finishing	01	CNGG090302-01								●			0.2	9.525	3.18	3.81
		CNGG090304-01								●			0.4	9.525	3.18	3.81
		CNGG090308-01								●			0.8	9.525	3.18	3.81
		CNGG120402-01								●	●	●	0.2	12.7	4.76	5.16
		CNGG120404-01								●	●	●	0.4	12.7	4.76	5.16
		CNGG120408-01								●	●	●	0.8	12.7	4.76	5.16
	11	CNMG120404-11						●		●		●	0.4	12.7	4.76	5.16
		CNMG120408-11						●	●	●		●	0.8	12.7	4.76	5.16
Finishing for mild steel	17	CNMG120404-17								●			0.4	12.7	4.76	5.16
		CNMG120408-17								●			0.8	12.7	4.76	5.16
Boring (double side)	CB	CNMG090304-CB								●			0.4	9.525	3.18	3.81
		CNMG090308-CB								●			0.8	9.525	3.18	3.81
Finishing	C	CNGG120404R-C					●			●			0.4	12.7	4.76	5.16
		CNGG120404L-C					●			●			0.4	12.7	4.76	5.16
		CNGG120408R-C					●			●			0.8	12.7	4.76	5.16
		CNGG120408L-C					●			●			0.8	12.7	4.76	5.16

* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

● : Line up

Reference pages: External toolholder → C015 - | Internal toolholder → D025 -
J-Series toolholder → G050 | TungCap → K008 -
PINZBOHR® → K178 - | Cartridge → K181 -

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

| | | |

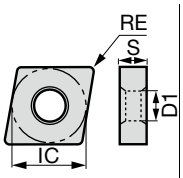
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

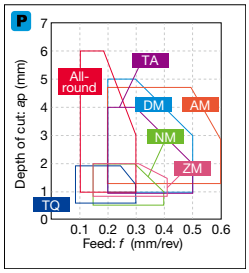
P	Steel	●	●ɔ	ɔ✣	✣	ɔ							ɔ✣	●	●ɔ			●ɔ	●ɔ		●ɔ	●ɔ		●			
M	Stainless		●ɔ			●						ɔ	●ɔ	●	●ɔ									●			
K	Cast iron	●ɔ	●ɔ				●	●ɔ	●	ɔ	✣			●	●ɔ			●ɔ	●ɔ		●ɔ	●ɔ		●			
N	Non-ferrous																							●			
S	Superalloy											ɔ		●	●ɔ												
H	Hard material																										



Application	Chipbreaker	Designation	Coated														Coated cermet		Cermet		Uncoated	Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH110	AH120	GT9530	GT720	NS9530	NS520	TH10	RE	IC	S	D1
Medium cutting	**AM**	**CNMG120408-AM**		●	●																	0.8	12.7	4.76	5.16
		CNMG12012-AM		●	●																	1.2	12.7	4.76	5.16
		CNMG12016-AM		●	●																	1.6	12.7	4.76	5.16
	NM	**CNMG120408-NM**	●	●	●	●													●			0.8	12.7	4.76	5.16
		CNMG12012-NM		●	●	●																1.2	12.7	4.76	5.16
	DM	**CNMG120404-DM**		●	●		●						●	●								0.4	12.7	4.76	5.16
		CNMG12008-DM	●	●	●	●	●						●	●								0.8	12.7	4.76	5.16
		CNMG12012-DM	●	●	●	●	●						●	●								1.2	12.7	4.76	5.16
		CNMG12016-DM		●	●		●						●	●								1.6	12.7	4.76	5.16
	All-round	**CNMG090304**		●	●														●			0.4	9.525	3.18	3.81
		CNMG09030**8**	●	●	●	●												●	●			0.8	9.525	3.18	3.81
		CNMG120404	●	●	●	●		●	●	●	●	●			●	●	●		●		●	0.4	12.7	4.76	5.16
		CNMG12040**8**	●	●	●	●		●	●	●	●	●			●	●	●		●	●	●	0.8	12.7	4.76	5.16
		CNMG12041**2**	●	●	●	●		●	●	●	●	●			●	●				●	●	1.2	12.7	4.76	5.16
		CNMG12041**6**	●	●	●	●		●	●	●	●	●										1.6	12.7	4.76	5.16
		CNMG160608	●	●	●	●				●	●	●				●						0.8	15.875	6.35	6.35
		CNMG16061**2**	●	●	●	●			●	●	●	●				●						1.2	15.875	6.35	6.35
		CNMG16061**6**	●	●	●	●			●		●											1.6	15.875	6.35	6.35
		CNMG190608		●	●	●																0.8	19.05	6.35	7.93
		CNMG19061**2**	●	●	●	●			●		●	●				●						1.2	19.05	6.35	7.93
		CNMG19061**6**		●	●	●			●		●	●				●						1.6	19.05	6.35	7.93

● : Line up

Chip control range



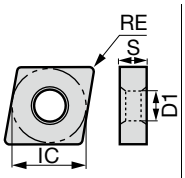
Reference pages: External toolholder → C015 -
J-Series toolholder → G050
PINZBOHR® → K178 -
Internal toolholder → D025 -
TungCap → K008 -
Cartridge → K181 -

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

P	Steel	● ●ɔ ɔ✣ ɔ
M	Stainless	●ɔ ● ɔ
K	Cast iron	●ɔ ●ɔ ● ●ɔ ● ɔ ✣
N	Non-ferrous	
S	Superalloy	● ɔ ɔ ●
H	Hard material	

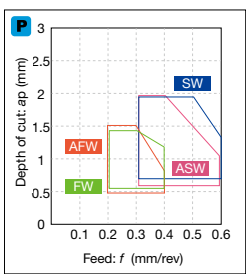


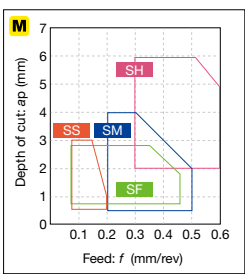
Application	Chipbreaker	Designation	Coated														Dimension (mm)			
			T9205	T9215	T9225	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH905	AH725	RE	IC	S	D1
Medium cutting	SM	CNMG090404E-SM				●								●				0.4	9.525	4.76	3.81
		CNMG090408E-SM				●								●				0.8	9.525	4.76	3.81
		CNMG090412E-SM				●								●				1.2	9.525	4.76	3.81
		CNMG120404-SM				●								●	●		●	0.4	12.7	4.76	5.16
		CNMG120408-SM				●								●	●	●	●	0.8	12.7	4.76	5.16
		CNMG120412-SM				●								●	●		●	1.2	12.7	4.76	5.16
		CNMG160612-SM				●								●				1.2	15.875	6.35	6.35
		CNMG160616-SM												●				1.6	15.875	6.35	6.35
		CNMG190612-SM												●				1.2	19.05	6.35	7.93
		CNMG190616-SM												●				1.6	19.05	6.35	7.93
	SDM	CNMG120404-SDM				●						●	●	●	●			0.4	12.7	4.76	5.16
		CNMG120408-SDM				●						●	●	●	●			0.8	12.7	4.76	5.16
		CNMG120412-SDM				●						●	●	●	●			1.2	12.7	4.76	5.16
	HRM	CNMG120404-HRM										●	●					0.4	12.7	4.76	5.16
		CNMG120408-HRM										●	●					0.8	12.7	4.76	5.16
		CNMG120412-HRM										●	●					1.2	12.7	4.76	5.16
		CNMG160608-HRM										●	●					0.8	15.875	6.35	6.35
		CNMG160612-HRM										●	●					1.2	15.875	6.35	6.35
		CNMG190612-HRM										●	●					1.2	19.05	6.35	7.93
		CNMG190616-HRM										●	●					1.6	19.05	6.35	7.93
	CM	CNMG120404-CM	●	●		●	●	●	●	●	●							0.4	12.7	4.76	5.16
		CNMG120408-CM	●	●		●	●	●	●	●	●							0.8	12.7	4.76	5.16
		CNMG120412-CM	●	●		●	●	●	●	●	●							1.2	12.7	4.76	5.16
		CNMG160608-CM	●	●		●	●	●	●	●	●							0.8	15.875	6.35	6.35
		CNMG160612-CM	●	●		●	●	●	●	●	●							1.2	15.875	6.35	6.35
Medium cutting (wiper)	SW	CNMG090408E-SW	●	●	●					●								0.8	9.525	4.76	3.81
		CNMG090412E-SW	●	●	●					●								1.2	9.525	4.76	3.81
		CNMG120408-SW	●	●	●			●		●								0.8	12.7	4.76	5.16
		CNMG120412-SW	●	●	●			●		●								1.2	12.7	4.76	5.16
		*Wiper																			

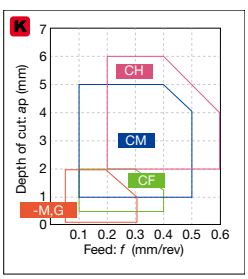
* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

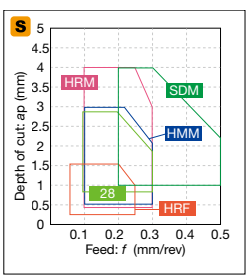
● : Line up

Chip control range









Reference pages: External toolholder → C015 - Internal toolholder → D025 -
J-Series toolholder → G050 TungCap → K008 -
PINZBOHR® → K178 - Cartridge → K181 -

Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

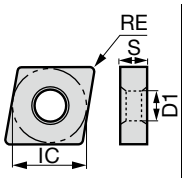
| | | |

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

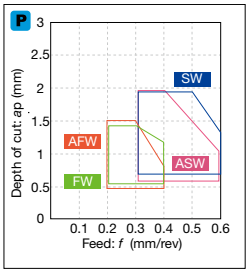
P	Steel	● ●ɔ ✠ ✠ ● ɔ ✠ ɔ ● ●ɔ ●ɔ ●ɔ ●ɔ ●ɔ ●
M	Stainless	●ɔ ● ɔ ●ɔ ɔ ● ●ɔ ●ɔ ●
K	Cast iron	●ɔ ●ɔ ●ɔ ɔ ● ●ɔ ●ɔ ●ɔ ●ɔ ●ɔ ● ●
N	Non-ferrous	● ●
S	Superalloy	● ɔ ● ● ●ɔ ●
H	Hard material	

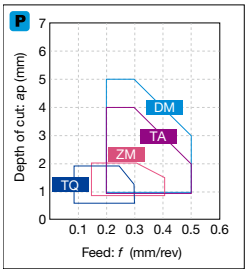


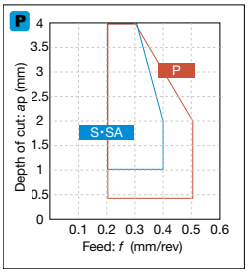
Application	Chipbreaker	Designation	Coated T9205	T9215	T9225	T9235	T515	AH8005	AH8015	AH6225	AH725	AH110	AH120	GH330	Coated cermet GT720	Cermet NS9530	Uncoated KS05F	TH10	Dimension (mm) RE	IC	S	D1
Medium cutting	27	CNMG120404-27		●	●											●			0.4	12.7	4.76	5.16
		CNMG120408-27		●	●	●										●			0.8	12.7	4.76	5.16
		CNMG120412-27			●														1.2	12.7	4.76	5.16
	28	CNMG120404-28			●			●	●			●	●				●		0.4	12.7	4.76	5.16
		CNMG120408-28						●	●			●	●				●		0.8	12.7	4.76	5.16
		CNMG120412-28						●	●										1.2	12.7	4.76	5.16
		CNGG120402-28															●		0.2	12.7	4.76	5.16
		CNGG120404-28															●		0.4	12.7	4.76	5.16
		CNGG120408-28															●		0.8	12.7	4.76	5.16
	33	CNMG120408-33										●			●				0.8	12.7	4.76	5.16
		CNMG120416-33		●															1.6	12.7	4.76	5.16
		CNMG160612-33		●															1.2	15.875	6.35	6.35
		CNMG190612-33		●															1.2	19.05	6.35	7.93
	37	CNMG120404-37		●												●			0.4	12.7	4.76	5.16
		CNMG120408-37		●	●									●		●		●	0.8	12.7	4.76	5.16
		CNMG120412-37		●															1.2	12.7	4.76	5.16
	38	CNMG120404-38												●					0.4	12.7	4.76	5.16
		CNMG120408-38		●							●			●					0.8	12.7	4.76	5.16
Medium to heavy cutting	TH	CNMG120408-TH	●	●	●	●	●		●	●			●						0.8	12.7	4.76	5.16
		CNMG120412-TH	●	●	●	●	●		●	●			●						1.2	12.7	4.76	5.16
		CNMG120416-TH	●	●	●	●	●		●				●						1.6	12.7	4.76	5.16
		CNMG160612-TH	●	●	●	●							●						1.2	15.875	6.35	6.35
		CNMG160616-TH	●	●	●	●							●						1.6	15.875	6.35	6.35
		CNMG190612-TH	●	●	●	●							●						1.2	19.05	6.35	7.93
		CNMG190616-TH	●	●	●	●							●						1.6	19.05	6.35	7.93

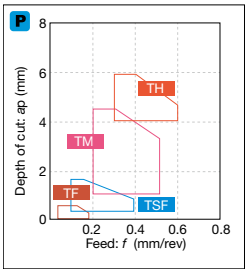
● : Line up

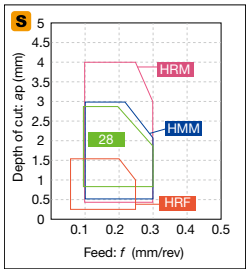
Chip control range











Reference pages: External toolholder → C015 - Internal toolholder → D025 -
J-Series toolholder → G050 TungCap → K008 -
PINZBOHR® → K178 - Cartridge → K181 -

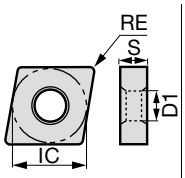
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

		T9205	T9215	T9225	T9235	T515	T5105	T5115	T5125	AH6225	AH6235
P	Steel	●	●ɔ	ɔ✣	✣					ɔ✣	✣
M	Stainless		●ɔ							●ɔ	✣
K	Cast iron	●ɔ	●ɔ			●ɔ	●	ɔ	✣		
N	Non-ferrous										
S	Superalloy										
H	Hard material										



Application	Chipbreaker	Designation	RE	IC	S	D1
Medium to heavy cutting	THS	CNMG120408-THS	0.8	12.7	4.76	5.16
		CNMG12012-THS	1.2	12.7	4.76	5.16
		CNMG12016-THS	1.6	12.7	4.76	5.16
		CNMG160612-THS	1.2	15.875	6.35	6.35
		CNMG16016-THS	1.6	15.875	6.35	6.35
		CNMG190612-THS	1.2	19.05	6.35	7.93
		CNMG19016-THS	1.6	19.05	6.35	7.93
		CNMG19024-THS	2.4	19.05	6.35	7.93
		CNMG250924-THS	2.4	25.4	9.52	9.12
Medium to heavy cutting	SH	CNMG120408-SH	0.8	12.7	4.76	5.16
		CNMG12012-SH	1.2	12.7	4.76	5.16
		CNMG12016-SH	1.6	12.7	4.76	5.16
		CNMG160612-SH	1.2	15.875	6.35	6.35
		CNMG16016-SH	1.6	15.875	6.35	6.35
		CNMG190612-SH	1.2	19.05	6.35	7.93
		CNMG19016-SH	1.6	19.05	6.35	7.93
	CH	CNMG120404-CH	0.4	12.7	4.76	5.16
		CNMG12008-CH	0.8	12.7	4.76	5.16
		CNMG12012-CH	1.2	12.7	4.76	5.16
		CNMG160612-CH	1.2	15.875	6.35	6.35
		CNMG16016-CH	1.6	15.875	6.35	6.35
		CNMG190612-CH	1.2	19.05	6.35	7.93
		CNMG19016-CH	1.6	19.05	6.35	7.93
Medium to heavy cutting (single side)	TRS	CNMM120408-TRS	0.8	12.7	4.76	5.16
		CNMM12012-TRS	1.2	12.7	4.76	5.16
		CNMM160612-TRS	1.2	15.875	6.35	6.35
		CNMM16016-TRS	1.6	15.875	6.35	6.35
		CNMM190616-TRS	1.6	19.05	6.35	7.93
		CNMM19024-TRS	2.4	19.05	6.35	7.93
		CNMM250924-TRS	2.4	25.4	9.52	9.12
	57	CNMM120404-57	0.4	12.7	4.76	5.16
		CNMM12008-57	0.8	12.7	4.76	5.16
		CNMM12012-57	1.2	12.7	4.76	5.16
		CNMM190612-57	1.2	12.7	4.76	5.16
		CNMM19016-57	1.6	12.7	4.76	5.16
	65	CNMM120412-65	1.2	12.7	4.76	5.16
		CNMM160616-65	1.6	15.875	6.35	6.35

● : Line up

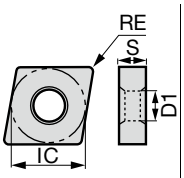
Reference pages: External toolholder → C015 - Internal toolholder → D025 -
J-Series toolholder → G050 TungCap → K008 -
PINZBOHR® → K178 - Cartridge → K181 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

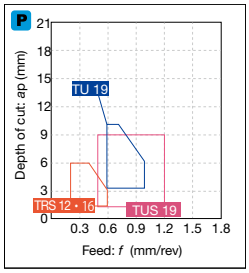
P	Steel	●	◐	◐	✠										◐			●														
M	Stainless		◐															●														
K	Cast iron	◐	◐			●	◐	●	◐	✠					◐			●			◐											
N	Non-ferrous																	●														
S	Superalloy																															
H	Hard material																															

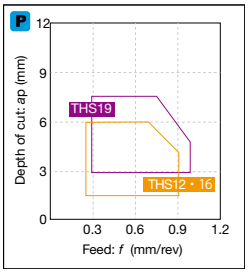


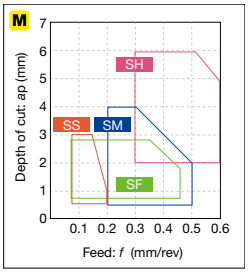
Application	Chipbreaker	Designation	Coated									Cermet	Uncoated	Ceramic		Dimension (mm)			
			T9205	T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	NS520	TH10	FX105		RE	IC	S	D1
Medium to heavy cutting (single side)	TU	CNMM190612-TU			●	●										1.2	19.05	6.35	7.93
		CNMM190616-TU			●	●										1.6	19.05	6.35	7.93
		CNMM190624-TU		●	●	●										2.4	19.05	6.35	7.93
		CNMM250924-TU			●	●										2.4	25.4	9.52	9.12
	TUS	CNMM190608-TUS		●	●											0.8	19.05	6.35	7.93
		CNMM190612-TUS		●	●	●										1.2	19.05	6.35	7.93
		CNMM190616-TUS		●	●	●										1.6	19.05	6.35	7.93
		CNMM190624-TUS		●	●	●										2.4	19.05	6.35	7.93
		CNMM190632-TUS		●	●											3.2	19.05	6.35	7.93
		CNMM250916-TUS		●	●	●										1.6	25.4	9.52	9.12
		CNMM250924-TUS		●	●	●										2.4	25.4	9.52	9.12
		CNMM250932-TUS		●	●											3.2	25.4	9.52	9.12
Finishing to medium cutting	-	CNMA090404E						●								0.4	9.525	4.76	3.81
		CNMA090408E						●								0.8	9.525	4.76	3.81
		CNMA090412E						●								1.2	9.525	4.76	3.81
		CNMA090416E						●								1.6	9.525	4.76	3.81
		CNMA120404							●	●	●		●			0.4	12.7	4.76	5.16
		CNMA120408	●				●	●	●	●	●	●	●	●		0.8	12.7	4.76	5.16
		CNMA120412	●				●	●	●	●	●		●	●		1.2	12.7	4.76	5.16
		CNMA120416	●						●	●	●		●	●		1.6	12.7	4.76	5.16
		CNMA160608							●		●					0.8	15.875	6.35	6.35
		CNMA160612						●	●	●	●					1.2	15.875	6.35	6.35
		CNMA160616						●								1.6	15.875	6.35	6.35
		CNMA190612						●		●	●					1.2	19.05	6.35	7.93
		CNMA190616						●			●					1.6	19.05	6.35	7.93

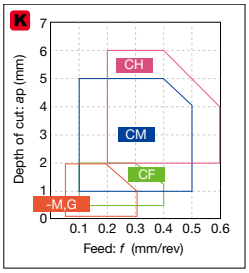
● : Line up

Chip control range









*-M,G: Without chipbreaker

Reference pages: External toolholder → C015 - | Internal toolholder → D025 -
J-Series toolholder → G050 | TungCap → K008 -
PINZBOHR® → K178 - | Cartridge → K181 -

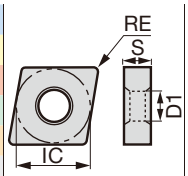
Insert NEGATIVE TYPE

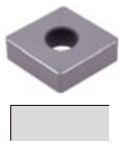
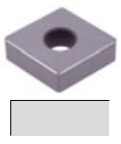
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

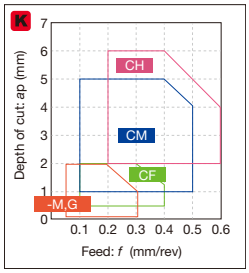
		NS520	TZ120	FX105	CX710	LX10	LX11	LX21
P	Steel	●ɔ						
M	Stainless							
K	Cast iron	●ɔ		●	●ɔ	●ɔ		
N	Non-ferrous							
S	Superalloy							
H	Hard material					●ɔ	●ɔ	●ɔ



Application	Chipbreaker	Designation	Cermet	Ceramic						Dimension (mm)			
			NS520	TZ120	FX105	CX710	LX10	LX11	LX21	RE	IC	S	D1
Finishing to medium cutting	Wiper	CNMA120408W			●					0.8	12.7	4.76	5.16
		CNMA120412W			●					1.2	12.7	4.76	5.16
		CNMA120416W			●					1.6	12.7	4.76	5.16
	-	CNGA120404					●	●	●	0.4	12.7	4.76	5.16
		CNGA120408	●	●	●	●	●	●	●	0.8	12.7	4.76	5.16
		CNGA120412			●		●	●	●	1.2	12.7	4.76	5.16
		CNGA120416			●		●	●		1.6	12.7	4.76	5.16
		CNGA120420					●	●		2	12.7	4.76	5.16

● : Line up

Chip control range



*-M,G: Without chipbreaker

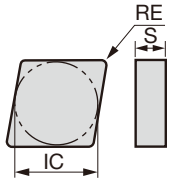
Reference pages: External toolholder → C015 -
J-Series toolholder → G050
PINZBOHR® → K178 -
Internal toolholder → D025 -
TungCap → K008 -
Cartridge → K181 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

CN

Rhombic, 80° without hole

P	Steel	
M	Stainless	
K	Cast iron	●◐ ●◐
N	Non-ferrous	
S	Superalloy	● ●
H	Hard material	◐ ◐ ◐

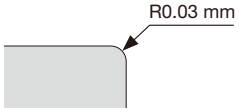


Application	Chipbreaker	Designation	Ceramic FX105	LX10	LX11	LX21	CX710	TS200	TS300	RE	IC	S	D1
Finishing to medium cutting	-	**CNGD120712**	●							1.2	12.7	7.94	-
		CNGD120716	●							1.6	12.7	7.94	-
	-	**CNMN120408**	●							0.8	12.7	4.76	-
		CNMN120412	●							1.2	12.7	4.76	-
	-	**CNGN120408-E**							●	0.8	12.7	4.76	-
		CNGN120412-E							●	1.2	12.7	4.76	-
		CNGN120412-T1						●		1.2	12.7	4.76	-
		CNGN120404		●	●					0.4	12.7	4.76	-
		CNGN120408	●	●	●					0.8	12.7	4.76	-
		CNGN120412	●	●	●					1.2	12.7	4.76	-
		CNGN120416	●	●	●	●				1.6	12.7	4.76	-
		CNGN120420	●							2	12.7	4.76	-
		CNGN120708-E							●	0.8	12.7	7.94	-
		CNGN120712-E						●	●	1.2	12.7	7.94	-
		CNGN120716-T1						●		1.6	12.7	7.96	
		CNGN120708	●	●	●					0.8	12.7	7.94	-
		CNGN120712	●	●	●					1.2	12.7	7.94	-
		CNGN120716	●	●	●					1.6	12.7	7.94	-
		CNGN120720			●					2	12.7	7.94	-

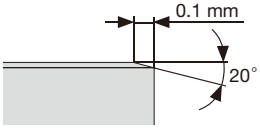
● : Line up

Edge prep

E: Low cutting force



T1: Strong cutting edge



Reference pages: CNGD...: External toolholder → C020

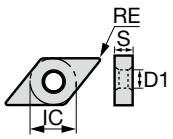
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

P	Steel	●	●ɔ	●✣	✣	ɔ			ɔ✣	●ɔ						●ɔ	●ɔ			●ɔ				●		
M	Stainless		●ɔ			●		ɔ	●ɔ	●ɔ														●		
K	Cast iron	●ɔ	●ɔ				●ɔ			●ɔ						●ɔ	●ɔ			●ɔ				●		
N	Non-ferrous																							●		
S	Superalloy							ɔ		●ɔ																
H	Hard material																									



Application	Chipbreaker	Designation	Coated									Coated cermet		Cermet	Uncoated	Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH120	GT9530	AT9530	NS9530	TH10	RE	IC	S	D1
Finishing	TF	DNMG110402E-TF		●	●		●		●	●				●		0.2	9.525	4.76	3.81
		DNMG110404E-TF		●	●		●		●	●				●		0.4	9.525	4.76	3.81
		DNMG110408E-TF		●	●		●		●	●				●		0.8	9.525	4.76	3.81
		DNMG150402-TF		●	●		●		●	●				●		0.2	12.7	4.76	5.16
		DNMG150404-TF		●	●		●		●	●				●	●	0.4	12.7	4.76	5.16
		DNMG150408-TF		●	●		●		●	●				●		0.8	12.7	4.76	5.16
	TSF	DNMG110402E-TSF		●	●		●		●	●	●	●		●		0.2	9.525	4.76	3.81
		DNMG110404E-TSF		●	●	●	●		●	●	●	●	●	●		0.4	9.525	4.76	3.81
		DNMG110408E-TSF		●	●	●	●		●	●	●	●	●	●		0.8	9.525	4.76	3.81
		DNMG110412E-TSF		●	●				●		●	●	●	●		1.2	9.525	4.76	3.81
		DNMG150402-TSF		●	●		●		●	●				●		0.2	12.7	4.76	5.16
		DNMG150404-TSF	●	●	●	●	●	●	●	●	●	●	●	●		0.4	12.7	4.76	5.16
		DNMG150408-TSF	●	●	●	●	●	●	●	●	●	●	●	●		0.8	12.7	4.76	5.16
		DNMG150412-TSF	●	●	●	●	●	●	●	●	●			●		1.2	12.7	4.76	5.16
		DNMG150602-TSF		●	●		●		●	●				●		0.2	12.7	6.35	5.16
		DNMG150604-TSF		●	●		●		●	●		●	●	●		0.4	12.7	6.35	5.16
		DNMG150608-TSF	●	●	●	●	●		●	●		●	●	●		0.8	12.7	6.35	5.16
		DNMG150612-TSF	●	●	●	●	●		●	●				●		1.2	12.7	6.35	5.16
	PS	DNMG110402E-PS		●	●		●		●	●				●		0.2	9.525	4.76	3.81
		DNMG110404E-PS		●	●		●		●	●				●		0.4	9.525	4.76	3.81
		DNMG110408E-PS		●	●		●		●	●				●		0.8	9.525	4.76	3.81
		DNMG150402-PS		●	●		●		●	●				●		0.2	12.7	4.76	5.16
		DNMG150404-PS		●	●		●		●	●				●		0.4	12.7	4.76	5.16
		DNMG150408-PS		●	●		●		●	●				●		0.8	12.7	4.76	5.16
		DNMG150412-PS		●	●		●		●	●				●		1.2	12.7	4.76	5.16
		DNMG150602-PS		●	●		●		●	●				●		0.2	12.7	6.35	5.16
		DNMG150604-PS		●	●		●		●	●				●		0.4	12.7	6.35	5.16
		DNMG150608-PS		●	●		●		●	●				●		0.8	12.7	6.35	5.16
		DNMG150612-PS		●	●		●		●	●				●		1.2	12.7	6.35	5.16
Finishing for mild steel	ZF	DNMG110402E-ZF		●	●		●		●	●				●		0.2	9.525	4.76	3.81
		DNMG110404E-ZF		●	●		●		●	●				●		0.4	9.525	4.76	3.81
		DNMG110408E-ZF		●	●		●		●	●				●		0.8	9.525	4.76	3.81
		DNMG150402-ZF		●	●		●		●	●				●		0.2	12.7	4.76	5.16
		DNMG150404-ZF		●	●	●	●		●	●		●	●	●		0.4	12.7	4.76	5.16
		DNMG150408-ZF		●	●	●	●		●	●		●	●	●		0.8	12.7	4.76	5.16
		DNMG150412-ZF		●	●	●	●		●	●				●		1.2	12.7	4.76	5.16
		DNMG150602-ZF		●	●		●		●	●				●		0.2	12.7	6.35	5.16
		DNMG150604-ZF		●	●		●		●	●				●		0.4	12.7	6.35	5.16
		DNMG150608-ZF		●	●	●	●		●	●				●		0.8	12.7	6.35	5.16
		DNMG150612-ZF		●	●		●		●	●				●		1.2	12.7	6.35	5.16
Finishing	AS	DNMG150404-AS		●		●								●		0.4	12.7	4.76	5.16
		DNMG150408-AS		●	●	●								●		0.8	12.7	4.76	5.16
		DNMG150412-AS		●	●	●										1.2	12.7	4.76	5.16
		DNMG150604-AS		●												0.4	12.7	6.35	5.16
		DNMG150608-AS		●	●											0.8	12.7	6.35	5.16
		DNMG150612-AS		●												1.2	12.7	6.35	5.16
	NS	DNMG150404-NS			●									●		0.4	12.7	4.76	5.16
		DNMG150408-NS	●	●	●									●		0.8	12.7	4.76	5.16

● : Line up

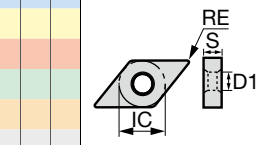
Reference pages:
External toolholder → C034 -
J-Series toolholder → G068
Internal toolholder → D069 -
TungCap → C034 -, K012 -

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

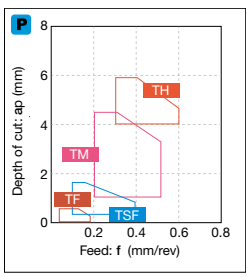
P	Steel	●	●ɔ	●✣	✣	ɔ			ɔ✣	✣	●ɔ	●ɔ			●ɔ	●ɔ			●ɔ	●ɔ									
M	Stainless		●ɔ			●	●	ɔ	●ɔ	✣	●ɔ	●ɔ			●ɔ	●ɔ			●ɔ	●ɔ									
K	Cast iron	●ɔ	●ɔ								●ɔ	●ɔ			●ɔ	●ɔ			●ɔ	●ɔ			ɔ✣						
N	Non-ferrous																						ɔ✣						
S	Superalloy					●	ɔ				●ɔ												ɔ✣						
H	Hard material																												

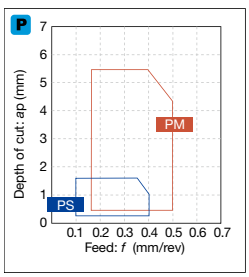


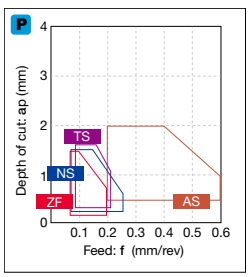
Application	Chipbreaker	Designation	Coated											Coated cermet		Cermet		Uncoated	Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530	NS9530	NS520	KS20	RE	IC	S	D1
Finishing	TS	DNMG110402E-TS		●	●		●		●	●				●		●			0.2	9.525	4.76	3.81
		DNMG110404E-TS		●	●		●		●	●				●		●			0.4	9.525	4.76	3.81
		DNMG110408E-TS		●	●		●		●	●				●		●			0.8	9.525	4.76	3.81
		DNMG150402-TS		●	●		●		●	●						●			0.2	12.7	4.76	5.16
		DNMG150404-TS		●	●	●	●		●	●				●	●	●	●		0.4	12.7	4.76	5.16
		DNMG150408-TS	●	●	●	●	●		●	●				●	●	●	●		0.8	12.7	4.76	5.16
		DNMG150412-TS	●	●	●	●	●		●	●						●			1.2	12.7	4.76	5.16
		DNMG150602-TS		●	●		●		●	●						●			0.2	12.7	6.35	5.16
		DNMG150604-TS		●	●		●		●	●				●	●	●	●		0.4	12.7	6.35	5.16
		DNMG150608-TS		●	●		●		●	●				●	●	●	●		0.8	12.7	6.35	5.16
		DNMG150612-TS		●	●		●		●	●						●			1.2	12.7	6.35	5.16
	SF	DNMG150404-SF					●			●									0.4	12.7	4.76	5.16
		DNMG150408-SF					●			●									0.8	12.7	4.76	5.16
		DNMG150604-SF					●			●									0.4	12.7	6.35	5.16
		DNMG150608-SF					●			●									0.8	12.7	6.35	5.16
	SS	DNMG110404E-SS								●	●								0.4	9.525	4.76	3.81
		DNMG110408E-SS								●	●								0.8	9.525	4.76	3.81
		DNMG150404-SS					●			●	●		●						0.4	12.7	4.76	5.16
		DNMG150408-SS					●			●	●		●					●	0.8	12.7	4.76	5.16
		DNMG150412-SS					●			●	●		●						1.2	12.7	4.76	5.16
		DNMG150604-SS					●			●	●	●	●						0.4	12.7	6.35	5.16
		DNMG150608-SS					●			●	●	●	●						0.8	12.7	6.35	5.16
		DNMG150612-SS					●			●	●								1.2	12.7	6.35	5.16
	HRF	DNMG150404-HRF						●	●										0.4	12.7	4.76	5.16
		DNMG150408-HRF						●	●										0.8	12.7	4.76	5.16
		DNMG150604-HRF						●	●										0.4	12.7	6.35	5.16
		DNMG150608-HRF						●	●										0.8	12.7	6.35	5.16

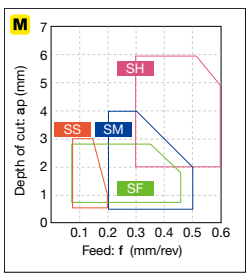
● : Line up

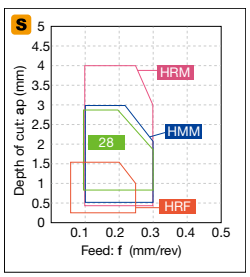
Chip control range











Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

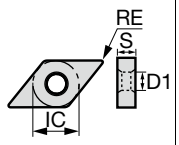
Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

		Coated					Coated cermet		Cermet		Uncoated		Dimension (mm)			
			T9215	T5105	T5115	GH330	GH110	GT9530	GT720	NS9530	NS520	TH10	RE	IC	S	D1
P	Steel		◐			●	◐	●	◐	●	◐	●				
M	Stainless		◐			●	◐					●				
K	Cast iron		◐	●	◐	●	◐	●	◐	●	◐	●				
N	Non-ferrous											●				
S	Superalloy						●									
H	Hard material															

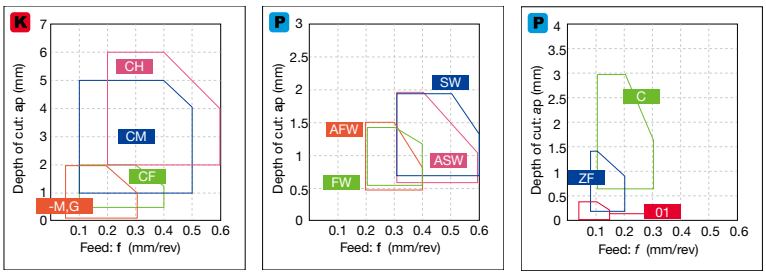


Application	Chipbreaker	Designation														
Finishing	**CF**	**DNMG150404-CF**		●	●								0.4	12.7	4.76	5.16
		DNMG150408-CF		●	●								0.8	12.7	4.76	5.16
		DNMG150412-CF		●	●								1.2	12.7	4.76	5.16
		DNMG150604-CF		●	●								0.4	12.7	6.35	5.16
		DNMG150608-CF		●	●								0.8	12.7	6.35	5.16
		DNMG150612-CF		●	●								1.2	12.7	6.35	5.16
Finishing (wiper)	**FW**	**DNMG110404E-FW**	●										0.4	9.525	4.76	3.81
		DNMG110408E-FW	●										0.8	9.525	4.76	3.81
		DNMG150404-FW	●										0.4	12.7	4.76	5.16
		DNMG150408-FW	●										0.8	12.7	4.76	5.16
		DNMG150604-FW	●										0.4	12.7	6.35	5.16
		DNMG150608-FW	●										0.8	12.7	6.35	5.16
		*Wiper														
Finishing	**01**	**DNGG110402-01**								●			0.2	9.525	4.76	3.81
		DNGG110404-01								●	●		0.4	9.525	4.76	3.81
		DNGG110408-01							●	●			0.8	9.525	4.76	3.81
		DNGG150402-01								●	●	●	0.2	12.7	4.76	5.16
		DNGG150404-01					●			●	●	●	0.4	12.7	4.76	5.16
		DNGG150408-01					●			●	●	●	0.8	12.7	4.76	5.16
	11	**DNMG110404-11**								●			0.4	9.525	4.76	3.81
		DNMG110408-11								●			0.8	9.525	4.76	3.81
		DNMG150404-11				●				●		●	0.4	12.7	4.76	5.16
		DNMG150408-11	●							●			0.8	12.7	4.76	5.16
Finishing for mild steel	**17**	**DNMG150404-17**								●			0.4	12.7	4.76	5.16
		DNMG150408-17								●			0.8	12.7	4.76	5.16
Boring (double side)	**CB**	**DNMG110404-CB**						●		●			0.4	9.525	4.76	3.81
		DNMG110408-CB	●					●		●			0.8	9.525	4.76	3.81

* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

● : Line up

Chip control range



*-M,G: Without chipbreaker

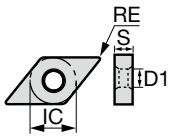
Reference pages: External toolholder → C034 -
J-Series toolholder → G068
Internal toolholder → D069 -
TungCap → C034 -, K012 -

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

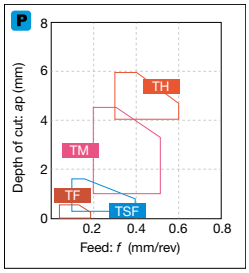
P	Steel	● ◐ ◐ ✣ ◐ ◐ ◐ ◐ ✣ ✣ ● ◐ ◐ ◐ ◐ ◐
M	Stainless	◐ ● ◐ ◐ ◐ ◐ ✣ ● ◐ ◐
K	Cast iron	◐ ◐ ◐ ◐ ◐ ● ◐ ◐
N	Non-ferrous	
S	Superalloy	● ◐ ● ◐
H	Hard material	

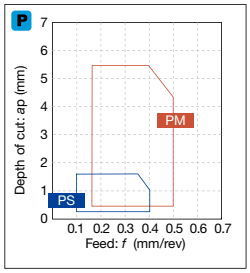


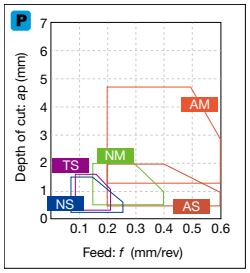
Application	Chipbreaker	Designation	Coated											Coated cermet		Cermet				Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T515	AH8005	AH8015	AH6225	AH6235	AH110	AH120	GT9530		NS9530				RE	IC	S	D1
Medium cutting	TM	DNMG110404E-TM		●	●		●			●	●			●							0.4	9.525	4.76	3.81
		DNMG110408E-TM		●	●		●			●	●			●							0.8	9.525	4.76	3.81
		DNMG110412E-TM		●	●		●			●	●			●							1.2	9.525	4.76	3.81
		DNMG110404-TM		●	●	●															0.4	9.525	4.76	3.81
		DNMG110408-TM		●	●	●															0.8	9.525	4.76	3.81
		DNMG150404-TM	●	●	●	●	●	●		●	●	●		●							0.4	12.7	4.76	5.16
		DNMG150408-TM	●	●	●	●	●	●		●	●	●		●							0.8	12.7	4.76	5.16
		DNMG150412-TM	●	●	●	●	●	●		●	●	●	●	●							1.2	12.7	4.76	5.16
		DNMG150416-TM		●	●		●	●		●	●	●		●							1.6	12.7	4.76	5.16
		DNMG150604-TM	●	●	●	●	●			●	●			●							0.4	12.7	6.35	5.16
		DNMG150608-TM	●	●	●	●	●			●	●			●							0.8	12.7	6.35	5.16
		DNMG150612-TM	●	●	●	●	●			●	●			●							1.2	12.7	6.35	5.16
		DNMG150616-TM	●	●	●	●	●		●		●										1.6	12.7	6.35	5.16
	PM	DNMG110404E-PM		●	●		●			●	●										0.4	9.525	4.76	3.81
		DNMG110408E-PM		●	●		●			●	●										0.8	9.525	4.76	3.81
		DNMG110412E-PM		●	●		●			●	●										1.2	9.525	4.76	3.81
		DNMG150404-PM		●	●		●			●	●										0.4	12.7	4.76	5.16
		DNMG150408-PM		●	●		●			●	●										0.8	12.7	4.76	5.16
		DNMG150412-PM		●	●		●			●	●										1.2	12.7	4.76	5.16
		DNMG150416-PM		●	●		●			●	●										1.6	12.7	4.76	5.16
		DNMG150604-PM		●	●		●			●	●										0.4	12.7	6.35	5.16
		DNMG150608-PM		●	●		●			●	●										0.8	12.7	6.35	5.16
		DNMG150612-PM		●	●		●			●	●										1.2	12.7	6.35	5.16
		DNMG150616-PM		●	●		●			●	●										1.6	12.7	6.35	5.16
Medium cutting for mild steel	ZM	DNMG110404E-ZM		●	●		●			●	●										0.4	9.525	4.76	3.81
		DNMG110408E-ZM		●	●		●			●	●										0.8	9.525	4.76	3.81
		DNMG110412E-ZM		●	●		●			●	●										1.2	9.525	4.76	3.81
		DNMG150404-ZM		●	●		●			●	●										0.4	12.7	4.76	5.16
		DNMG150408-ZM		●	●	●	●			●	●				●		●				0.8	12.7	4.76	5.16
		DNMG150412-ZM		●	●	●	●			●	●										1.2	12.7	4.76	5.16
		DNMG150416-ZM		●	●		●			●	●										1.6	12.7	4.76	5.16
		DNMG150604-ZM		●	●		●			●	●										0.4	12.7	6.35	5.16
		DNMG150608-ZM		●	●	●	●			●	●										0.8	12.7	6.35	5.16
		DNMG150612-ZM		●	●		●			●	●										1.2	12.7	6.35	5.16
		DNMG150616-ZM		●	●		●			●	●										1.6	12.7	6.35	5.16
Medium cutting	AM	DNMG150408-AM		●	●																0.8	12.7	4.76	5.16
		DNMG150412-AM		●	●																1.2	12.7	4.76	5.16
		DNMG150416-AM		●	●																1.6	12.7	4.76	5.16
		DNMG150608-AM		●	●																0.8	12.7	6.35	5.16
		DNMG150612-AM		●	●																1.2	12.7	6.35	5.16
		DNMG150616-AM		●	●																1.6	12.7	6.35	5.16

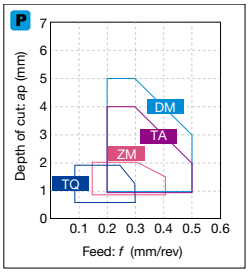
● : Line up

Chip control range









Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

Insert NEGATIVE TYPE

● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

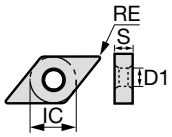
| | | |

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

P	Steel	●ⓒ ⓒ✠ ●ⓒ ●ⓒ ●ⓒ
M	Stainless	●ⓒ ●ⓒ ●ⓒ
K	Cast iron	●ⓒ ● ●ⓒ ● ⓒ ✠ ●ⓒ ●ⓒ ●ⓒ ●ⓒ
N	Non-ferrous	
S	Superalloy	ⓒ ●ⓒ
H	Hard material	

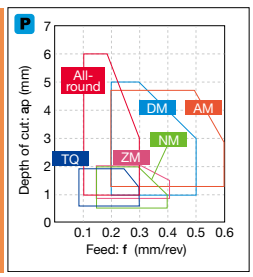


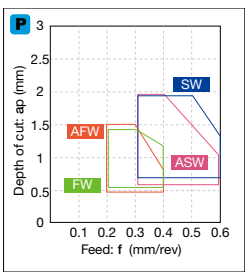
Application	Chipbreaker	Designation	Coated										Coated cermet		Cermet			Dimension (mm)			
			T9205	T9215	T9225	T6215	T505	T515	T5105	T5115	T5125	AH905	AH120	GT9530	AT9530	NS9530			RE	IC	S	D1
Medium cutting	CM	DNMG150404-CM	●	●		●	●	●	●	●	●								0.4	12.7	4.76	5.16
		DNMG150408-CM	●	●		●	●	●	●	●	●								0.8	12.7	4.76	5.16
		DNMG150412-CM	●	●		●	●	●	●	●	●								1.2	12.7	4.76	5.16
		DNMG150604-CM	●	●		●	●	●		●	●								0.4	12.7	6.35	5.16
		DNMG150608-CM	●	●		●	●	●	●	●	●								0.8	12.7	6.35	5.16
		DNMG150612-CM	●	●		●	●	●	●	●	●								1.2	12.7	6.35	5.16
Finishing (wiper)	SW	DNMG110408E-SW		●															0.8	9.525	4.76	3.81
		DNMG110412E-SW		●															1.2	9.525	4.76	3.81
		DNMG150408-SW		●															0.8	12.7	4.76	5.16
		DNMG150412-SW		●															1.2	12.7	4.76	5.16
		DNMG150608-SW		●															0.8	12.7	6.35	5.16
		DNMG150612-SW		●															1.2	12.7	6.35	5.16
		*Wiper																				
Medium cutting	TQ	DNMG150404-TQ		●	●									●	●		●		0.4	12.7	4.76	5.16
		DNMG150408-TQ		●	●									●	●		●		0.8	12.7	4.76	5.16
	SA	DNMG150404-SA											●						0.4	12.7	4.76	5.16
		DNMG150408-SA											●						0.8	12.7	4.76	5.16
		DNMG150604-SA											●						0.4	12.7	6.35	5.16
		DNMG150608-SA											●						0.8	12.7	6.35	5.16
	HMM	DNMG150404-HMM										●							0.4	12.7	4.76	5.16
		DNMG150408-HMM										●							0.8	12.7	4.76	5.16
		DNMG150412-HMM										●							1.2	12.7	4.76	5.16

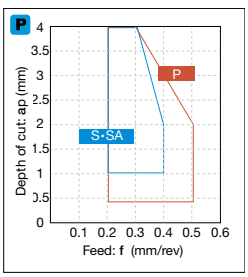
* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

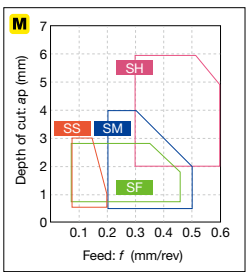
● : Line up

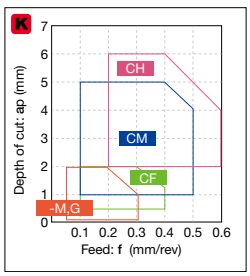
Chip control range

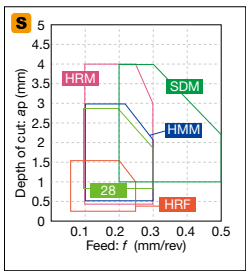












Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068
TungCap → C034 -, K012 -

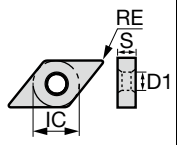
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

P	Steel	●ɔ ɔ✣ ✣ ● ɔ✣ ✣ ● ●ɔ ● ●ɔ ●ɔ ●ɔ ●
M	Stainless	●ɔ ● ɔ ●ɔ ✣ ● ●ɔ ● ●ɔ ●
K	Cast iron	●ɔ ● ●ɔ ● ●ɔ ●ɔ ●ɔ ● ●
N	Non-ferrous	● ●
S	Superalloy	● ɔ ● ●ɔ ● ●
H	Hard material	



Application	Chipbreaker	Designation	Coated T9215	Coated T9225	Coated T9235	Coated AH8005	Coated AH8015	Coated AH6225	Coated AH6235	Coated AH110	Coated AH120	Coated GH110	Coated GH330	Coated cermet GT9530	Cermet NS9530	Uncoated TH10	Uncoated KS05F	Dimension (mm) RE	IC	S	D1
Medium cutting	P	DNGG150402R-P										●				●		0.2	12.7	4.76	5.16
		DNGG150402L-P										●				●		0.2	12.7	4.76	5.16
		DNGG150404R-P										●				●		0.4	12.7	4.76	5.16
		DNGG150404L-P										●				●		0.4	12.7	4.76	5.16
		DNGG150408R-P														●		0.8	12.7	4.76	5.16
		DNGG150408L-P														●		0.8	12.7	4.76	5.16
	S	DNMG150404R-S		●	●			●	●				●		●			0.4	12.7	4.76	5.16
		DNMG150404L-S		●	●			●	●				●		●			0.4	12.7	4.76	5.16
		DNMG150408R-S		●	●			●	●				●		●			0.8	12.7	4.76	5.16
		DNMG150408L-S		●	●			●	●				●		●			0.8	12.7	4.76	5.16
		DNMG150604R-S		●	●			●	●									0.4	12.7	6.35	5.16
		DNMG150604L-S		●	●			●	●									0.4	12.7	6.35	5.16
		DNMG150608R-S		●	●			●	●				●					0.8	12.7	6.35	5.16
		DNMG150608L-S		●	●			●	●									0.8	12.7	6.35	5.16
	27	DNMG150404-27		●											●			0.4	12.7	4.76	5.16
		DNMG150408-27	●	●											●			0.8	12.7	4.76	5.16
		DNMG150412-27		●														1.2	12.7	4.76	5.16
	28	DNMG150404-28				●	●				●						●	0.4	12.7	4.76	5.16
		DNMG150408-28				●	●				●						●	0.8	12.7	4.76	5.16
		DNMG150604-28				●	●										●	0.4	12.7	6.35	5.16
		DNMG150608-28				●	●										●	0.8	12.7	6.35	5.16
	33	DNMG150404-33								●								0.4	12.7	4.76	5.16
		DNMG150408-33								●						●		0.8	12.7	4.76	5.16
	37	DNMG150404-37													●			0.4	12.7	4.76	5.16
		DNMG150408-37											●		●			0.8	12.7	4.76	5.16
		DNMG150608-37	●															0.8	12.7	6.35	5.16
	38	DNMG150412-38	●															1.2	12.7	4.76	5.16
	Parallel	DNGG150404R												●	●			0.4	12.7	4.76	5.16
		DNGG150404L												●	●			0.4	12.7	4.76	5.16
		DNGG150408R													●			0.8	12.7	4.76	5.16
		DNGG150408L													●			0.8	12.7	4.76	5.16

● : Line up

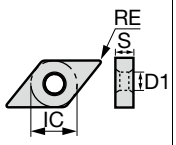
Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

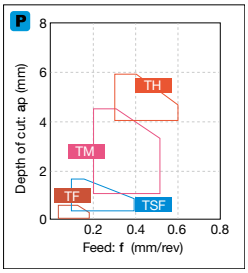
P	Steel	●ⓒ ⓒ✠ ✠ ● ● ● ● ● ✠ ✠ ✠ ●ⓒ ●ⓒ ●ⓒ ●
M	Stainless	●ⓒ ⓒ ✠ ✠ ●ⓒ ●ⓒ ●ⓒ ●
K	Cast iron	●ⓒ ● ●ⓒ ● ⓒ ✠ ●ⓒ ●ⓒ ●ⓒ ●
N	Non-ferrous	●
S	Superalloy	ⓒ ●ⓒ ●ⓒ ●
H	Hard material	

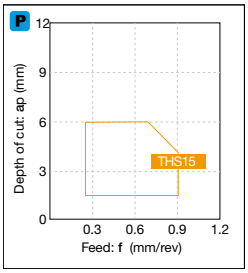


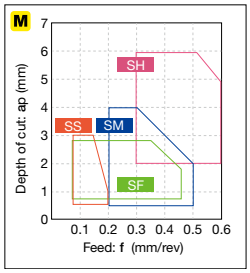
Application	Chipbreaker	Designation	Coated T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH6235	AH120	Coated cermet GT720	Cermet NS520	Uncoated TH10	RE	IC	S	D1
Medium to heavy cutting	TH	DNMG150408-TH	●	●	●		●				●			●				0.8	12.7	4.76	5.16
		DNMG150412-TH	●	●	●		●				●			●				1.2	12.7	4.76	5.16
		DNMG150416-TH	●	●														1.6	12.7	4.76	5.16
		DNMG150608-TH	●	●	●									●				0.8	12.7	6.35	5.16
		DNMG150612-TH	●	●	●									●				1.2	12.7	6.35	5.16
		DNMG150616-TH	●	●	●													1.6	12.7	6.35	5.16
	THS	DNMG150408-THS	●	●	●													0.8	12.7	4.76	5.16
		DNMG150412-THS	●	●	●													1.2	12.7	4.76	5.16
		DNMG150416-THS	●	●														1.6	12.7	4.76	5.16
		DNMG150608-THS	●	●	●													0.8	12.7	6.35	5.16
		DNMG150612-THS	●	●	●													1.2	12.7	6.35	5.16
		DNMG150616-THS	●	●														1.6	12.7	6.35	5.16
	SH	DNMG150408-SH										●	●					0.8	12.7	4.76	5.16
		DNMG150412-SH										●	●					1.2	12.7	4.76	5.16
		DNMG150416-SH										●	●					1.6	12.7	4.76	5.16
		DNMG150608-SH										●	●					0.8	12.7	6.35	5.16
		DNMG150612-SH										●	●					1.2	12.7	6.35	5.16
	CH	DNMG150404-CH							●	●								0.4	12.7	4.76	5.16
		DNMG150408-CH					●	●	●	●								0.8	12.7	4.76	5.16
		DNMG150412-CH					●		●	●								1.2	12.7	4.76	5.16
		DNMG150608-CH							●	●								0.8	12.7	6.35	5.16
		DNMG150612-CH						●										1.2	12.7	6.35	5.16
Medium to heavy cutting (single side)	57	DNMM150608-57		●														0.8	12.7	6.35	5.16
		DNMM150612-57		●														1.2	12.7	6.35	5.16
Finishing to medium cutting	-	DNMA110404E					●											0.4	9.525	4.76	3.81
		DNMA110408E					●											0.8	9.525	4.76	3.81
		DNMA110412E					●											1.2	9.525	4.76	3.81
		DNMA150404				●	●	●	●	●					●	●	●	0.4	12.7	4.76	5.16
		DNMA150408				●	●	●	●	●							●	0.8	12.7	4.76	5.16
		DNMA150412						●	●	●								1.2	12.7	4.76	5.16
		DNMA150604				●	●											0.4	12.7	6.35	5.16
		DNMA150608				●	●	●	●									0.8	12.7	6.35	5.16
		DNMA150612						●	●	●								1.2	12.7	6.35	5.16

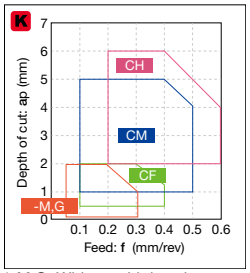
● : Line up

Chip control range









*-M,G: Without chipbreaker

Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

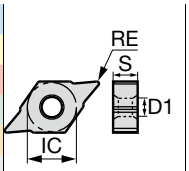
| | | |

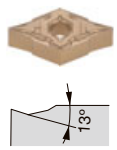
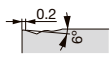
● : Continuous cutting
ᑕ : Light interrupted cutting
✠ : Heavy interrupted cutting

FN

Rhombic, 45° with hole

P	Steel	●ᑕ ᑕ✠ ᑕ ✠
M	Stainless	●ᑕ ● ᑕ ●ᑕ
K	Cast iron	●ᑕ
N	Non-ferrous	
S	Superalloy	ᑕ
H	Hard material	



Application	Chipbreaker	Designation	Coated T9215	T9225	T6215	AH8015	AH6225	Dimension (mm) RE	IC	S	D1
Finishing	TSF	FNMG110402E-TSF	●	●	●	●	●	0.2	9.525	4.76	3.81
		FNMG110404E-TSF	●	●	●	●	●	0.4	9.525	4.76	3.81
		FNMG110408E-TSF	●	●	●	●	●	0.8	9.525	4.76	3.81
		FNMG110412E-TSF	●	●	●	●	●	1.2	9.525	4.76	3.81
Medium cutting	TM	FNMG110404E-TM	●	●	●	●	●	0.4	9.525	4.76	3.81
		FNMG110408E-TM	●	●	●	●	●	0.8	9.525	4.76	3.81
		FNMG110412E-TM	●	●	●	●	●	1.2	9.525	4.76	3.81
											

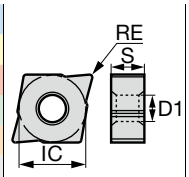
Make sure to offset the cutting edge position after insert change.
Please note that the insert shim may interfere with the workpiece when FNMG insert is used with Q-style toolholder to undercut a work diameter of 50 mm or smaller.

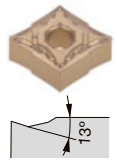
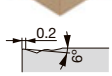
● : Line up

GN

Rhombic, 70° with hole

P	Steel	●ᑕ ᑕ✠ ᑕ ✠
M	Stainless	●ᑕ ● ᑕ ●ᑕ
K	Cast iron	●ᑕ
N	Non-ferrous	
S	Superalloy	ᑕ
H	Hard material	

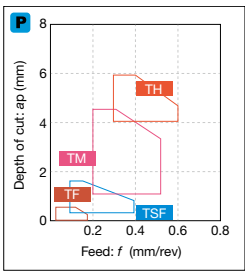


Application	Chipbreaker	Designation	Coated T9215	T9225	T6215	AH8015	AH6225	Dimension (mm) RE	IC	S	D1
Finishing	TSF	GNMG090402E-TSF	●	●	●	●	●	0.2	9.525	4.76	3.81
		GNMG090404E-TSF	●	●	●	●	●	0.4	9.525	4.76	3.81
		GNMG090408E-TSF	●	●	●	●	●	0.8	9.525	4.76	3.81
Medium cutting	TM	GNMG090404E-TM	●	●	●	●	●	0.4	9.525	4.76	3.81
		GNMG090408E-TM	●	●	●	●	●	0.8	9.525	4.76	3.81
		GNMG090412E-TM	●	●	●	●	●	1.2	9.525	4.76	3.81
											

Make sure to offset the cutting edge position after insert change.
Do not use ISO-EcoTurn cartridge set for CNMG09 (AD-CL-4/3-SET or -SET-S) with GNMG09 insert.
The insert may move during machining.

● : Line up

Chip control range



Reference pages: FNMG... : External toolholder → C034 - Internal toolholder → D069 -
GNMG...: External toolholder → C015 - Internal toolholder → D025 -

Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

RN

Round, with hole

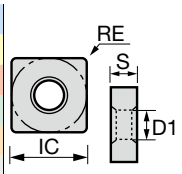
| | | |

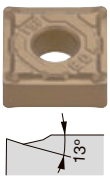
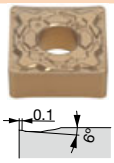
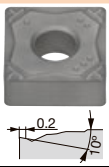
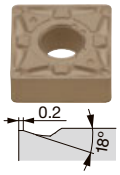
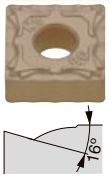
● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

SN

Square with hole

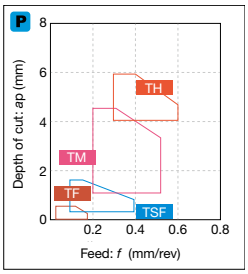
P	Steel	●	●ⓒ	ⓒ✠	ⓒ		ⓒ✠			●ⓒ	●ⓒ			●ⓒ																			
M	Stainless		●ⓒ		●	ⓒ	●ⓒ																										
K	Cast iron	●ⓒ	●ⓒ							●ⓒ	●ⓒ			●ⓒ																			
N	Non-ferrous																																
S	Superalloy					ⓒ																											
H	Hard material																																

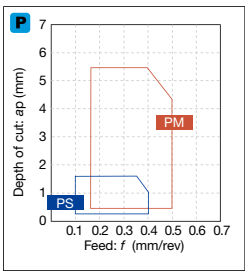


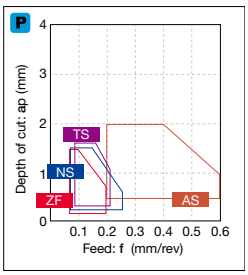
Application	Chipbreaker	Designation	Coated						Coated cermet		Cermet			Dimension (mm)			
			T9205	T9215	T9225	T6215	AH8015	AH6225	GT9530	AT9530	NS9530			RE	IC	S	D1
Finishing	TF	SNMG120402-TF		●	●	●	●	●			●			0.2	12.7	4.76	5.16
		SNMG120404-TF		●	●	●	●	●			●			0.4	12.7	4.76	5.16
		SNMG120408-TF		●	●	●	●	●			●			0.8	12.7	4.76	5.16
	TSF	SNMG120402-TSF		●	●	●	●	●			●			0.2	12.7	4.76	5.16
		SNMG120404-TSF		●	●	●	●	●	●	●	●			0.4	12.7	4.76	5.16
		SNMG120408-TSF		●	●	●	●	●	●	●	●			0.8	12.7	4.76	5.16
		SNMG120412-TSF		●	●	●	●	●			●			1.2	12.7	4.76	5.16
	PS	SNMG120402-PS		●	●	●	●	●						0.2	12.7	4.76	5.16
		SNMG120404-PS		●	●	●	●	●			●			0.4	12.7	4.76	5.16
		SNMG120408-PS		●	●	●	●	●			●			0.8	12.7	4.76	5.16
		SNMG120412-PS		●	●	●	●	●						1.2	12.7	4.76	5.16
Finishing for mild steel	ZF	SNMG120402-ZF		●	●	●	●	●			●			0.2	12.7	4.76	5.16
		SNMG120404-ZF		●	●	●	●	●			●			0.4	12.7	4.76	5.16
		SNMG120408-ZF		●	●	●	●	●			●			0.8	12.7	4.76	5.16
		SNMG120412-ZF		●	●	●	●	●			●			1.2	12.7	4.76	5.16
Finishing	AS	SNMG120404-AS									●			0.4	12.7	4.76	5.16
		SNMG120408-AS	●	●							●			0.8	12.7	4.76	5.16
	NS	SNMG120408-NS		●	●									0.8	12.7	4.76	5.16
																	

● : Line up

Chip control range







Reference pages: External toolholder → C101 - Internal toolholder → D043 -
Cartridge → K181 -

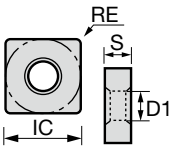
Insert NEGATIVE TYPE

● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

SN

Square with hole

		T9205	T9215	T9225	T9235	T6215	T5105	T5115	AH8005	AH8015	AH6225	AH6235	GH330	GT9530	AT9530	NS9530	NS520	TH10
P	Steel	●	●c	●✣	✣	c					c✣	✣	●c					●
M	Stainless		●c			●			●	c	●c	✣	●c					●
K	Cast iron	●c	●c				●	c					●c	●c	●c	●c	●c	●
N	Non-ferrous																	●
S	Superalloy								●	c								
H	Hard material																	



Application	Chipbreaker	Designation	RE	IC	S	D1
Finishing	TS	SNMG120402-TS	0.2	12.7	4.76	5.16
		SNMG120404-TS	0.4	12.7	4.76	5.16
		SNMG120408-TS	0.8	12.7	4.76	5.16
		SNMG120412-TS	1.2	12.7	4.76	5.16
	SF	SNMG120404-SF	0.4	12.7	4.76	5.16
		SNMG120408-SF	0.8	12.7	4.76	5.16
	SS	SNMG120404-SS	0.4	12.7	4.76	5.16
		SNMG120408-SS	0.8	12.7	4.76	5.16
		SNMG120412-SS	1.2	12.7	4.76	5.16
	HRF	SNMG120408-HRF	0.8	12.7	4.76	5.16
		SNMG120412-HRF	1.2	12.7	4.76	5.16
	CF	SNMG120408-CF	0.8	12.7	4.76	5.16
		SNMG120412-CF	1.2	12.7	4.76	5.16
	01	SNGG090302-01	0.2	9.525	3.18	3.81
		SNGG090304-01	0.4	9.525	3.18	3.81
		SNGG090308-01	0.8	9.525	3.18	3.81
		SNGG120402-01	0.2	12.7	4.76	5.16
		SNGG120404-01	0.4	12.7	4.76	5.16
		SNGG120408-01	0.8	12.7	4.76	5.16
	11	SNMG120404-11	0.4	12.7	4.76	5.16
		SNMG120408-11	0.8	12.7	4.76	5.16

● : Line up

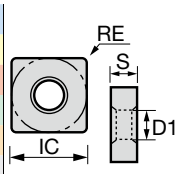
Reference pages: External toolholder → C101 - Internal toolholder → D043 -
Cartridge → K181 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

SN

Square with hole

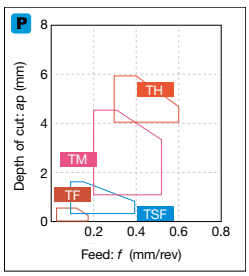
P	Steel	● ●ⓒ ⓒ✠ ✠ ⓒ ⓒ✠ ●ⓒ ●ⓒ ● ● ●ⓒ ●
M	Stainless	●ⓒ ● ⓒ ●ⓒ ●ⓒ
K	Cast iron	●ⓒ ●ⓒ ●ⓒ ●ⓒ ●
N	Non-ferrous	
S	Superalloy	ⓒ ●ⓒ
H	Hard material	

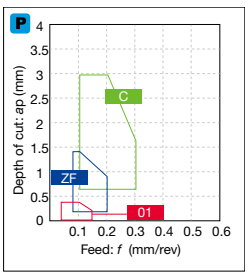


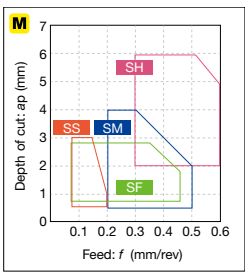
Application	Chipbreaker	Designation	Coated T9205	T9215	T9225	T9235	T6215	AH8015	AH6225	AH120	Coated cermet GT9530	Cermet NS9530	X407	Dimension (mm) RE	IC	S	D1
Finishing for mild steel	17	SNMG120408-17										●		0.8	12.7	4.76	5.16
Finishing	B ~ D	SNGG090304R-B									●	●	●	0.4	9.525	3.18	3.81
		SNGG090304L-B									●	●	●	0.4	9.525	3.18	3.81
		SNGG090308R-B										●	●	0.8	9.525	3.18	3.81
		SNGG090308L-B										●	●	0.8	9.525	3.18	3.81
		SNGG120404R-C									●	●		0.4	12.7	4.76	5.16
		SNGG120404L-C									●	●	●	0.4	12.7	4.76	5.16
		SNGG120408R-C										●		0.8	12.7	4.76	5.16
		SNGG120408L-C										●	●	0.8	12.7	4.76	5.16
		SNGG120408R-D										●		0.8	12.7	4.76	5.16
		SNGG120408L-D										●		0.8	12.7	4.76	5.16
Medium cutting	TM	SNMG090304-TM		●	●	●								0.4	9.525	3.18	3.81
		SNMG090308-TM		●	●	●								0.8	9.525	3.18	3.81
		SNMG120404-TM		●	●		●	●	●	●				0.4	12.7	4.76	5.16
		SNMG120408-TM	●	●	●	●	●	●	●	●				0.8	12.7	4.76	5.16
		SNMG120412-TM	●	●	●	●	●	●	●	●				1.2	12.7	4.76	5.16
		SNMG120416-TM		●	●	●	●	●	●					1.6	12.7	4.76	5.16
		SNMG150608-TM		●										0.8	15.875	6.35	6.35
		SNMG150612-TM		●						●				1.2	15.875	6.35	6.35
		SNMG190608-TM		●						●				0.8	19.05	6.35	7.93
		SNMG190612-TM		●						●				1.2	19.05	6.35	7.93
	PM	SNMG120404-PM		●	●		●	●	●					0.4	12.7	4.76	5.16
		SNMG120408-PM		●	●		●	●	●					0.8	12.7	4.76	5.16
		SNMG120412-PM		●	●		●	●	●					1.2	12.7	4.76	5.16
		SNMG120416-PM		●	●		●	●	●					1.6	12.7	4.76	5.16

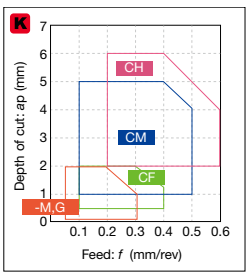
● : Line up

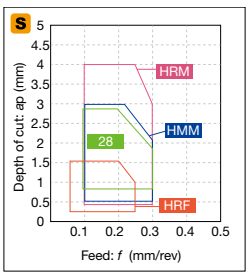
Chip control range



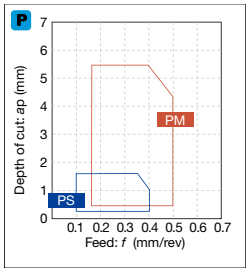


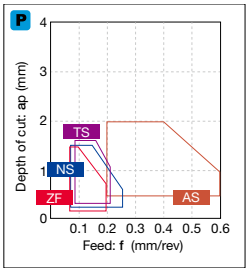






*-M,G: Without chipbreaker





Reference pages: External toolholder → C101 -
Internal toolholder → D043 -
Cartridge → K181 -

Insert NEGATIVE TYPE

● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

SN

Square with hole

		T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH6235	AH725	AH110	AH120	GT720	NS9530	NS520	TH10
P	Steel	●	●c	c✣	✣	c							c✣	✣	c	●	●c	●c		●c	●
M	Stainless		●c			●						c	●c	✣	c	●	●c			●c	●
K	Cast iron	●c	●c				●	●c	●	c	✣				c	●	●c	●c		●c	●
N	Non-ferrous																				●
S	Superalloy											c			●	●	●c				
H	Hard material																				

Application	Chipbreaker	Designation	RE	IC	S	D1
Medium cutting for mild steel	ZM	SNMG120404-ZM	0.4	12.7	4.76	5.16
		SNMG120408-ZM	0.8	12.7	4.76	5.16
		SNMG120412-ZM	1.2	12.7	4.76	5.16
		SNMG120416-ZM	1.6	12.7	4.76	5.16
Medium cutting	DM	SNMG120404-DM	0.4	12.7	4.76	5.16
		SNMG120408-DM	0.8	12.7	4.76	5.16
		SNMG120412-DM	1.2	12.7	4.76	5.16
		SNMG120416-DM	1.6	12.7	4.76	5.16
Medium cutting	All-round	SNMG090304	0.4	9.525	3.18	3.81
		SNMG090308	0.8	9.525	3.18	3.81
		SNMG120404	0.4	12.7	4.76	5.16
		SNMG120408	0.8	12.7	4.76	5.16
		SNMG120412	1.2	12.7	4.76	5.16
		SNMG120416	1.6	12.7	4.76	5.16
		SNMG120420	2	12.7	4.76	5.16
		SNMG150612	1.2	15.875	6.35	6.35
		SNMG150616	1.6	15.875	6.35	6.35
		SNMG190612	1.2	19.05	6.35	7.93
		SNMG190616	1.6	19.05	6.35	7.93
		SNMG250724	2.4	25.4	7.94	9.12
	SM	SNMG120408-SM	0.8	12.7	4.76	5.16
		SNMG120412-SM	1.2	12.7	4.76	5.16
	SDM	SNMG120408-SDM	0.8	12.7	4.76	5.16
		SNMG120412-SDM	1.2	12.7	4.76	5.16
	CM	SNMG120408-CM	0.8	12.7	4.76	5.16
		SNMG120412-CM	1.2	12.7	4.76	5.16

● : Line up

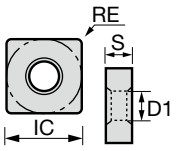
Reference pages: External toolholder → C101 - Internal toolholder → D043 -
Cartridge → K181 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

SN

Square with hole

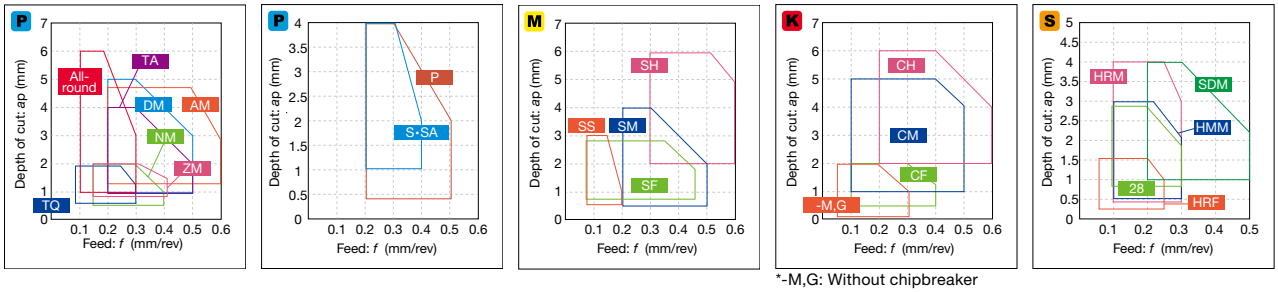
P	Steel	●ⓒ ⓒ✠ ⓒ ● ⓒ✠ ✠ ●ⓒ ● ●ⓒ ●
M	Stainless	●ⓒ ● ⓒ ●ⓒ ✠ ●ⓒ ● ●ⓒ ●
K	Cast iron	●ⓒ ●ⓒ ● ●ⓒ ●
N	Non-ferrous	● ⓒ✠
S	Superalloy	● ⓒ ⓒ ●ⓒ ● ⓒ✠
H	Hard material	



Application	Chipbreaker	Designation	Coated T9215	T9225	T6215	AH8005	AH8015	AH6225	AH6235	AH905	AH120	GH110	GH330	Uncoated TH10	KS20	RE	IC	S	D1
Medium cutting	HRM	SNMG120408-HRM				●	●									0.8	12.7	4.76	5.16
		SNMG12012-HRM				●	●									1.2	12.7	4.76	5.16
		SNMG150608-HRM				●	●									0.8	15.875	6.35	6.35
		SNMG15012-HRM				●	●									1.2	15.875	6.35	6.35
		SNMG190612-HRM				●	●									1.2	19.05	6.35	7.93
		SNMG19016-HRM				●	●									1.6	19.05	6.35	7.93
	TA	SNMG120408-TA	●	●												0.8	12.7	4.76	5.16
		SNMG12012-TA	●	●												1.2	12.7	4.76	5.16
	SA	SNMG120404-SA			●			●	●		●					0.4	12.7	4.76	5.16
		SNMG12008-SA			●			●	●		●				●	0.8	12.7	4.76	5.16
		SNMG12012-SA			●			●	●		●					1.2	12.7	4.76	5.16
		SNMG190612-SA									●				●	1.2	19.05	6.35	7.93
	HMM	SNMG120408-HMM								●						0.8	12.7	4.76	5.16
		SNMG12012-HMM								●						1.2	12.7	4.76	5.16
	P	SNGG090304R-P										●		●		0.4	9.525	3.18	3.81
		SNGG09030 4L-P										●		●		0.4	9.525	3.18	3.81
		SNGG09030 8R-P										●	●	●		0.8	9.525	3.18	3.81
		SNGG09030 8L-P												●		0.8	9.525	3.18	3.81
		SNGG120404R-P										●		●		0.4	12.7	4.76	5.16
		SNGG12040 4L-P										●		●		0.4	12.7	4.76	5.16
		SNGG12040 8R-P										●		●		0.8	12.7	4.76	5.16
		SNGG12040 8L-P										●		●		0.8	12.7	4.76	5.16

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: External toolholder → C101 - Internal toolholder → D043 -
Cartridge → K181 -

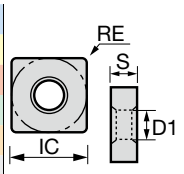
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

SN

Square with hole

		T9205	T9215	T9225	T9235	AH6225	AH6235	AH120	GH330	NS9530
P	Steel	●	●ɔ	●✣	✣	ɔ✣	✣	●ɔ	●ɔ	●ɔ
M	Stainless		●ɔ			●ɔ	✣	●ɔ	●ɔ	
K	Cast iron	●ɔ	●ɔ					●ɔ	●ɔ	●ɔ
N	Non-ferrous									
S	Superalloy							●ɔ		
H	Hard material									



Application	Chipbreaker	Designation	RE	IC	S	D1
Medium cutting	S	SNMG120404R-S	0.4	12.7	4.76	5.16
		SNMG120404L-S	0.4	12.7	4.76	5.16
		SNMG120408R-S	0.8	12.7	4.76	5.16
		SNMG120408L-S	0.8	12.7	4.76	5.16
	27	SNMG120408-27	0.8	12.7	4.76	5.16
		SNMG120412-27	1.2	12.7	4.76	5.16
	33	SNMG120408-33	0.8	12.7	4.76	5.16
		SNMG120412-33	1.2	12.7	4.76	5.16
		SNMG150612-33	1.2	15.875	6.35	6.35
		SNMG190616-33	1.6	19.05	6.35	7.93
	37	SNMG120408-37	0.8	12.7	4.76	5.16
		SNMG120412-37	1.2	12.7	4.76	5.16
Medium to heavy cutting	TH	SNMG120408-TH	0.8	12.7	4.76	5.16
		SNMG120412-TH	1.2	12.7	4.76	5.16
		SNMG150612-TH	1.2	15.875	6.35	6.35
		SNMG150616-TH	1.6	15.875	6.35	6.35
		SNMG190612-TH	1.2	19.05	6.35	7.93
		SNMG190616-TH	1.6	19.05	6.35	7.93
	THS	SNMG120408-THS	0.8	12.7	4.76	5.16
		SNMG120412-THS	1.2	12.7	4.76	5.16
		SNMG150612-THS	1.2	15.875	6.35	6.35
		SNMG150616-THS	1.6	15.875	6.35	6.35
		SNMG190608-THS	0.8	19.05	6.35	7.93
		SNMG190612-THS	1.2	19.05	6.35	7.93
		SNMG190616-THS	1.6	19.05	6.35	7.93
		SNMG190624-THS	2.4	19.05	6.35	7.93
		SNMG250716-THS	1.6	25.4	7.94	9.12
		SNMG250724-THS	2.4	25.4	7.94	9.12

● : Line up

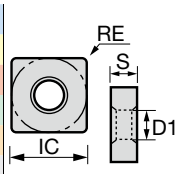
Reference pages: External toolholder → C101 - Internal toolholder → D043 -
Cartridge → K181 -

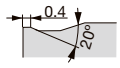
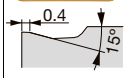
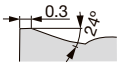
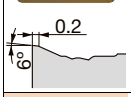
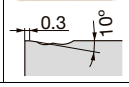
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

SN

Square with hole

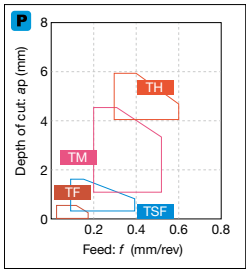
P	Steel	●◐ ◐✠ ✠ ✠✠ ✠
M	Stainless	●◐ ●◐ ✠
K	Cast iron	●◐ ● ◐ ✠
N	Non-ferrous	
S	Superalloy	
H	Hard material	

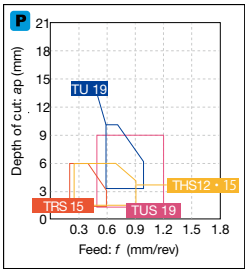


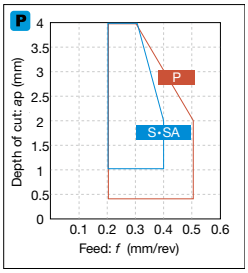
Application	Chipbreaker	Designation	Coated								Dimension (mm)			
			T9215	T9225	T9235	T5105	T5115	T5125	AH6225	AH6235	RE	IC	S	D1
Medium to heavy cutting	SH	SNMG120408-SH							●	●	0.8	12.7	4.76	5.16
		SNMG12041**2**-SH							●	●	1.2	12.7	4.76	5.16
		SNMG150612-SH							●	●	1.2	15.875	6.35	6.35
		SNMG15061**6**-SH							●	●	1.6	15.875	6.35	6.35
		SNMG190612-SH							●	●	1.2	19.05	6.35	7.93
		SNMG19061**6**-SH							●	●	1.6	19.05	6.35	7.93
	CH	SNMG120408-CH				●	●	●			0.8	12.7	4.76	5.16
		SNMG12041**2**-CH				●	●	●			1.2	12.7	4.76	5.16
		SNMG12041**6**-CH					●	●			1.6	12.7	4.76	5.16
														
Medium to heavy cutting (single side)	TRS	SNMM150612-TRS	●	●	●						1.2	15.875	6.35	6.35
		SNMM15061**6**-TRS	●	●	●						1.6	15.875	6.35	6.35
		SNMM190616-TRS	●	●	●						1.6	19.05	6.35	7.93
		SNMM19062**4**-TRS	●	●	●						2.4	19.05	6.35	7.93
		SNMM250924-TRS	●	●	●						2.4	25.4	9.52	9.12
	57	SNMM120408-57	●	●							0.8	12.7	4.76	5.16
		SNMM**150616-57**		●							1.6	15.875	6.35	6.35
		SNMM**190612-57**		●							1.2	19.05	6.35	7.93
														
	65	SNMM190612-65		●							1.2	19.05	6.35	7.93
		SNMM**190624-65**		●							2.4	19.05	6.35	7.93
		SNMM**310924-65**		●							2.4	31.75	9.52	8.8
														

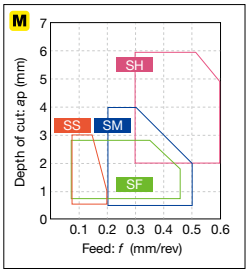
● : Line up

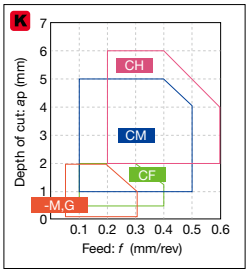
Chip control range











*-M,G: Without chipbreaker

Reference pages: External toolholder → C101 - Internal toolholder → D043 -
Cartridge → K181 -

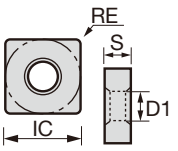
Insert NEGATIVE TYPE

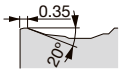
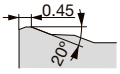
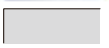
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

SN

Square with hole

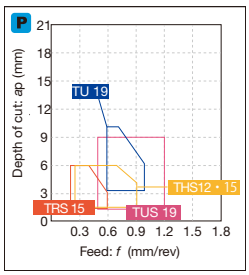
P	Steel	●ⓒ	ⓒ✣	✣								●ⓒ				●ⓒ				●								
M	Stainless	●ⓒ																		●								
K	Cast iron	●ⓒ			●	●ⓒ	●	ⓒ	✣			●ⓒ				●ⓒ				●				●ⓒ				
N	Non-ferrous																			●								
S	Superalloy																											
H	Hard material																							●ⓒ	●ⓒ	●ⓒ		

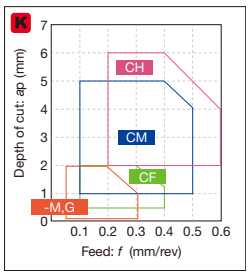


Application	Chipbreaker	Designation	Coated								Coated cermet	Cermet		Uncoated	Ceramic				Dimension (mm)			
			T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	GT720	NS520		TH10	FX105	LX10	LX11	LX21	RE	IC	S	D1
Heavy cutting (single side)	TU	SNMM190616-TU			●														1.6	19.05	6.35	7.93
		SNMM190624-TU		●	●														2.4	19.05	6.35	7.93
		SNMM250724-TU		●	●														2.4	25.4	7.94	9.12
		SNMM250924-TU	●	●															2.4	25.4	9.52	9.12
																						
	TUS	SNMM190612-TUS	●	●	●														1.2	19.05	6.35	7.93
		SNMM190616-TUS	●	●	●														1.6	19.05	6.35	7.93
		SNMM190624-TUS	●	●	●														2.4	19.05	6.35	7.93
		SNMM250724-TUS	●	●	●														2.4	25.4	7.94	9.12
		SNMM250732-TUS	●	●															3.2	25.4	7.94	9.12
		SNMM250924-TUS	●	●	●														2.4	25.4	9.52	9.12
		SNMM250932-TUS	●	●															3.2	25.4	9.52	9.12
Finishing to medium cutting	-	SNMA090308						●						●					0.8	9.525	3.18	3.81
		SNMA120404						●	●		●								0.4	12.7	4.76	5.16
		SNMA120408				●	●	●	●	●		●		●	●				0.8	12.7	4.76	5.16
		SNMA120412				●	●	●	●	●		●		●	●				1.2	12.7	4.76	5.16
		SNMA120416						●	●	●									1.6	12.7	4.76	5.16
	-	SNGA090304												●					0.4	9.525	3.18	3.81
		SNGA120404									●			●		●	●		0.4	12.7	4.76	5.16
		SNGA120408										●		●	●	●	●		0.8	12.7	4.76	5.16
		SNGA120412												●	●	●	●	●	1.2	12.7	4.76	5.16
		SNGA120416													●	●	●		1.6	12.7	4.76	5.16
																						

● : Line up

Chip control range





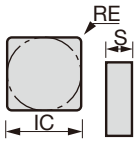
Reference pages: External toolholder → C101 -, Cartridge → K181 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

SN

Square without hole

		Coated				Uncoated	Ceramic					
		AH120				TH10	TZ120	FX105	LX10	LX11	LX21	TS300
P	Steel	●ⓒ				●						
M	Stainless	●ⓒ				●						
K	Cast iron	●ⓒ				●	●	●ⓒ				
N	Non-ferrous					●						
S	Superalloy	●ⓒ										●
H	Hard material								●ⓒ	●ⓒ	●ⓒ	

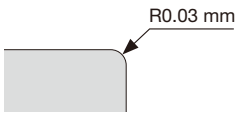


Application	Chipbreaker	Designation	Coated AH120	Uncoated TH10	Ceramic TZ120	FX105	LX10	LX11	LX21	TS300	RE	IC	S	D1
Finishing to medium cutting	-	**SNGD120712**				●					1.2	12.7	7.94	-
		SNGD120716				●					1.6	12.7	7.94	-
	-	**SNMN120408**		●							0.8	12.7	4.76	-
		SNMN120412	●								1.2	12.7	4.76	-
	-	**SNGN090308**					●	●	●		0.8	9.525	3.18	-
		SNGN120304					●	●			0.4	12.7	3.18	-
		SNGN120312						●			1.2	12.7	3.18	-
		SNGN120404					●	●			0.4	12.7	4.76	-
		SNGN120408		●		●	●	●	●		0.8	12.7	4.76	-
		SNGN120412			●	●	●	●	●		1.2	12.7	4.76	-
		SNGN120416				●	●	●	●		1.6	12.7	4.76	-
		SNGN120420				●			●		2	12.7	4.76	-
		SNGN120424				●					2.4	12.7	4.76	-
		SNGN120708			●		●	●			0.8	12.7	7.94	-
		SNGN120712			●	●	●	●			1.2	12.7	7.94	-
		SNGN120712-T1								●	1.2	12.7	7.94	-
		SNGN120716			●	●	●	●			1.6	12.7	7.94	-
		SNGN120720						●			2	12.7	7.94	-

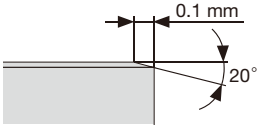
● : Line up

Edge prep

E: Low cutting force



T1: Strong cutting edge



Reference pages: SNGD...: External toolholder → C082 -

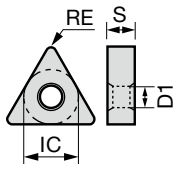
MEMO

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN

Triangular with hole

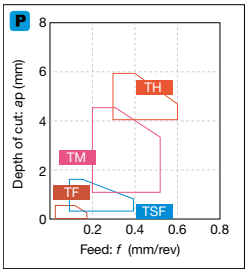
P	Steel	● ●ɔ ✠ ✠ ɔ ✠ ●ɔ
M	Stainless	●ɔ ● ɔ ●ɔ ●ɔ
K	Cast iron	●ɔ ●ɔ ●ɔ
N	Non-ferrous	
S	Superalloy	ɔ ●ɔ
H	Hard material	

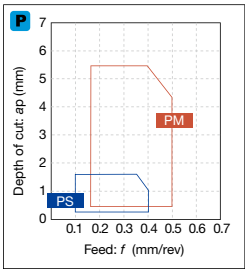


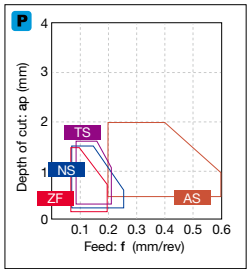
Application	Chipbreaker	Designation	Coated T9205	Coated T9215	Coated T9225	Coated T9235	Coated T6215	Coated AH8015	Coated AH6225	Coated AH120	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530	Cermet NS520	Uncoated TH10	Dimension (mm) RE	IC	S	D1
Finishing	TF	TNMG110402E-TF		●	●		●	●	●				●			0.2	6.35	4.76	2.26
		TNMG110404E-TF		●	●		●	●	●				●			0.4	6.35	4.76	2.26
		TNMG110408E-TF		●	●		●	●	●				●			0.8	6.35	4.76	2.26
		TNMG160402-TF		●	●		●	●	●				●			0.2	9.525	4.76	3.81
		TNMG160404-TF		●	●		●	●	●				●	●	●	0.4	9.525	4.76	3.81
		TNMG160408-TF		●	●		●	●	●				●	●		0.8	9.525	4.76	3.81
	TSF	TNMG110402E-TSF		●	●		●	●	●		●		●			0.2	6.35	4.76	2.26
		TNMG110404E-TSF		●	●		●	●	●		●	●	●			0.4	6.35	4.76	2.26
		TNMG110408E-TSF		●	●		●	●	●		●	●	●			0.8	6.35	4.76	2.26
		TNMG160402-TSF		●	●		●	●	●	●	●	●	●			0.2	9.525	4.76	3.81
		TNMG160404-TSF		●	●	●	●	●	●	●	●	●	●			0.4	9.525	4.76	3.81
		TNMG160408-TSF	●	●	●	●	●	●	●	●	●	●	●			0.8	9.525	4.76	3.81
		TNMG160412-TSF		●	●	●	●	●	●	●	●		●			1.2	9.525	4.76	3.81
	PS	TNMG110402E-PS		●	●		●	●	●				●			0.2	6.35	4.76	2.26
		TNMG110404E-PS		●	●		●	●	●				●			0.4	6.35	4.76	2.26
		TNMG110408E-PS		●	●		●	●	●				●			0.8	6.35	4.76	2.26
		TNMG160402-PS		●	●		●	●	●				●			0.2	9.525	4.76	3.81
		TNMG160404-PS		●	●		●	●	●				●			0.4	9.525	4.76	3.81
		TNMG160408-PS		●	●		●	●	●				●			0.8	9.525	4.76	3.81
		TNMG160412-PS		●	●		●	●	●				●			1.2	9.525	4.76	3.81
Finishing for mild steel	ZF	TNMG110402E-ZF		●	●		●	●	●				●			0.2	6.35	4.76	2.26
		TNMG110404E-ZF		●	●		●	●	●				●			0.4	6.35	4.76	2.26
		TNMG110408E-ZF		●	●		●	●	●				●			0.8	6.35	4.76	2.26
		TNMG160402-ZF		●	●		●	●	●				●			0.2	9.525	4.76	3.81
		TNMG160404-ZF		●	●	●	●	●	●		●	●	●			0.4	9.525	4.76	3.81
		TNMG160408-ZF		●	●	●	●	●	●		●	●	●			0.8	9.525	4.76	3.81
		TNMG160412-ZF		●	●		●	●	●				●			1.2	9.525	4.76	3.81
Finishing	AS	TNMG160404-AS			●	●							●			0.4	9.525	4.76	3.81
		TNMG160408-AS	●	●	●	●							●			0.8	9.525	4.76	3.81
		TNMG160412-AS	●	●	●											1.2	9.525	4.76	3.81
	NS	TNMG160404-NS		●	●								●			0.4	9.525	4.76	3.81
		TNMG160408-NS	●	●	●								●			0.8	9.525	4.76	3.81

● : Line up

Chip control range







Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

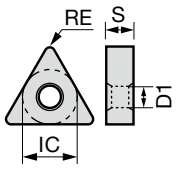
Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel	●	●ⓒ	●✣	✣	ⓒ					ⓒ✣	✣	●ⓒ	●ⓒ		●ⓒ	●ⓒ			●ⓒ	●ⓒ					ⓒ✣					
M	Stainless		●ⓒ			●			●	ⓒ	●ⓒ	✣	●ⓒ	●ⓒ																	
K	Cast iron	●ⓒ	●ⓒ				●	ⓒ					●ⓒ	●ⓒ		●ⓒ	●ⓒ			●ⓒ	●ⓒ					ⓒ✣					
N	Non-ferrous																									ⓒ✣					
S	Superalloy								●	ⓒ			●ⓒ													ⓒ✣					
H	Hard material																														



Application	Chipbreaker	Designation	Coated												Coated cermet			Cermet			Uncoated		Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T5105	T5115	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530		NS9530	NS520		KS20		RE	IC	S	D1
Finishing	TS	TNMG110402E-TS		●	●		●				●	●							●					0.2	6.35	4.76	2.26
		TNMG110404E-TS		●	●		●				●	●							●					0.4	6.35	4.76	2.26
		TNMG110408E-TS		●	●		●				●	●							●					0.8	6.35	4.76	2.26
		TNMG160402-TS		●	●		●				●	●							●					0.2	9.525	4.76	3.81
		TNMG160404-TS		●	●	●	●				●	●				●	●		●	●				0.4	9.525	4.76	3.81
		TNMG160408-TS	●	●	●	●	●				●	●				●	●		●	●				0.8	9.525	4.76	3.81
		TNMG160412-TS	●	●	●	●	●				●	●							●					1.2	9.525	4.76	3.81
	SF	TNMG160404-SF					●					●												0.4	9.525	4.76	3.81
		TNMG160408-SF					●					●												0.8	9.525	4.76	3.81
		TNMG160412-SF					●					●												1.2	9.525	4.76	3.81
	SS	TNMG110404E-SS										●	●											0.4	6.35	4.76	2.26
		TNMG110408E-SS										●	●											0.8	6.35	4.76	2.26
		TNMG160404-SS					●					●	●	●	●							●		0.4	9.525	4.76	3.81
		TNMG160408-SS					●					●	●	●	●							●		0.8	9.525	4.76	3.81
		TNMG160412-SS					●					●	●		●									1.2	9.525	4.76	3.81
		TNMG220404-SS					●					●	●		●									0.4	12.7	4.76	5.16
		TNMG220408-SS					●					●	●		●									0.8	12.7	4.76	5.16
		TNMG220412-SS					●					●	●											1.2	12.7	4.76	5.16
	HRF	TNMG160404-HRF								●	●													0.4	9.525	4.76	3.81
		TNMG160408-HRF								●	●													0.8	9.525	4.76	3.81
	CF	TNMG160404-CF						●	●															0.4	9.525	4.76	3.81
		TNMG160408-CF						●	●															0.8	9.525	4.76	3.81
Finishing (wiper)	FW	TNMG110404E-FW		●																				0.4	6.35	4.76	2.26
		TNMG110408E-FW		●																				0.8	6.35	4.76	2.26
		TNMG160404-FW		●																				0.4	9.525	4.76	3.81
		TNMG160408-FW		●																				0.8	9.525	4.76	3.81
		*Wiper																									

* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

● : Line up

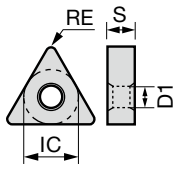
Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

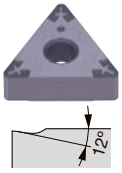
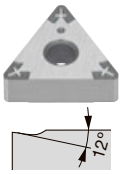
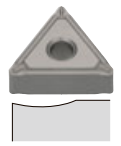
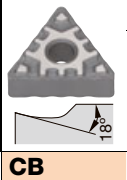
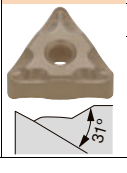
● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN

Triangular with hole

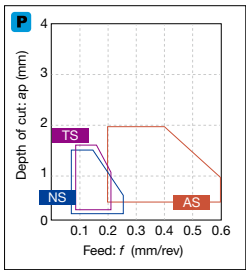
P	Steel	●ⓒ	ⓒ✠	●	●ⓒ	●ⓒ				●ⓒ					●ⓒ	●ⓒ				●														
M	Stainless	●ⓒ		●	●ⓒ	●ⓒ														●														
K	Cast iron	●ⓒ		●	●ⓒ					●ⓒ					●ⓒ	●ⓒ				●														
N	Non-ferrous																			●														
S	Superalloy			●																														
H	Hard material																																	

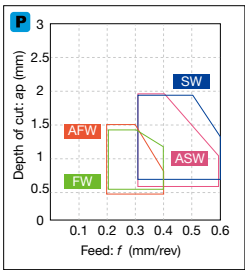


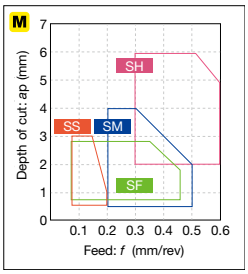
Application	Chipbreaker	Designation	Coated					Coated cermet	Cermet		Uncoated		Dimension (mm)			
			T9215	T9225	GH110	GH330	SH725	GT720	NS9530	NS520	TH10		RE	IC	S	D1
Finishing (sharp edge)	01	TNGG160402F-01					●						0.2	9.525	4.76	3.81
		TNGG160404F-01					●						0.4	9.525	4.76	3.81
		TNGG160408F-01					●						0.8	9.525	4.76	3.81
Finishing	01	TNGG110302-01							●				0.2	6.35	3.18	2.26
		TNGG110304-01							●				0.4	6.35	3.18	2.26
		TNGG110308-01							●	●			0.8	6.35	3.18	2.26
		TNGG160402-01			●				●	●	●		0.2	9.525	4.76	3.81
		TNGG160404-01			●				●	●	●		0.4	9.525	4.76	3.81
		TNGG160408-01			●				●	●			0.8	9.525	4.76	3.81
		TNGG160412-01						●	●				1.2	9.525	4.76	3.81
	11	TNMG110304-11							●				0.4	6.35	3.18	2.26
		TNMG110308-11							●				0.8	6.35	3.18	2.26
		TNMG160402-11							●				0.2	9.525	4.76	3.81
		TNMG160404-11				●			●		●		0.4	9.525	4.76	3.81
		TNMG160408-11							●				0.8	9.525	4.76	3.81
		TNMG220404-11							●				0.4	12.7	4.76	5.16
		TNMG220408-11							●				0.8	12.7	4.76	5.16
Finishing for mild steel	17	TNMG160404-17		●		●			●				0.4	9.525	4.76	3.81
		TNMG160408-17		●					●				0.8	9.525	4.76	3.81
Boring (double side)	CB	TNMG110304-CB	●						●				0.4	6.35	3.18	2.26
		TNMG110308-CB	●						●				0.8	6.35	3.18	2.26

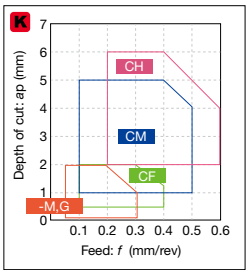
● : Line up

Chip control range

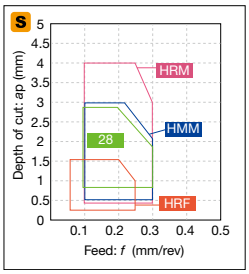


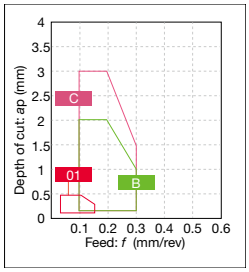






*-M,G: Without chipbreaker





Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

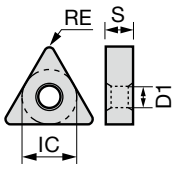
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel	●	●ɔ	●✠	✠	ɔ			ɔ✠	ɔ	●ɔ	●	●ɔ	●ɔ			●ɔ			●ɔ	●ɔ	●		●					
M	Stainless		●ɔ			●	●	ɔ	●ɔ	ɔ	●ɔ	●	●ɔ	●ɔ										●					
K	Cast iron	●ɔ	●ɔ							ɔ	●ɔ	●	●ɔ				●ɔ			●ɔ	●ɔ	●		●					
N	Non-ferrous																							●					
S	Superalloy						●	ɔ		●	●ɔ	●																	
H	Hard material																												



Application	Chipbreaker	Designation	Coated													Coated cermet	Cermet			Uncoated	Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH725	AH120	GH110	GH330	SH725	GT9530	NS9530	NS520	X407	TH10	RE	IC	S	D1
Finishing	A, C	TNGG110304R-A														●	●				0.4	6.35	3.18	2.26
		TNGG110304L-A														●	●				0.4	6.35	3.18	2.26
		TNGG110308R-A														●	●				0.8	6.35	3.18	2.26
		TNGG110308L-A														●	●				0.8	6.35	3.18	2.26
		TNGG160304R-C															●		●		0.4	9.525	3.18	3.81
		TNGG160304L-C															●				0.4	9.525	3.18	3.81
		TNGG160308R-C															●				0.8	9.525	3.18	3.81
		TNGG160308L-C															●				0.8	9.525	3.18	3.81
		TNGG160400R-C															●				0.03	9.525	4.76	3.81
		TNGG160400L-C															●				0.03	9.525	4.76	3.81
		TNGG160402R-C														●	●		●	●	0.2	9.525	4.76	3.81
		TNGG160402L-C														●	●				0.2	9.525	4.76	3.81
		TNGG160404R-C											●	●		●	●	●	●	●	0.4	9.525	4.76	3.81
		TNGG160404L-C											●	●		●	●		●	●	0.4	9.525	4.76	3.81
		TNGG160408R-C											●	●		●	●	●	●	●	0.8	9.525	4.76	3.81
		TNGG160408L-C											●	●		●	●		●	●	0.8	9.525	4.76	3.81
	D	TNGG220404R-D															●		●		0.4	12.7	4.76	5.16
		TNGG220404L-D															●				0.4	12.7	4.76	5.16
		TNGG220408R-D															●		●		0.8	12.7	4.76	5.16
		TNGG220408L-D															●				0.8	12.7	4.76	5.16
Finishing (sharp edge)	W	TNGG160402FR-W													●						0.2	9.525	4.76	3.81
		TNGG160402FL-W													●						0.2	9.525	4.76	3.81
		TNGG160404FR-W													●						0.4	9.525	4.76	3.81
		TNGG160404FL-W													●						0.4	9.525	4.76	3.81
		TNGG160408FR-W													●						0.8	9.525	4.76	3.81
		TNGG160408FL-W													●						0.8	9.525	4.76	3.81
Finishing	W	TNGG160404R-W															●			●	0.4	9.525	4.76	3.81
		TNGG160404L-W															●			●	0.4	9.525	4.76	3.81
		TNGG160408R-W															●				0.8	9.525	4.76	3.81
		TNGG160408L-W															●				0.8	9.525	4.76	3.81
Medium cutting	TM	TNMG110304-TM		●	●	●															0.4	6.35	3.18	2.26
		TNMG110308-TM		●	●	●															0.8	6.35	3.18	2.26
		TNMG110404E-TM		●	●		●		●	●											0.4	6.35	4.76	2.26
		TNMG110408E-TM		●	●		●		●	●											0.8	6.35	4.76	2.26
		TNMG110412E-TM		●	●		●		●	●											1.2	6.35	4.76	2.26
		TNMG160404-TM		●	●	●	●		●	●	●	●									0.4	9.525	4.76	3.81
		TNMG160408-TM	●	●	●	●	●		●	●	●	●									0.8	9.525	4.76	3.81
		TNMG160412-TM	●	●	●	●	●		●	●											1.2	9.525	4.76	3.81
		TNMG160416-TM		●	●		●	●	●	●											1.6	9.525	4.76	3.81
		TNMG220404-TM		●	●							●									0.4	12.7	4.76	5.16
		TNMG220408-TM	●	●	●	●						●									0.8	12.7	4.76	5.16
		TNMG220412-TM		●	●	●						●									1.2	12.7	4.76	5.16
		TNMG220416-TM		●	●																1.6	12.7	4.76	5.16

● : Line up

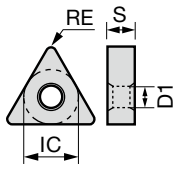
Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

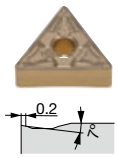
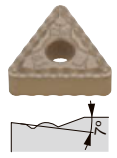
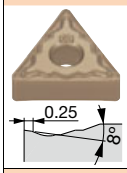
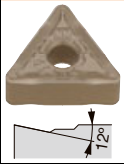
● : Continuous cutting
ᑕ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN

Triangular with hole

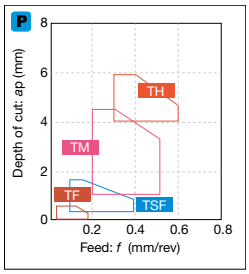
P	Steel	●ᑕ ᑕ✠ ✠ ᑕ ✠ ᑕ✠ ●ᑕ ●ᑕ
M	Stainless	●ᑕ ● ᑕ ●ᑕ
K	Cast iron	●ᑕ ●ᑕ ●ᑕ
N	Non-ferrous	
S	Superalloy	ᑕ
H	Hard material	

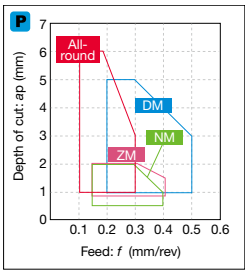


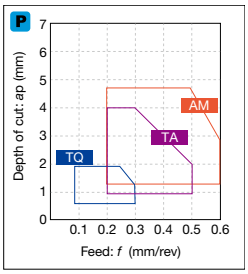
Application	Chipbreaker	Designation	Coated T9215	Coated T9225	Coated T9235	Coated T6215	Coated AH8015	Coated AH6225	Coated cermet GT9530	Cermet NS9530	Dimension (mm) RE	IC	S	D1
Medium cutting	**PM**	**TNMG110404E-PM**	●	●		●	●	●			0.4	6.35	4.76	2.26
		TNMG110408E-PM	●	●		●	●	●			0.8	6.35	4.76	2.26
		TNMG110412E-PM	●	●		●	●	●			1.2	6.35	4.76	2.26
		TNMG160404-PM	●	●		●	●	●			0.4	9.525	4.76	3.81
		TNMG160408-PM	●	●		●	●	●			0.8	9.525	4.76	3.81
		TNMG160412-PM	●	●		●	●	●			1.2	9.525	4.76	3.81
		TNMG160416-PM	●	●		●	●	●			1.6	9.525	4.76	3.81
Medium cutting for mild steel	**ZM**	**TNMG110404E-ZM**	●	●		●	●	●			0.4	6.35	4.76	2.26
		TNMG110408E-ZM	●	●		●	●	●			0.8	6.35	4.76	2.26
		TNMG110412E-ZM	●	●		●	●	●			1.2	6.35	4.76	2.26
		TNMG160404-ZM	●	●	●	●	●	●	●	●	0.4	9.525	4.76	3.81
		TNMG160408-ZM	●	●	●	●	●	●	●	●	0.8	9.525	4.76	3.81
		TNMG160412-ZM	●	●	●	●	●	●			1.2	9.525	4.76	3.81
		TNMG160416-ZM	●	●		●	●	●			1.6	9.525	4.76	3.81
		TNMG220412-ZM		●							1.2	12.7	4.76	5.16
Medium cutting	**AM**	**TNMG160408-AM**	●	●							0.8	9.525	4.76	3.81
		TNMG160412-AM	●	●							1.2	9.525	4.76	3.81
	NM	**TNMG160408-NM**		●							0.8	9.525	4.76	3.81
		TNMG160412-NM	●	●							1.2	9.525	4.76	3.81

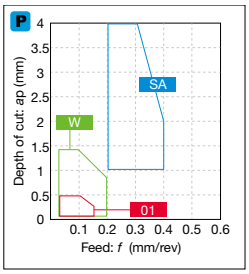
● : Line up

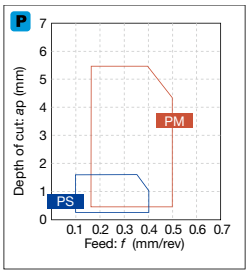
Chip control range

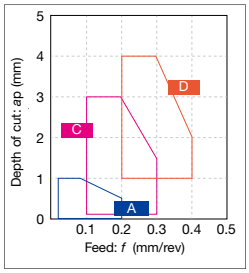












Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

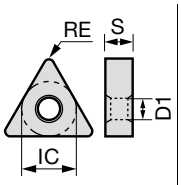
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel	●	●ɔ	●✣	✣	ɔ									ɔ✣	✣	ɔ	●	●ɔ	●ɔ			●ɔ	●ɔ		●			
M	Stainless		●ɔ			●						●	ɔ	●ɔ	✣	ɔ	●	●ɔ								●			
K	Cast iron	●ɔ	●ɔ				●	●ɔ	●	ɔ	✣					ɔ	●	●ɔ	●ɔ	●ɔ			●ɔ	●ɔ		●			
N	Non-ferrous																									●			
S	Superalloy											●	ɔ			●	●	●ɔ											
H	Hard material																												



Application	Chipbreaker	Designation	Coated																Coated cermet		Cermet		Un-coated	Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120	GT720	NS9530	NS520	TH10	RE	IC	S	D1
Medium cutting	DM	TNMG160404-DM		●	●		●							●	●									0.4	9.525	4.76	3.81
		TNMG160408-DM	●	●	●	●	●							●	●									0.8	9.525	4.76	3.81
		TNMG160412-DM		●	●		●							●	●									1.2	9.525	4.76	3.81
		TNMG160416-DM		●	●		●							●	●									1.6	9.525	4.76	3.81
	All-round	TNMG110304		●	●					●	●	●									●		●	0.4	6.35	3.18	2.26
		TNMG110308		●	●					●	●	●									●		●	0.8	6.35	3.18	2.26
		TNMG160304																					●	0.4	9.525	3.18	3.81
		TNMG160308																					●	0.8	9.525	3.18	3.81
		TNMG160404	●	●	●	●		●	●	●	●	●						●	●		●	●	●	0.4	9.525	4.76	3.81
		TNMG160408	●	●	●	●		●	●	●	●	●						●	●	●	●	●	●	0.8	9.525	4.76	3.81
		TNMG160412	●	●	●	●		●	●	●	●	●						●	●				●	1.2	9.525	4.76	3.81
		TNMG160416		●	●	●						●											●	1.6	9.525	4.76	3.81
		TNMG160420		●	●	●																		2	9.525	4.76	3.81
		TNMG220408	●	●	●	●					●	●											●	0.8	12.7	4.76	5.16
		TNMG220412	●	●	●	●						●			●								●	1.2	12.7	4.76	5.16
		TNMG220416		●	●						●				●								●	1.6	12.7	4.76	5.16
		TNMG270608			●														●					0.8	15.875	6.35	6.35
		TNMG270612			●														●					1.2	15.875	6.35	6.35
		TNMG270616																	●					1.6	15.875	6.35	6.35
	SM	TNMG110404E-SM					●								●									0.4	6.35	4.76	2.26
		TNMG110408E-SM					●								●									0.8	6.35	4.76	2.26
		TNMG160404-SM					●								●	●	●							0.4	9.525	4.76	3.81
		TNMG160408-SM					●								●	●	●							0.8	9.525	4.76	3.81
		TNMG160412-SM					●								●	●								1.2	9.525	4.76	3.81
		TNMG220408-SM					●								●	●								0.8	12.7	4.76	5.16
		TNMG220412-SM					●								●	●								1.2	12.7	4.76	5.16
	SDM	TNMG160404-SDM					●								●	●								0.4	9.525	4.76	3.81
		TNMG160408-SDM					●								●	●								0.8	9.525	4.76	3.81
		TNMG160412-SDM					●								●	●								1.2	9.525	4.76	3.81
	HRM	TNMG160404-HRM											●	●										0.4	9.525	4.76	3.81
		TNMG160408-HRM											●	●										0.8	9.525	4.76	3.81
		TNMG160412-HRM											●	●										1.2	9.525	4.76	3.81
	CM	TNMG160404-CM	●	●			●	●	●	●	●	●												0.4	9.525	4.76	3.81
		TNMG160408-CM	●	●			●	●	●	●	●	●												0.8	9.525	4.76	3.81
		TNMG160412-CM	●	●			●	●	●	●	●	●												1.2	9.525	4.76	3.81
		TNMG220408-CM	●	●			●	●	●		●	●												0.8	12.7	4.76	5.16
		TNMG220412-CM	●	●			●	●	●	●	●	●												1.2	12.7	4.76	5.16

● : Line up

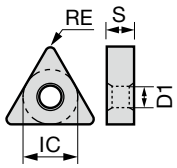
Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

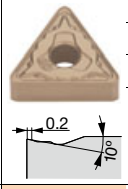
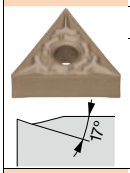
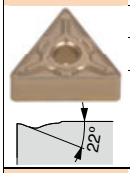
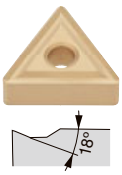
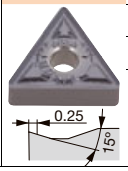
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel	●◐	◐✠	◐	◐✠	✠		●◐				●◐	●◐			●◐													
M	Stainless	●◐		●	●◐	✠		●◐																					
K	Cast iron	●◐						●◐				●◐	●◐			●◐			◐✠										
N	Non-ferrous																		◐✠										
S	Superalloy						◐	●◐											◐✠										
H	Hard material																												

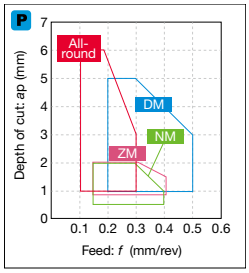


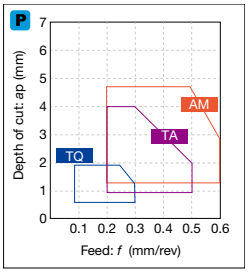
Application	Chipbreaker	Designation	Coated							Coated cermet		Cermet		Uncoated				Dimension (mm)			
			T9215	T9225	T6215	AH6225	AH6235	AH905	AH120	GT9530	AT9530	NS9530		KS20				RE	IC	S	D1
Medium cutting (wiper)	**SW**	**TNMG110408E-SW**	●															0.8	6.35	4.76	2.26
		TNMG1104**12E-SW**	●															1.2	6.35	4.76	2.26
		TNMG160408-SW	●															0.8	9.525	4.76	3.81
		TNMG1604**12-SW**	●															1.2	9.525	4.76	3.81
		*Wiper																			
Medium cutting	**TQ**	**TNMG160404-TQ**	●	●						●	●	●									
		TNMG1604**08-TQ**	●	●						●	●	●									
	TA	**TNMG160404-TA**	●	●														0.4	9.525	4.76	3.81
		TNMG1604**08-TA**	●	●														0.8	9.525	4.76	3.81
		TNMG1604**12-TA**	●	●														1.2	9.525	4.76	3.81
	SA	**TNMG160404-SA**			●	●	●		●									0.4	9.525	4.76	3.81
		TNMG1604**08-SA**			●	●	●		●					●				0.8	9.525	4.76	3.81
		TNMG1604**12-SA**			●	●	●		●					●				1.2	9.525	4.76	3.81
		TNMG220408-SA			●	●	●		●					●				0.8	12.7	4.76	5.16
		TNMG2204**12-SA**			●	●	●											1.2	12.7	4.76	5.16
	HMM	**TNMG160404-HMM**						●										0.4	9.525	4.76	3.81
		TNMG1604**08-HMM**						●										0.8	9.525	4.76	3.81
		TNMG1604**12-HMM**						●										1.2	9.525	4.76	3.81

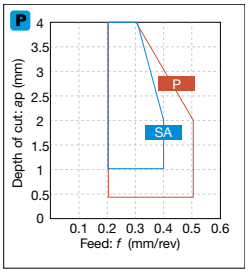
* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

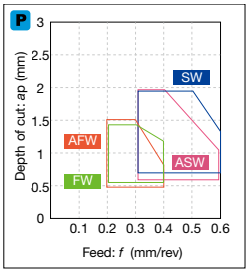
● : Line up

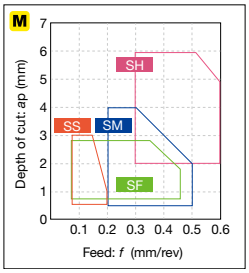
Chip control range

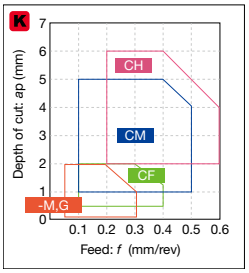


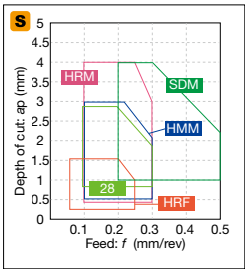












*-M,G: Without chipbreaker

Reference pages: External toolholder → C032 -
Internal toolholder → D049 -
J-Series toolholder → G051 -
Cartridge → K181 -

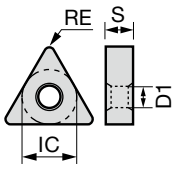
Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel	●ⓒ	●ⓒ✣	✣			●ⓒ✣	✣	ⓒ	●ⓒ	●	●ⓒ	●ⓒ		●ⓒ	●ⓒ		●ⓒ					●								
M	Stainless	●ⓒ			●	ⓒ	●ⓒ	✣	ⓒ	●ⓒ	●	●ⓒ	●ⓒ										●								
K	Cast iron	●ⓒ							ⓒ	●ⓒ	●	●ⓒ			●ⓒ	●ⓒ		●ⓒ				●	●								
N	Non-ferrous																					●	●								
S	Superalloy				●	ⓒ			●	●ⓒ	●											●									
H	Hard material																														



Application	Chipbreaker	Designation	Coated											Coated cermet		Cermet		Uncoated		Dimension (mm)			
			T9215	T9225	T9235	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GH110	GH330	SH725	GT720		NS9530		KS05F	TH10	RE	IC	S	D1
Medium cutting (sharp edge)	P	TNGG160402FR-P												●							0.2	9.525	4.76	3.81
		TNGG160402FL-P												●							0.2	9.525	4.76	3.81
		TNGG160404FR-P												●							0.4	9.525	4.76	3.81
		TNGG160404FL-P												●							0.4	9.525	4.76	3.81
		TNGG160408FR-P												●							0.8	9.525	4.76	3.81
		TNGG160408FL-P												●							0.8	9.525	4.76	3.81
Medium cutting	P	TNGG160402R-P										●	●				●			●	0.2	9.525	4.76	3.81
		TNGG160402L-P										●	●				●			●	0.2	9.525	4.76	3.81
		TNGG160404R-P										●	●				●			●	0.4	9.525	4.76	3.81
		TNGG160404L-P										●	●				●			●	0.4	9.525	4.76	3.81
		TNGG160408R-P										●	●				●			●	0.8	9.525	4.76	3.81
		TNGG160408L-P										●	●				●			●	0.8	9.525	4.76	3.81
	S	TNMG160404R-S	●	●	●			●	●	●			●				●				0.4	9.525	4.76	3.81
		TNMG160404L-S	●	●	●			●	●				●				●				0.4	9.525	4.76	3.81
		TNMG160408R-S	●	●	●			●	●	●			●				●				0.8	9.525	4.76	3.81
		TNMG160408L-S	●	●	●			●	●				●				●				0.8	9.525	4.76	3.81
		TNMG220404R-S		●	●			●	●				●				●				0.4	12.7	4.76	5.16
		TNMG220404L-S		●	●			●	●				●				●				0.4	12.7	4.76	5.16
		TNMG220408R-S		●	●			●	●				●				●				0.8	12.7	4.76	5.16
		TNMG220408L-S		●	●			●	●				●				●				0.8	12.7	4.76	5.16
	27	TNMG160404-27	●	●																	0.4	9.525	4.76	3.81
		TNMG160408-27	●	●													●				0.8	9.525	4.76	3.81
		TNMG160412-27	●	●																	1.2	9.525	4.76	3.81
		TNMG220404-27		●																	0.4	12.7	4.76	5.16
		TNMG220408-27		●																	0.8	12.7	4.76	5.16
		TNMG220412-27		●																	1.2	12.7	4.76	5.16
	28	TNMG160404-28				●	●				●								●		0.4	9.525	4.76	3.81
		TNMG160408-28				●	●				●								●		0.8	9.525	4.76	3.81
		TNMG220404-28									●										0.4	12.7	4.76	5.16
		TNMG220408-28									●										0.8	12.7	4.76	5.16
	33	TNMG160404-33																		●	0.4	9.525	4.76	3.81
		TNMG160408-33																		●	0.8	9.525	4.76	3.81
		TNMG160416-33		●																	1.6	9.525	4.76	3.81
		TNMG220404-33		●											●						0.4	12.7	4.76	5.16
		TNMG220412-33			●																1.2	12.7	4.76	5.16
		TNMG220416-33		●																	1.6	12.7	4.76	5.16
	37	TNMG160404-37	●										●				●				0.4	9.525	4.76	3.81
		TNMG160408-37	●										●				●				0.8	9.525	4.76	3.81

● : Line up

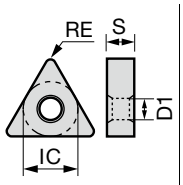
Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

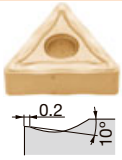
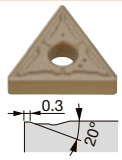
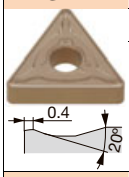
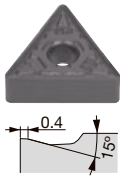
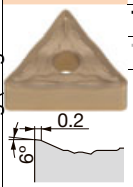
● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN

Triangular with hole

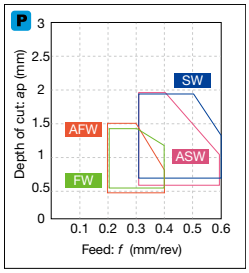
P	Steel	●ɔ ɔ✠ ✠ ●ɔ ●ɔ
M	Stainless	●ɔ ●ɔ ●ɔ
K	Cast iron	●ɔ ●ɔ ● ɔ ✠ ●ɔ ●ɔ
N	Non-ferrous	
S	Superalloy	●ɔ
H	Hard material	

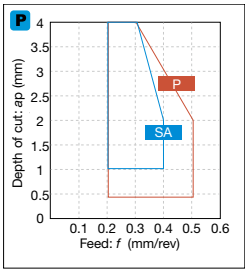


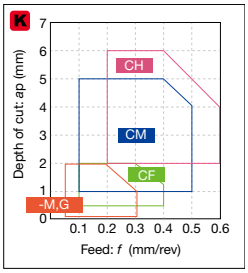
Application	Chipbreaker	Designation	Coated T9215	T9225	T9235	T515	T5105	T5115	T5125	AH120	GH330	Dimension (mm) RE	IC	S	D1
Medium cutting	**38**	**TNMG160404-38**									●	0.4	9.525	4.76	3.81
		TNMG160408-38									●	0.8	9.525	4.76	3.81
Medium to heavy cutting	**TH**	**TNMG220408-TH**	●	●	●					●		0.8	12.7	4.76	5.16
		TNMG220412-TH	●	●	●							1.2	12.7	4.76	5.16
	THS	**TNMG220408-THS**	●	●	●							0.8	12.7	4.76	5.16
		TNMG220412-THS	●	●	●							1.2	12.7	4.76	5.16
	CH	**TNMG160404-CH**				●	●	●	●			0.4	9.525	4.76	3.81
		TNMG160408-CH				●	●	●	●			0.8	9.525	4.76	3.81
		TNMG160412-CH				●	●	●	●			1.2	9.525	4.76	3.81
		TNMG220408-CH							●			0.8	12.7	4.76	5.16
		TNMG220412-CH					●	●				1.2	12.7	4.76	5.16
		TNMG220416-CH					●	●	●			1.6	12.7	4.76	5.16
Medium to heavy cutting (single side)	**57**	**TNMM160408-57**		●								0.8	9.525	4.76	3.81
		**TNMM220408-57**		●								0.8	12.7	4.76	5.16
		TNMM220412-57		●								1.2	12.7	4.76	5.16

● : Line up

Chip control range







*-M,G: Without chipbreaker

Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

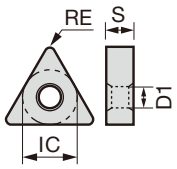
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel						●			●ɔ			●ɔ			●	●										
M	Stainless						●									●	●										
K	Cast iron	●	●ɔ	●	ɔ	✣	●			●ɔ			●ɔ			●	●			●ɔ							
N	Non-ferrous															●	●										
S	Superalloy						●																				
H	Hard material																			●ɔ	●ɔ	●ɔ					



Application	Chipbreaker	Designation	Coated						Coated cermet	Cermet	Uncoated		Ceramic				Dimension (mm)			
			T505	T515	T5105	T5115	T5125	GH110	GT720	NS520	TH03	TH10	FX105	LX10	LX11	LX21	RE	IC	S	D1
Finishing to medium cutting	-	TNMA110404E		●													0.4	6.35	4.76	2.26
		TNMA110408E		●													0.8	6.35	4.76	2.26
		TNMA110412E		●													1.2	6.35	4.76	2.26
		TNMA160404	●	●	●	●	●				●	●					0.4	9.525	4.76	3.81
		TNMA160408	●	●	●	●	●		●	●		●	●				0.8	9.525	4.76	3.81
		TNMA160412	●	●	●	●							●				1.2	9.525	4.76	3.81
		TNMA160416			●	●	●										1.6	9.525	4.76	3.81
		TNMA160420			●	●	●										2	9.525	4.76	3.81
		TNMA220404				●	●										0.4	12.7	4.76	5.16
		TNMA220408			●	●	●										0.8	12.7	4.76	5.16
		TNMA220412			●	●	●										1.2	12.7	4.76	5.16
		TNMA220416			●	●											1.6	12.7	4.76	5.16
	-	TNGA110304									●	●					0.4	6.35	3.18	2.26
		TNGA110308										●					0.8	6.35	3.18	2.26
		TNGA160304										●					0.4	9.525	3.18	3.81
		TNGA160308										●					0.8	9.525	3.18	3.81
		TNGA160402												●	●		0.2	9.525	4.76	3.81
		TNGA160404						●		●	●	●		●	●	●	0.4	9.525	4.76	3.81
		TNGA160408						●		●	●	●	●	●	●	●	0.8	9.525	4.76	3.81
		TNGA160412								●		●	●	●	●	●	1.2	9.525	4.76	3.81
		TNGA160416										●	●	●	●		1.6	9.525	4.76	3.81
		TNGA220408										●					0.8	12.7	4.76	5.16

● : Line up

Reference pages: External toolholder → C032 - Internal toolholder → D049 -
TungCap → K013 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN

Triangular without hole

| | | |

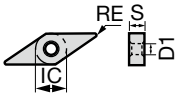
Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

VN

Rhombic, 35° with hole

P	Steel	● ●ⓒ ⓒ✠ ✠ ⓒ ⓒ✠ ✠ ●ⓒ ●ⓒ ●ⓒ ●ⓒ ●ⓒ
M	Stainless	●ⓒ ● ⓒ ●ⓒ ✠ ●ⓒ ●ⓒ ●ⓒ ●ⓒ
K	Cast iron	●ⓒ ●ⓒ ●ⓒ ●ⓒ ●ⓒ ●ⓒ ●ⓒ ●ⓒ
N	Non-ferrous	
S	Superalloy	● ⓒ ●ⓒ
H	Hard material	



Application	Chipbreaker	Designation	Coated T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	Coated cermet GT9530	GT720	AT9530	Cermet NS9530	NS520	Dimension (mm) RE	IC	S	D1
Finishing	TF	VNMG120402E-TF		●	●		●		●	●							●		0.2	7.15	4.76	3.81
		VNMG120404E-TF		●	●		●		●	●							●		0.4	7.15	4.76	3.81
		VNMG120408E-TF		●	●		●		●	●							●		0.8	7.15	4.76	3.81
		VNMG160402-TF		●	●		●		●	●							●		0.2	9.525	4.76	3.81
		VNMG160404-TF		●	●		●		●	●							●		0.4	9.525	4.76	3.81
		VNMG160408-TF		●	●		●		●	●					●		●		0.8	9.525	4.76	3.81
	TSF	VNMG120402E-TSF		●	●		●		●	●				●		●	●		0.2	7.15	4.76	3.81
		VNMG120404E-TSF		●	●		●		●	●				●		●	●		0.4	7.15	4.76	3.81
		VNMG120408E-TSF		●	●		●		●	●				●		●	●		0.8	7.15	4.76	3.81
		VNMG160402-TSF		●	●		●		●	●		●		●		●	●		0.2	9.525	4.76	3.81
		VNMG160404-TSF	●	●	●	●	●		●	●		●		●		●	●		0.4	9.525	4.76	3.81
		VNMG160408-TSF	●	●	●	●	●		●	●		●		●		●	●		0.8	9.525	4.76	3.81
		VNMG160412-TSF	●	●	●	●	●		●	●									1.2	9.525	4.76	3.81
	PS	VNMG120402E-PS		●	●		●		●	●							●		0.2	7.15	4.76	3.81
		VNMG120404E-PS		●	●		●		●	●							●		0.4	7.15	4.76	3.81
		VNMG120408E-PS		●	●		●		●	●							●		0.8	7.15	4.76	3.81
		VNMG160402-PS		●	●		●		●	●							●		0.2	9.525	4.76	3.81
		VNMG160404-PS		●	●		●		●	●							●		0.4	9.525	4.76	3.81
		VNMG160408-PS		●	●		●		●	●							●		0.8	9.525	4.76	3.81
		VNMG160412-PS		●	●		●		●	●							●		1.2	9.525	4.76	3.81
Finishing for mild steel	ZF	VNMG120402E-ZF		●	●		●		●	●							●		0.2	7.15	4.76	3.81
		VNMG120404E-ZF		●	●		●		●	●							●		0.4	7.15	4.76	3.81
		VNMG120408E-ZF		●	●		●		●	●							●		0.8	7.15	4.76	3.81
		VNMG160402-ZF		●	●		●		●	●							●		0.25	9.525	4.76	3.81
		VNMG160404-ZF		●	●	●	●		●	●				●		●	●		0.4	9.525	4.76	3.81
		VNMG160408-ZF		●	●	●	●		●	●				●		●	●		0.8	9.525	4.76	3.81
		VNMG160412-ZF		●	●	●	●		●	●							●		1.2	9.525	4.76	3.81
Finishing	TS	VNMG120402E-TS		●	●		●		●	●							●		0.2	7.15	4.76	3.81
		VNMG120404E-TS		●	●		●		●	●							●		0.4	7.15	4.76	3.81
		VNMG120408E-TS		●	●		●		●	●							●		0.8	7.15	4.76	3.81
		VNMG160402-TS		●	●		●		●	●							●		0.2	9.525	4.76	3.81
		VNMG160404-TS		●	●	●	●		●	●				●		●	●	●	0.4	9.525	4.76	3.81
		VNMG160408-TS		●	●	●	●		●	●				●		●	●	●	0.8	9.525	4.76	3.81
		VNMG160412-TS		●	●	●	●		●	●							●		1.2	9.525	4.76	3.81
	SF	VNMG160404-SF					●			●									0.4	9.525	4.76	3.81
		VNMG160408-SF					●			●									0.8	9.525	4.76	3.81
	SS	VNMG120404E-SS					●			●	●								0.4	7.15	4.76	3.81
		VNMG120408E-SS					●			●	●								0.8	7.15	4.76	3.81
		VNMG160404-SS					●			●	●	●	●						0.4	9.525	4.76	3.81
		VNMG160408-SS					●			●	●	●	●						0.8	9.525	4.76	3.81
		VNMG160412-SS					●			●	●	●	●						1.2	9.525	4.76	3.81
	HRF	VNMG160404-HRF						●	●										0.4	9.525	4.76	3.81
		VNMG160408-HRF						●	●										0.8	9.525	4.76	3.81

● : Line up

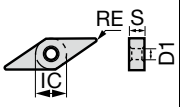
Reference pages: External toolholder → C041 - Internal toolholder → D074 -
TungCap → C042 -, K014 -

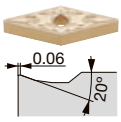
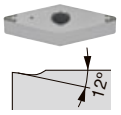
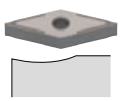
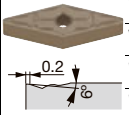
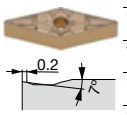
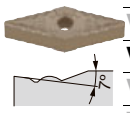
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

VN

Rhombic, 35° with hole

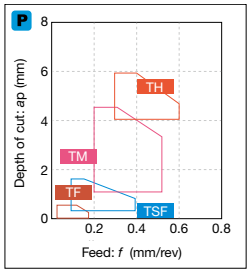
P	Steel	●	●ⓒ	●✣	✣	ⓒ				●✣	●	●ⓒ	●	●ⓒ		●ⓒ				●ⓒ	●ⓒ			●					
M	Stainless		●ⓒ			●			ⓒ	●ⓒ	●	●ⓒ	●	●ⓒ										●					
K	Cast iron	●ⓒ	●ⓒ				●	ⓒ			●	●ⓒ	●	●ⓒ		●ⓒ				●ⓒ	●ⓒ			●					
N	Non-ferrous																							●					
S	Superalloy								ⓒ		●	●ⓒ	●																
H	Hard material																												

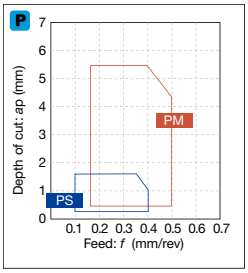


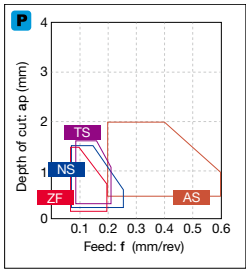
Application	Chipbreaker	Designation	Coated												Coated cermet				Cermet			Uncoated		Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T5105	T5115	AH8015	AH6225	AH110	AH120	GH110	GH330	GT9530				NS9530	NS520		TH10		RE	IC	S	D1
Finishing	**CF**	**VNMG160404-CF**						●	●																0.4	9.525	4.76	3.81
		VNMG160408-CF						●	●																0.8	9.525	4.76	3.81
	01	**VNGG160402-01**												●						●	●		●		0.2	9.525	4.76	3.81
		VNGG160404-01																		●	●		●		0.4	9.525	4.76	3.81
		VNGG160408-01																		●	●				0.8	9.525	4.76	3.81
	11	**VNMG160404-11**													●					●			●		0.4	9.525	4.76	3.81
		VNMG160408-11																		●					0.8	9.525	4.76	3.81
		VNMG160412-11														●				●					1.2	9.525	4.76	3.81
Medium cutting	**TM**	**VNMG120404E-TM**		●	●		●			●	●														0.4	7.15	4.76	3.81
		VNMG120408E-TM		●	●		●			●	●														0.8	7.15	4.76	3.81
		VNMG120412E-TM		●	●		●			●	●														1.2	7.15	4.76	3.81
		VNMG160404-TM	●	●	●	●	●			●	●		●												0.4	9.525	4.76	3.81
		VNMG160408-TM	●	●	●	●	●			●	●	●	●												0.8	9.525	4.76	3.81
		VNMG160412-TM	●	●	●	●	●			●	●	●													1.2	9.525	4.76	3.81
	PM	**VNMG120404E-PM**		●	●		●			●	●														0.4	7.15	4.76	3.81
		VNMG120408E-PM		●	●		●			●	●														0.8	7.15	4.76	3.81
		VNMG120412E-PM		●	●		●			●	●														1.2	7.15	4.76	3.81
		VNMG160404-PM		●	●		●			●	●														0.4	9.525	4.76	3.81
		VNMG160408-PM		●	●		●			●	●														0.8	9.525	4.76	3.81
		VNMG160412-PM		●	●		●			●	●														1.2	9.525	4.76	3.81
Medium cutting for mild steel	**ZM**	**VNMG120404E-ZM**		●	●		●			●	●														0.4	7.15	4.76	3.81
		VNMG120408E-ZM		●	●		●			●	●														0.8	7.15	4.76	3.81
		VNMG120412E-ZM		●	●		●			●	●														1.2	7.15	4.76	3.81
		VNMG160404-ZM		●	●		●			●	●														0.4	9.525	4.76	3.81
		VNMG160408-ZM		●	●	●	●			●	●														0.8	9.525	4.76	3.81
		VNMG160412-ZM		●	●	●	●			●	●														1.2	9.525	4.76	3.81

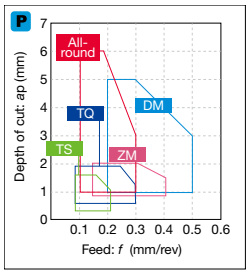
● : Line up

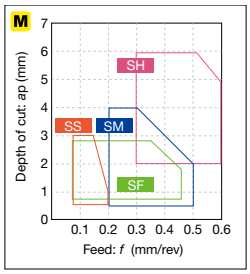
Chip control range

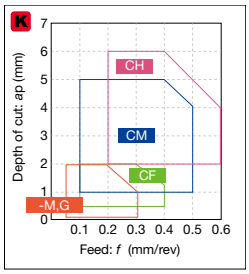


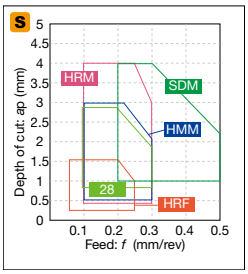












*-M,G: Without chipbreaker

Reference pages: External toolholder → C041 -
Internal toolholder → D074 -
TungCap → C042 -, K014 -

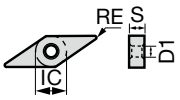
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

VN

Rhombic, 35° with hole

P	Steel	●	●ɔ	ɔ✣	✣	ɔ									ɔ✣	✣		●	●ɔ	●ɔ	●ɔ		●ɔ				●				
M	Stainless		●ɔ			●						●	ɔ	●ɔ	✣			●	●ɔ								●				
K	Cast iron	●ɔ	●ɔ				●	●ɔ	●	ɔ	✣							●	●ɔ	●ɔ	●ɔ		●ɔ				●				
N	Non-ferrous																										●				
S	Superalloy											●	ɔ			ɔ		●	●ɔ												
H	Hard material																														



Application	Chipbreaker	Designation	Coated																Coated cermet		Cermet		Un-coated	Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH905	AH110	AH120	GT9530	AT9530	NS9530		TH10	RE	IC	S	D1
Medium cutting	**DM**	**VNMG160404-DM**		●	●		●							●	●										0.8	9.525	4.76	3.81
		VNMG160408-DM	●	●	●	●	●							●	●										0.8	9.525	4.76	3.81
		VNMG160412-DM		●	●	●	●							●	●										1.2	9.525	4.76	3.81
Medium cutting	**All-round**	**VNMG160404**	●	●	●	●		●	●	●	●	●						●	●			●		●	0.4	9.525	4.76	3.81
		VNMG160408	●	●	●	●		●	●	●	●	●						●	●			●		●	0.8	9.525	4.76	3.81
		VNMG160412		●	●			●	●	●	●	●										●			1.2	9.525	4.76	3.81
	SM	**VNMG120404E-SM**					●								●	●									0.4	7.15	4.76	3.81
		VNMG120408E-SM					●								●	●									0.8	7.15	4.76	3.81
		VNMG160404-SM					●								●	●									0.4	9.525	4.76	3.81
		VNMG160408-SM					●								●	●									0.8	9.525	4.76	3.81
		VNMG160412-SM					●								●	●									1.2	9.525	4.76	3.81
	SDM	**VNMG160404-SDM**					●								●	●									0.4	9.525	4.76	3.81
		VNMG160408-SDM					●								●	●									0.8	9.525	4.76	3.81
		VNMG160412-SDM					●								●	●									1.2	9.525	4.76	3.81
	HRM	**VNMG160404-HRM**											●	●											0.4	9.525	4.76	3.81
		VNMG160408-HRM											●	●											0.8	9.525	4.76	3.81
		VNMG160412-HRM											●	●											1.2	9.525	4.76	3.81
	CM	**VNMG160408-CM**	●	●			●	●	●	●	●	●													0.8	9.525	4.76	3.81
		VNMG160412-CM	●	●			●	●	●	●	●	●													1.2	9.525	4.76	3.81
	TQ	**VNMG160404-TQ**		●	●															●	●	●			0.4	9.525	4.76	3.81
		VNMG160408-TQ		●	●															●	●	●			0.8	9.525	4.76	3.81
	HMM	**VNMG160404-HMM**															●								0.4	9.525	4.76	3.81
		VNMG160408-HMM															●								0.8	9.525	4.76	3.81
		VNMG160412-HMM															●								1.2	9.525	4.76	3.81

● : Line up

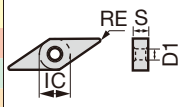
Reference pages: External toolholder → C041 - Internal toolholder → D074 -
TungCap → C042 -, K014 -

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

VN

Rhombic, 35° with hole

P	Steel	●ɔ ɔ✠ ● ●ɔ ●ɔ
M	Stainless	●ɔ ● ɔ ● ●ɔ ●
K	Cast iron	●ɔ ●ɔ ● ɔ ✠ ● ●ɔ ●ɔ ● ●
N	Non-ferrous	● ●
S	Superalloy	● ɔ ● ●ɔ ●
H	Hard material	●ɔ ●ɔ



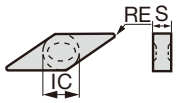
Application	Chipbreaker	Designation	Coated										Cermet		Uncoated		Ceramic		Dimension (mm)			
			T9215	T9225	T515	T5105	T5115	T5125	AH8005	AH8015	AH110	AH120	NS520		KS05F	TH10	LX10	LX11	RE	IC	S	D1
Medium cutting	28	VNMG160404-28							●	●		●			●				0.4	9.525	4.76	3.81
		VNMG160408-28							●	●		●			●				0.8	9.525	4.76	3.81
	33	VNMG160404-33		●							●					●			0.4	9.525	4.76	3.81
		VNMG160408-33	●	●												●			0.8	9.525	4.76	3.81
Finishing to medium cutting	-	VNMA120404E			●														0.4	7.15	4.76	3.81
		VNMA120408E			●														0.8	7.15	4.76	3.81
		VNMA160402														●			0.2	9.525	4.76	3.81
		VNMA160404				●	●	●					●			●			0.4	9.525	4.76	3.81
		VNMA160408				●	●	●					●			●			0.8	9.525	4.76	3.81
		VNGA160404															●	●	0.4	9.525	4.76	3.81
		VNGA160408															●	●	0.8	9.525	4.76	3.81

● : Line up

VN

Rhombic, 35° without hole

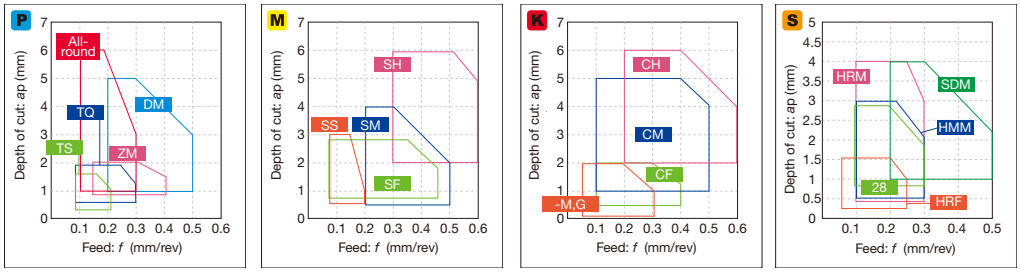
P	Steel	
M	Stainless	
K	Cast iron	●ɔ
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Designation	Ceramic	Dimension (mm)			
			FX105	RE	IC	S	D1
Finishing to medium cutting	-	VNGD160712	●	1.2	9.525	4.76	-

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: VNMG..., VNMA..., VNGA...:
External toolholder → C041 -, Internal toolholder → D074 -
TungCap → C042 -, K014 -
VNGD...: External toolholder → C051

Insert NEGATIVE TYPE

● : Continuous cutting
c : Light interrupted cutting
✠ : Heavy interrupted cutting

WN

Trigon, 80° with hole

		T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH120	GT9530	AT9530	NS9530	RE	IC	S	D1
		Coated									Coated cermet		Cermet	Dimension (mm)			
Application	Chipbreaker / Designation																
Finishing	**TF**																
	WNMG060402E-TF		●	●		●		●	●				●	0.2	9.525	4.76	3.81
	WNMG060404E-TF		●	●		●		●	●				●	0.4	9.525	4.76	3.81
	WNMG060408E-TF		●	●		●		●	●				●	0.8	9.525	4.76	3.81
	WNMG080402-TF		●	●		●		●	●				●	0.2	12.7	4.76	5.16
	WNMG080404-TF		●	●		●		●	●				●	0.4	12.7	4.76	5.16
	WNMG080408-TF		●	●		●		●	●				●	0.8	12.7	4.76	5.16
	TSF																
	WNMG060402E-TSF		●	●		●		●	●	●	●		●	0.2	9.525	4.76	3.81
	WNMG060404E-TSF		●	●		●		●	●	●	●	●	●	0.4	9.525	4.76	3.81
	WNMG060408E-TSF		●	●		●		●	●	●	●	●	●	0.8	9.525	4.76	3.81
	WNMG060412E-TSF		●	●				●		●	●		●	1.2	9.525	4.76	3.81
	WNMG060404-TSF		●	●										0.4	9.525	4.76	3.81
	WNMG060408-TSF		●	●										0.8	9.525	4.76	3.81
	WNMG080402-TSF		●	●		●		●	●				●	0.2	12.7	4.76	5.16
	WNMG080404-TSF		●	●	●	●	●	●	●	●	●	●	●	0.4	12.7	4.76	5.16
	WNMG080408-TSF		●	●	●	●	●	●	●	●	●	●	●	0.8	12.7	4.76	5.16
	WNMG080412-TSF	●	●	●	●	●	●	●	●	●			●	1.2	12.7	4.76	5.16
Finishing	**PS**																
	WNMG060402E-PS		●	●		●		●	●				●	0.2	9.525	4.76	3.81
	WNMG060404E-PS		●	●		●		●	●				●	0.4	9.525	4.76	3.81
	WNMG060408E-PS		●	●		●		●	●				●	0.8	9.525	4.76	3.81
	WNMG080402-PS		●	●		●		●	●				●	0.2	12.7	4.76	5.16
	WNMG080404-PS		●	●		●		●	●				●	0.4	12.7	4.76	5.16
	WNMG080408-PS		●	●		●		●	●				●	0.8	12.7	4.76	5.16
	WNMG080412-PS		●	●		●		●	●				●	1.2	12.7	4.76	5.16
Finishing for mild steel	**ZF**																
	WNMG060402E-ZF		●	●		●		●	●				●	0.2	9.525	4.76	3.81
	WNMG060404E-ZF		●	●		●		●	●				●	0.4	9.525	4.76	3.81
	WNMG060408E-ZF		●	●		●		●	●				●	0.8	9.525	4.76	3.81
	WNMG060404-ZF		●	●										0.4	9.525	4.76	3.81
	WNMG060408-ZF		●	●										0.8	9.525	4.76	3.81
	WNMG080402-ZF		●	●		●		●	●				●	0.2	12.7	4.76	5.16
	WNMG080404-ZF		●	●	●	●		●	●		●	●	●	0.4	12.7	4.76	5.16
	WNMG080408-ZF		●	●	●	●		●	●		●	●	●	0.8	12.7	4.76	5.16
	WNMG080412-ZF		●	●		●		●	●				●	1.2	12.7	4.76	5.16
Finishing	**AS**																
	WNMG080404-AS	●											●	0.4	12.7	4.76	5.16
	WNMG080408-AS	●	●	●	●								●	0.8	12.7	4.76	5.16
	WNMG080412-AS	●	●	●	●									1.2	12.7	4.76	5.16
	NS																
	WNMG080404-NS		●	●									●	0.4	12.7	4.76	5.16
	WNMG080408-NS		●	●									●	0.8	12.7	4.76	5.16

● : Line up

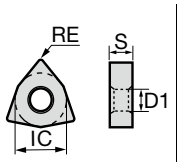
Reference pages: External toolholder → C024 - Internal toolholder → D031 -
TungCap → C024 -, K010

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

WN

Trigon, 80° with hole

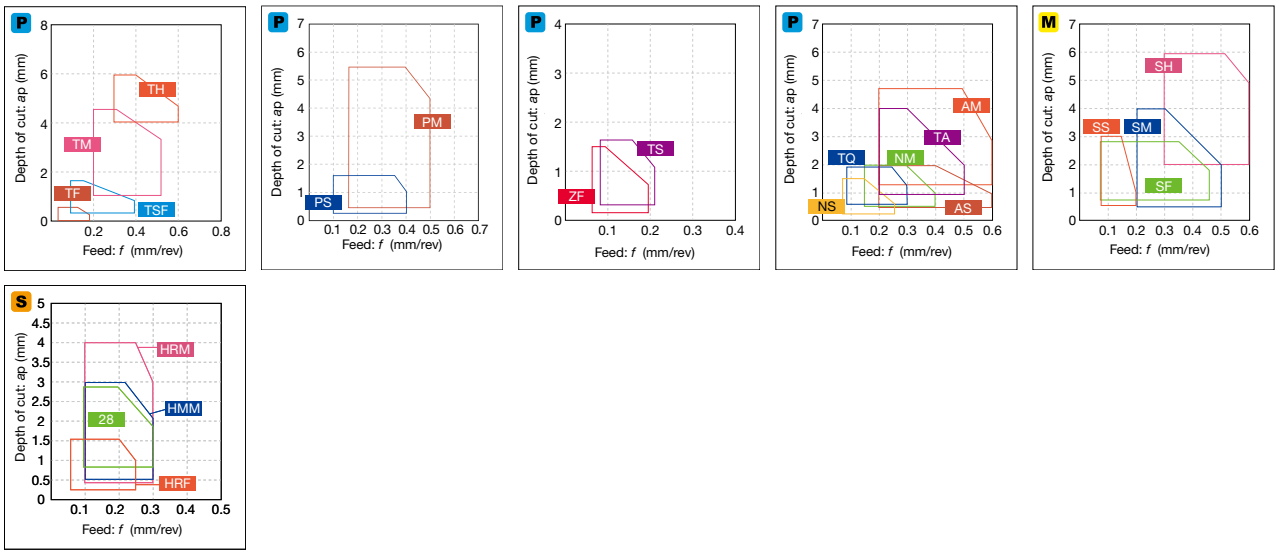
P	Steel	●ⓒ	●✣	✣	ⓒ			✣	✣	✣	●ⓒ	●ⓒ			●ⓒ	●ⓒ			●ⓒ	●ⓒ											
M	Stainless	●ⓒ			●	●	ⓒ	●ⓒ	✣	●ⓒ	●ⓒ																				
K	Cast iron	●ⓒ								●ⓒ	●ⓒ				●ⓒ	●ⓒ			●ⓒ	●ⓒ											
N	Non-ferrous																														
S	Superalloy					●	ⓒ			●ⓒ																					
H	Hard material																														



Application	Chipbreaker	Designation	Coated										Coated cermet		Cermet			Dimension (mm)			
			T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530	NS9530	NS520		RE	IC	S	D1
Finishing	TS	WNMG060402E-TS	●	●		●		●	●				●		●			0.2	9.525	4.76	3.81
		WNMG060404E-TS	●	●		●		●	●				●		●			0.4	9.525	4.76	3.81
		WNMG060408E-TS	●	●		●		●	●				●		●			0.8	9.525	4.76	3.81
		WNMG080402-TS	●	●		●		●	●						●			0.2	12.7	4.76	5.16
		WNMG080404-TS	●	●	●	●		●	●				●	●	●	●		0.4	12.7	4.76	5.16
		WNMG080408-TS	●	●	●	●		●	●				●	●	●	●		0.8	12.7	4.76	5.16
		WNMG080412-TS	●	●	●	●		●	●						●			1.2	12.7	4.76	5.16
	SF	WNMG060404-SF				●			●									0.4	9.525	4.76	3.81
		WNMG060408-SF				●			●									0.8	9.525	4.76	3.81
		WNMG080404-SF				●			●									0.4	12.7	4.76	5.16
		WNMG080408-SF				●			●									0.8	12.7	4.76	5.16
	SS	WNMG060404E-SS							●	●								0.4	9.525	4.76	3.81
		WNMG060408E-SS							●	●								0.8	9.525	4.76	3.81
		WNMG060412E-SS							●	●								1.2	9.525	4.76	3.81
		WNMG080404-SS				●			●	●	●	●						0.4	12.7	4.76	5.16
		WNMG080408-SS				●			●	●	●	●						0.8	12.7	4.76	5.16
		WNMG080412-SS				●			●	●								1.2	12.7	4.76	5.16
	HRF	WNMG080404-HRF					●	●										0.4	12.7	4.76	5.16
		WNMG080408-HRF					●	●										0.8	12.7	4.76	5.16

● : Line up

Chip control range



Reference pages: External toolholder → C024 - Internal toolholder → D031 -
TungCap → C024 -, K010

Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

WN

Trigon, 80° with hole

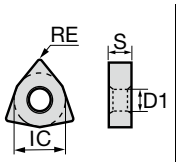
| | | Coated | | | | | | Coated cermet | | Cermet | | | | | |

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

WN

Trigon, 80°
with hole

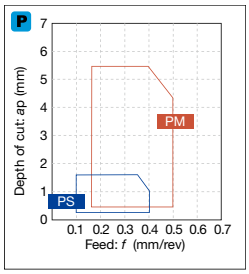
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ			ⓒ✠	✠	ⓒ	●ⓒ			●ⓒ					●ⓒ													
M	Stainless		●ⓒ			●		ⓒ	●ⓒ	✠	ⓒ	●ⓒ																					
K	Cast iron	●ⓒ	●ⓒ				●ⓒ				ⓒ	●ⓒ			●ⓒ					●ⓒ													
N	Non-ferrous																																
S	Superalloy							ⓒ			●	●ⓒ																					
H	Hard material																																

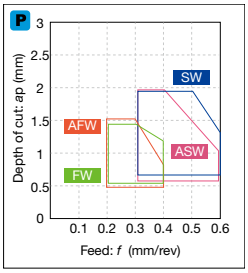


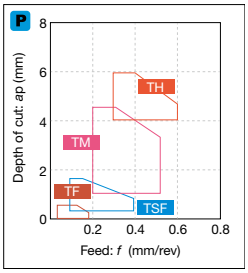
Application	Chipbreaker	Designation	Coated										Coated cermet	Cermet		Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH6235	AH725	AH120	GT9530	NS9530		RE	IC	S	D1
Medium cutting	TM	WNMG060404E-TM		●	●		●		●	●			●				0.4	9.525	4.76	3.81
		WNMG060408E-TM		●	●		●		●	●			●				0.8	9.525	4.76	3.81
		WNMG060412E-TM		●	●		●		●	●			●				1.2	9.525	4.76	3.81
		WNMG060404-TM		●	●	●											0.4	9.525	4.76	3.81
		WNMG060408-TM	●	●	●	●							●				0.8	9.525	4.76	3.81
		WNMG080404-TM	●	●	●	●	●	●	●	●	●	●	●				0.4	12.7	4.76	5.16
		WNMG080408-TM	●	●	●	●	●	●	●	●	●	●	●				0.8	12.7	4.76	5.16
		WNMG080412-TM	●	●	●	●	●	●	●	●	●		●				1.2	12.7	4.76	5.16
		WNMG080416-TM	●	●	●		●	●	●	●	●		●				1.6	12.7	4.76	5.16
	PM	WNMG060404E-PM		●	●		●		●	●							0.4	9.525	4.76	3.81
		WNMG060408E-PM		●	●		●		●	●							0.8	9.525	4.76	3.81
		WNMG060412E-PM		●	●		●		●	●							1.2	9.525	4.76	3.81
		WNMG080404-PM		●	●		●		●	●							0.4	12.7	4.76	5.16
		WNMG080408-PM		●	●		●		●	●							0.8	12.7	4.76	5.16
		WNMG080412-PM		●	●		●		●	●							1.2	12.7	4.76	5.16
		WNMG080416-PM		●	●		●		●	●							1.6	12.7	4.76	5.16
Medium cutting for mild steel	ZM	WNMG060404E-ZM		●	●		●		●	●							0.4	9.525	4.76	3.81
		WNMG060408E-ZM		●	●		●		●	●							0.8	9.525	4.76	3.81
		WNMG060412E-ZM		●	●		●		●	●							1.2	9.525	4.76	3.81
		WNMG060408-ZM		●	●	●											0.8	9.525	4.76	3.81
		WNMG060412-ZM		●	●	●											1.2	9.525	4.76	3.81
		WNMG080404-ZM		●	●		●		●	●							0.4	12.7	4.76	5.16
		WNMG080408-ZM		●	●	●	●		●	●				●	●		0.8	12.7	4.76	5.16
		WNMG080412-ZM	●	●	●	●	●		●	●							1.2	12.7	4.76	5.16
		WNMG080416-ZM		●	●		●		●	●							1.6	12.7	4.76	5.16

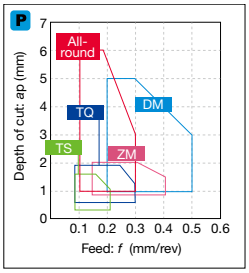
● : Line up

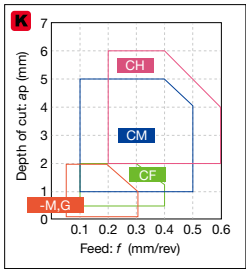
Chip control range



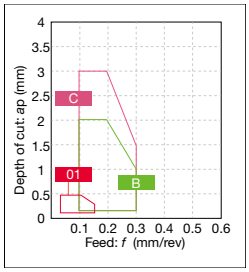








*-M,G: Without chipbreaker



Reference pages: External toolholder → C024 - Internal toolholder → D031 -
TungCap → C024 -, K010

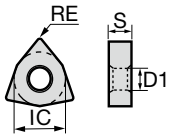
Insert NEGATIVE TYPE

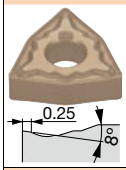
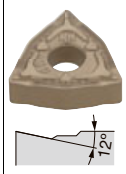
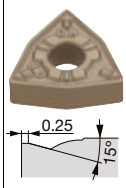
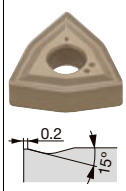
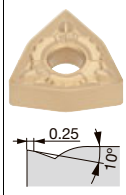
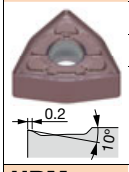
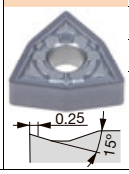
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

WN

Trigon, 80° with hole

P	Steel	●	●ɔ	ɔ✣	✣	ɔ									ɔ✣	✣	ɔ	●	●ɔ			●ɔ	●ɔ		●						
M	Stainless		●ɔ			●						●	ɔ	●ɔ	✣	ɔ	●	●ɔ						●							
K	Cast iron	●ɔ	●ɔ				●	●ɔ	●	ɔ	✣					ɔ	●	●ɔ			●ɔ	●ɔ		●						
N	Non-ferrous																							●						
S	Superalloy											●	ɔ			●	●	●ɔ												
H	Hard material																													



Application	Chipbreaker	Designation	Coated																		Cermet		Uncoated	Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120		NS9530	NS520	TH10	RE	IC	S	D1
Medium cutting	**AM**	**WNMG080408-AM**		●	●																			0.8	12.7	4.76	5.16
		WNMG080412-AM		●	●																			1.2	12.7	4.76	5.16
		WNMG080416-AM		●	●																			1.6	12.7	4.76	5.16
	NM	**WNMG060412E-NM**			●																			1.2	9.525	4.76	3.81
		WNMG080408-NM	●	●	●																			0.8	12.7	4.76	5.16
		WNMG080412-NM	●	●	●	●																		1.2	12.7	4.76	5.16
	DM	**WNMG080404-DM**		●	●		●							●	●									0.4	12.7	4.76	5.16
		WNMG080408-DM	●	●	●	●	●							●	●									0.8	12.7	4.76	5.16
		WNMG080412-DM	●	●	●	●	●							●	●									1.2	12.7	4.76	5.16
		WNMG080416-DM		●	●		●							●	●									1.6	12.7	4.76	5.16
	All-round	**WNMG060404**		●	●					●	●	●												0.4	9.525	4.76	3.81
		WNMG060408		●	●					●	●	●												0.8	9.525	4.76	3.81
		**WNMG080404**	●	●	●	●		●	●	●	●	●						●	●		●		●	0.4	12.7	4.76	5.16
		WNMG080408	●	●	●	●		●	●	●	●	●						●	●		●	●	●	0.8	12.7	4.76	5.16
		WNMG080412	●	●	●	●		●	●	●	●	●						●	●				●	1.2	12.7	4.76	5.16
		WNMG080416	●	●	●	●		●	●	●	●													1.6	12.7	4.76	5.16
	SM	**WNMG060404E-SM**					●								●									0.4	9.525	4.76	3.81
		WNMG060408E-SM					●								●									0.8	9.525	4.76	3.81
		**WNMG060412E-SM**					●								●									1.2	9.525	4.76	3.81
		WNMG060408-SM															●							0.8	9.525	4.76	3.81
		WNMG080404-SM					●								●	●								0.4	12.7	4.76	5.16
		WNMG080408-SM					●								●	●	●							0.8	12.7	4.76	5.16
		WNMG080412-SM					●								●	●	●							1.2	12.7	4.76	5.16
	SDM	**WNMG080404-SDM**					●								●	●								0.4	12.7	4.76	5.16
		WNMG080408-SDM					●								●	●								0.8	12.7	4.76	5.16
		WNMG080412-SDM					●								●	●								1.2	12.7	4.76	5.16
	HRM	**WNMG080404-HRM**											●	●										0.4	12.7	4.76	5.16
		WNMG080408-HRM											●	●										0.8	12.7	4.76	5.16
		WNMG080412-HRM											●	●										1.2	12.7	4.76	5.16

● : Line up

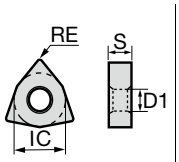
Reference pages: External toolholder → C024 - Internal toolholder → D031 -
TungCap → C024 -, K010

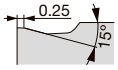
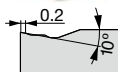
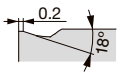
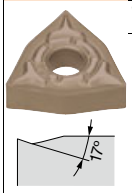
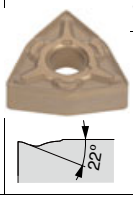
● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

WN

Trigon, 80° with hole

P	Steel	●	●ⓒ	ⓒ✠	✠										●ⓒ	●ⓒ		●ⓒ																
M	Stainless		●ⓒ																														
K	Cast iron	●ⓒ	●ⓒ			●	●ⓒ	●	ⓒ	✠					●ⓒ	●ⓒ		●ⓒ																
N	Non-ferrous																																
S	Superalloy																																
H	Hard material																																

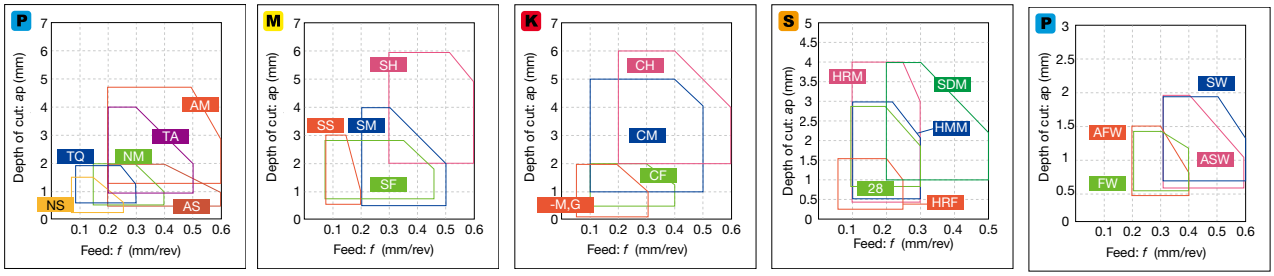


Application	Chipbreaker	Designation	Coated									Coated cermet		Cermet				Dimension (mm)			
			T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	GT9530	AT9530	NS9530				RE	IC	S	D1
Medium cutting	**CM**	**WNMG080404-CM**	●	●			●	●	●		●								0.4	12.7	4.76	5.16
		WNMG080408-CM	●	●			●	●	●	●	●	●							0.8	12.7	4.76	5.16
		WNMG080412-CM	●	●			●	●	●	●	●	●							1.2	12.7	4.76	5.16
Finishing cutting (wiper)	**SW**	**WNMG060408E-SW**	●	●	●						●								0.8	9.525	4.76	3.81
		WNMG060412E-SW	●	●	●						●								1.2	9.525	4.76	3.81
		WNMG080408-SW	●	●	●				●		●								0.8	12.7	4.76	5.16
		WNMG080412-SW		●	●				●		●								1.2	12.7	4.76	5.16
		*Wiper																				
	ASW	**WNMG060408-ASW**	●	●	●														0.8	9.525	4.76	3.81
		WNMG060412-ASW	●	●	●	●													1.2	9.525	4.76	3.81
		WNMG080408-ASW	●	●	●	●													0.8	12.7	4.76	5.16
		WNMG080412-ASW	●	●	●	●													1.2	12.7	4.76	5.16
		*Wiper																				
Medium cutting	**TQ**	**WNMG080404-TQ**		●	●								●	●	●				0.4	12.7	4.76	5.16
		WNMG080408-TQ		●	●								●	●	●				0.8	12.7	4.76	5.16
	TA	**WNMG080408-TA**		●	●														0.8	12.7	4.76	5.16
		WNMG080412-TA		●	●														1.2	12.7	4.76	5.16

* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: External toolholder → C024 - Internal toolholder → D031 - TungCap → C024 -, K010

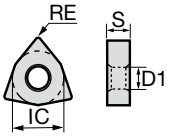
Insert NEGATIVE TYPE

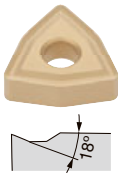
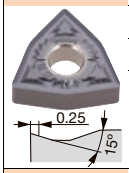
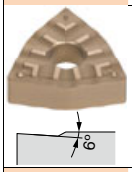
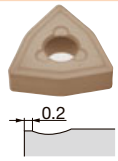
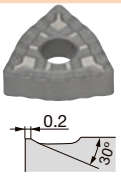
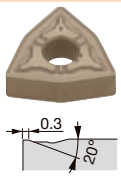
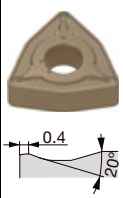
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

WN

Trigon, 80° with hole

P	Steel	● ●ɔ ɔ✣ ✣ ɔ ✣ ✣ ✣ ɔ ●ɔ ●ɔ ●ɔ ●ɔ ●ɔ ●
M	Stainless	●ɔ ● ɔ ●ɔ ✣ ɔ ●ɔ ●ɔ ●ɔ ●
K	Cast iron	●ɔ ●ɔ ●ɔ ●ɔ ɔ ●ɔ ●ɔ ●ɔ ●ɔ ●ɔ ●ɔ ● ɔ✣
N	Non-ferrous	● ɔ✣
S	Superalloy	ɔ ɔ ● ●ɔ ɔ✣
H	Hard material	



Application	Chipbreaker	Designation	Coated T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH330	Coated cermet GT720	Cermet NS9530	Uncoated TH10	KS20	RE	IC	S	D1
Medium cutting	SA	WNMG080408-SA					●			●	●		●	●					●	0.8	12.7	4.76	5.16
		WNMG080412-SA					●			●	●			●						1.2	12.7	4.76	5.16
	HMM	WNMG080404-HMM										●								0.4	12.7	4.76	5.16
		WNMG080408-HMM										●								0.8	12.7	4.76	5.16
		WNMG080412-HMM										●								1.2	12.7	4.76	5.16
	27	WNMG080408-27			●															0.8	12.7	4.76	5.16
		WNMG080404-33														●				0.4	12.7	4.76	5.16
	33	WNMG080408-33																●		0.8	12.7	4.76	5.16
		WNMG080404-37															●			0.4	12.7	4.76	5.16
	37	WNMG080408-37		●											●		●			0.8	12.7	4.76	5.16
																							
Medium to heavy cutting	TH	WNMG080408-TH	●	●	●	●		●	●	●				●						0.8	12.7	4.76	5.16
		WNMG080412-TH	●	●	●	●		●	●					●						1.2	12.7	4.76	5.16
		WNMG080416-TH	●	●	●			●	●					●						1.6	12.7	4.76	5.16
		WNMG100612-TH		●	●															1.2	15.875	6.35	6.35
		WNMG100616-TH		●	●															1.6	15.875	6.35	6.35
	THS	WNMG080408-THS	●	●	●	●														0.8	12.7	4.76	5.16
		WNMG080412-THS	●	●	●	●														1.2	12.7	4.76	5.16
		WNMG080416-THS		●	●															1.6	12.7	4.76	5.16
		WNMG100612-THS		●	●	●														1.2	15.875	6.35	6.35
		WNMG100616-THS		●	●	●														1.6	15.875	6.35	6.35

● : Line up

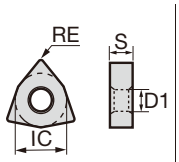
Reference pages: External toolholder → C024 - Internal toolholder → D031 -
TungCap → C024 -, K010

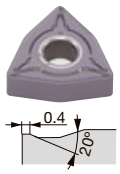
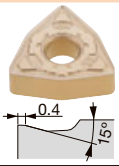
● : Continuous cutting
ᑕ : Light interrupted cutting
✠ : Heavy interrupted cutting

WN

Trigon, 80°
with hole

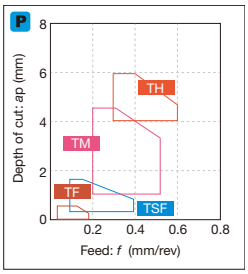
		T505	T515	T5105	T5115	T5125	AH6225	AH6235	NS520	TH10	LX10	LX11
P	Steel						ᑕ✠	✠	●ᑕ	●		
M	Stainless						●ᑕ	✠		●		
K	Cast iron	●	●ᑕ	●	ᑕ	✠			●ᑕ	●		
N	Non-ferrous									●		
S	Superalloy											
H	Hard material										●ᑕ	●ᑕ

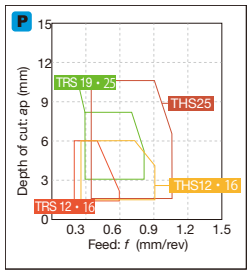


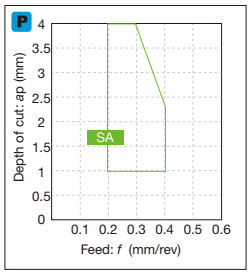
Application	Chipbreaker	Designation	RE	IC	S	D1
Medium to heavy cutting	SH	WNMG080408-SH	0.8	12.7	4.76	5.16
		WNMG080412-SH	1.2	12.7	4.76	5.16
						
	CH	WNMG080408-CH	0.8	12.7	4.76	5.16
		WNMG080412-CH	1.2	12.7	4.76	5.16
						
Finishing to medium cutting	-	WNMA060404E	0.4	9.525	4.76	3.81
		WNMA060408E	0.8	9.525	4.76	3.81
		WNMA060412E	1.2	9.525	4.76	3.81
		WNMA060416E	1.6	9.525	4.76	3.81
		WNMA080404	0.4	12.7	4.76	5.16
		WNMA080408	0.8	12.7	4.76	5.16
		WNMA080412	1.2	12.7	4.76	5.16
		WNMA080416	1.6	12.7	4.76	5.16
		WNGA080404	0.4	12.7	4.76	5.16
		WNGA080408	0.8	12.7	4.76	5.16
		WNGA080412	1.2	12.7	4.76	5.16

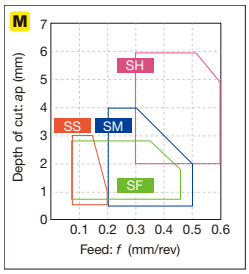
● : Line up

Chip control range

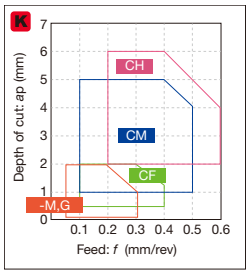


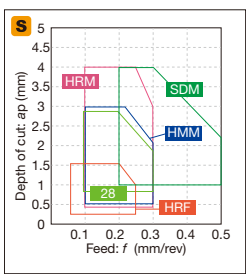






*-M,G: Without chipbreaker





Reference pages: External toolholder → C024 - Internal toolholder → D031 -
TungCap → C024 -, K010

Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

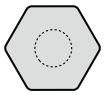
YN

Rhombic, 25° with hole

| | | |

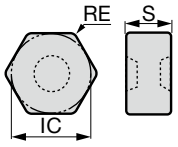
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

HN



Hexagonal, 120° without hole

P	Steel	
M	Stainless	
K	Cast iron	●◐
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Designation	Ceramic FX105	RE	IC	S	D1
Finishing to medium cutting	-	HNGD050712	●	1.2	12.7	7.94	-
		HNGD050716	●	1.6	12.7	7.94	-

● : Line up

Reference pages: HNGD...: External toolholder → C083

Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

CC

Rhombic, 80° with hole Positive 7°

| | | |

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CC

Rhombic, 80° with hole Positive 7°

| | | |

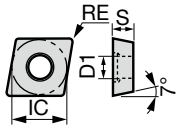
Insert POSITIVE TYPE

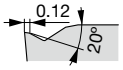
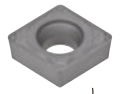
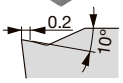
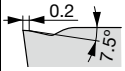
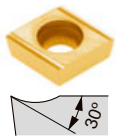
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CC

Rhombic, 80° with hole Positive 7°

P	Steel	●ɔ	ɔ✣	ɔ			ɔ✣	ɔ	●ɔ	ɔ	●ɔ				●ɔ				●ɔ				●						
M	Stainless	●ɔ		●	●	ɔ	●ɔ	ɔ	●ɔ	ɔ	●ɔ												●						
K	Cast iron	●ɔ						ɔ		ɔ					●ɔ				●ɔ				●						
N	Non-ferrous																						●						
S	Superalloy				●	ɔ		●																					
H	Hard material																												

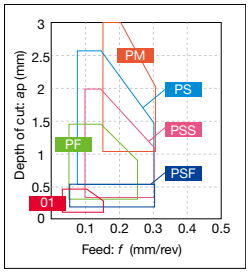


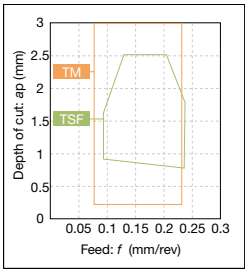
Application	Chipbreaker	Designation	Coated											Coated cermet		Cermet		Uncoated	Dimension (mm)			
			T9215	T9225	T6215	AH8005	AH8015	AH6225	AH725	SH7025	SH725	GH730	J740	GT9530		NS9530		TH10	RE	IC	S	D1
Finishing	PSF	CCMT060202-PSF							●					●		●			0.2	6.35	2.38	2.8
		CCMT060204-PSF	●	●		●	●		●					●		●			0.4	6.35	2.38	2.8
		CCMT09T302-PSF							●							●			0.2	9.525	3.97	4.4
		CCMT09T304-PSF	●	●		●	●		●					●		●			0.4	9.525	3.97	4.4
		CCMT09T308-PSF	●	●					●					●		●			0.8	9.525	3.97	4.4
	PF	CCMT060202-PF										●		●		●			0.2	6.35	2.38	2.8
		CCMT060204-PF						●				●		●		●			0.4	6.35	2.38	2.8
		CCMT060208-PF												●		●			0.8	6.35	2.38	2.8
		CCMT09T302-PF										●				●			0.2	9.525	3.97	4.4
		CCMT09T304-PF										●		●		●			0.4	9.525	3.97	4.4
		CCMT09T308-PF		●										●		●			0.8	9.525	3.97	4.4
	TSF	CCMT060202-TSF	●	●	●		●	●								●			0.2	6.35	2.38	2.8
		CCMT060204-TSF	●	●	●		●	●								●			0.4	6.35	2.38	2.8
		CCMT060208-TSF	●	●	●		●	●								●			0.8	6.35	2.38	2.8
		CCMT09T302-TSF	●	●	●		●	●								●			0.2	9.525	3.97	4.4
		CCMT09T304-TSF	●	●	●		●	●								●			0.4	9.525	3.97	4.4
		CCMT09T308-TSF	●	●	●		●	●								●			0.8	9.525	3.97	4.4
Finishing (sharp edge)	J10	CCGT060200FR-J10								●	●		●					●	0.03	6.35	2.38	2.8
		CCGT060200FL-J10									●		●					●	0.03	6.35	2.38	2.8
		CCGT060201FR-J10								●	●		●			●		●	0.1	6.35	2.38	2.8
		CCGT060201FL-J10									●		●					●	0.1	6.35	2.38	2.8
		CCGT060202FR-J10								●	●		●			●		●	0.2	6.35	2.38	2.8
		CCGT060202FL-J10								●	●		●			●		●	0.2	6.35	2.38	2.8
		CCGT09T300FR-J10								●	●		●					●	0.03	9.525	3.97	4.4
		CCGT09T300FL-J10									●		●					●	0.03	9.525	3.97	4.4
		CCGT09T301FR-J10								●	●		●					●	0.1	9.525	3.97	4.4
		CCGT09T301FL-J10									●		●					●	0.1	9.525	3.97	4.4
		CCGT09T302FR-J10								●	●		●					●	0.2	9.525	3.97	4.4
		CCGT09T302FL-J10								●	●		●					●	0.2	9.525	3.97	4.4
		CCGT09T304FR-J10									●								0.4	9.525	3.97	4.4

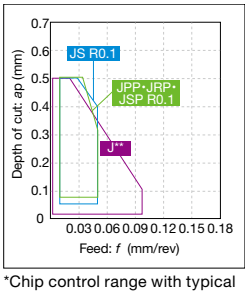
*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

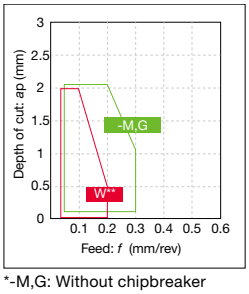
Chip control range







*Chip control range with typical R0.1



*-M,G: Without chipbreaker

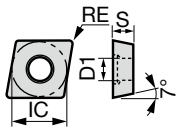
Reference pages: External toolholder → C030 - Internal toolholder → D014 -
J-Series toolholder → G040 - PINZBOHR® → K178 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

CC

Rhombic, 80° with hole Positive 7°

P	Steel	●ⓒ	●ⓒ	●ⓒ	●			●ⓒ				●ⓒ				●	ⓒ																
M	Stainless	●ⓒ	●ⓒ	●ⓒ	●											●	ⓒ																
K	Cast iron			●ⓒ	●			●ⓒ				●ⓒ				●																	
N	Non-ferrous															●																	
S	Superalloy		●ⓒ		●																												
H	Hard material																																



Application	Chipbreaker	Designation	Coated					Coated cermet		Cermet		Uncoated				Dimension (mm)			
			SH7025	SH725	SH730	GH330	GH110	GT9530		NS9530		TH10	UX30			RE	IC	S	D1
Finishing (sharp edge)	W08	CCGT03X100FL-W08	●	●												0.03	3.57	1.39	1.9
		CCGT03X100FR-W08		●												0.03	3.57	1.39	1.9
		CCGT03X101FL-W08	●	●												0.1	3.57	1.39	1.9
		CCGT03X101FR-W08		●												0.1	3.57	1.39	1.9
		CCGT03X102FL-W08	●	●												0.2	3.57	1.39	1.9
		CCGT03X102FR-W08	●	●												0.2	3.57	1.39	1.9
		CCGT03X104FL-W08	●	●												0.4	3.57	1.39	1.9
		CCGT03X104FR-W08	●	●												0.4	3.57	1.39	1.9
		CCGT04T100FL-W08	●	●												0.03	4.37	1.79	2.2
		CCGT04T100FR-W08		●												0.03	4.37	1.79	2.2
		CCGT04T101FL-W08	●	●												0.1	4.37	1.79	2.2
		CCGT04T101FR-W08		●												0.1	4.37	1.79	2.2
		CCGT04T102FL-W08	●	●												0.2	4.37	1.79	2.2
		CCGT04T102FR-W08	●	●												0.2	4.37	1.79	2.2
		CCGT04T104FL-W08	●	●												0.4	4.37	1.79	2.2
		CCGT04T104FR-W08	●	●												0.4	4.37	1.79	2.2
Finishing	W08	CCGT03X100R-W08			●							●				0.03	3.57	1.39	1.9
		CCGT03X100L-W08			●							●				0.03	3.57	1.39	1.9
		CCGT03X101R-W08			●							●				0.1	3.57	1.39	1.9
		CCGT03X101L-W08			●							●				0.1	3.57	1.39	1.9
		CCGT03X102R-W08			●							●				0.2	3.57	1.39	1.9
		CCGT03X102L-W08			●							●				0.2	3.57	1.39	1.9
		CCGT03X104R-W08			●							●				0.4	3.57	1.39	1.9
		CCGT03X104L-W08			●							●				0.4	3.57	1.39	1.9
		CCGT04T100R-W08			●							●				0.03	4.37	1.79	2.2
		CCGT04T100L-W08			●							●				0.03	4.37	1.79	2.2
		CCGT04T101R-W08			●							●				0.1	4.37	1.79	2.2
		CCGT04T101L-W08			●							●				0.1	4.37	1.79	2.2
		CCGT04T102R-W08			●							●				0.2	4.37	1.79	2.2
		CCGT04T102L-W08			●							●				0.2	4.37	1.79	2.2
		CCGT04T104R-W08			●							●				0.4	4.37	1.79	2.2
		CCGT04T104L-W08			●							●				0.4	4.37	1.79	2.2
	W15	CCGT060200R-W15										●				0.03	6.35	2.38	2.8
		CCGT060200L-W15								●		●				0.03	6.35	2.38	2.8
		CCGT060202R-W15								●		●				0.2	6.35	2.38	2.8
		CCGT060202L-W15						●		●		●				0.2	6.35	2.38	2.8
		CCGT060204R-W15				●				●		●				0.4	6.35	2.38	2.8
		CCGT060204L-W15				●	●	●		●		●	●			0.4	6.35	2.38	2.8

● : Line up

Reference pages: External toolholder → C030 - Internal toolholder → D014 -
J-Series toolholder → G040 - PINZBOHR® → K178 -

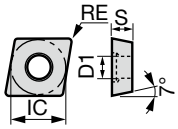
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CC

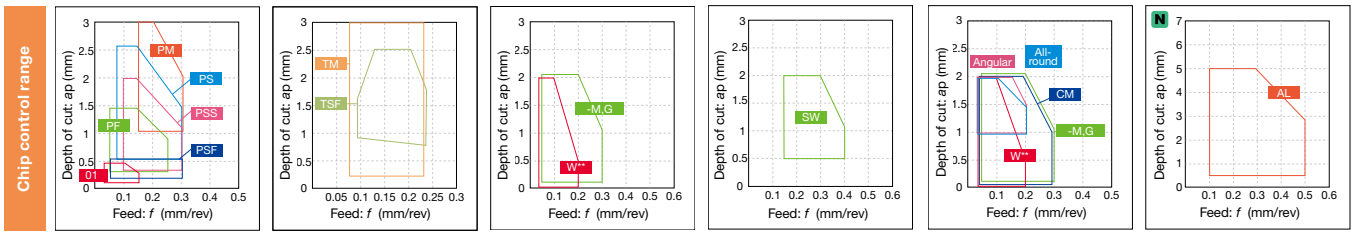
Rhombic, 80° with hole Positive 7°

P	Steel	●ɔ	ɔ✣	ɔ							ɔ✣	✣	ɔ	●ɔ	ɔ	●ɔ	●		●ɔ	●ɔ		●ɔ				●			
M	Stainless	●ɔ		●				●	ɔ	●ɔ	✣	ɔ	●ɔ	ɔ	●ɔ	●										●			
K	Cast iron	●ɔ			●	●ɔ	ɔ					ɔ	●ɔ	ɔ	●ɔ	●		●ɔ	●ɔ		●ɔ					●			
N	Non-ferrous																									●			
S	Superalloy							●	ɔ			●	●ɔ			●													
H	Hard material																												



Application	Chipbreaker	Designation	Coated														Coated cermet		Cermet	Uncoated	Dimension (mm)			
			T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GH730	GH330	GH110	GT9530	AT9530	NS9530	TH10	RE	IC	S	D1
Finishing	**W20**	**CCGT09T302R-W20**																		●	●	0.2	9.525	3.97	4.4
		CCGT09T302L-W20																●		●	●	0.2	9.525	3.97	4.4
		CCGT09T304R-W20																		●		0.4	9.525	3.97	4.4
		CCGT09T304L-W20														●	●	●		●	●	0.4	9.525	3.97	4.4
		CCGT09T308R-W20																		●		0.8	9.525	3.97	4.4
		CCGT09T308L-W20																●		●		0.8	9.525	3.97	4.4
Finishing to medium cutting	**PSS**	**CCMT060204-PSS**	●	●	●				●	●	●	●	●					●		●		0.4	6.35	2.38	2.8
		CCMT060208-PSS	●	●	●				●	●	●	●	●					●		●		0.8	6.35	2.38	2.8
		CCMT09T304-PSS	●	●	●				●	●	●	●	●					●		●		0.4	9.525	3.97	4.4
		CCMT09T308-PSS	●	●	●				●	●	●	●	●					●		●		0.8	9.525	3.97	4.4
		CCMT120404-PSS	●	●	●						●	●	●									0.4	12.7	4.76	5.5
		CCMT120408-PSS	●	●	●						●	●	●									0.8	12.7	4.76	5.5
		CCMT120412-PSS	●	●	●						●	●	●									1.2	12.7	4.76	5.5
	PS	**CCMT060202-PS**	●	●	●				●	●	●	●	●	●	●			●	●	●		0.2	6.35	2.38	2.8
		CCMT060204-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.4	6.35	2.38	2.8
		CCMT060208-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.8	6.35	2.38	2.8
		CCMT09T302-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.2	9.525	3.97	4.4
		CCMT09T304-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.4	9.525	3.97	4.4
		CCMT09T308-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.8	9.525	3.97	4.4
		CCMT120404-PS	●	●	●				●	●	●	●	●									0.4	12.7	4.76	5.5
		CCMT120408-PS	●	●	●				●	●	●	●	●									0.8	12.7	4.76	5.5
		CCMT120412-PS	●	●	●						●	●	●									1.2	12.7	4.76	5.5
	TM	**CCMT060202-TM**	●	●	●					●	●									●		0.2	6.35	2.38	2.8
		CCMT060204-TM	●	●	●					●	●									●		0.4	6.35	2.38	2.8
		CCMT060208-TM	●	●	●					●	●									●		0.8	6.35	2.38	2.8
		CCMT09T302-TM	●	●	●					●	●									●		0.2	9.525	3.97	4.4
		CCMT09T304-TM	●	●	●					●	●									●		0.4	9.525	3.97	4.4
		CCMT09T308-TM	●	●	●					●	●									●		0.8	9.525	3.97	4.4
	CM	**CCMT060204-CM**				●	●	●														0.4	6.35	2.38	2.8
		CCMT060208-CM				●	●	●														0.8	6.35	2.38	2.8
		CCMT09T304-CM				●	●	●														0.4	9.525	3.97	4.4
		CCMT09T308-CM				●	●	●														0.8	9.525	3.97	4.4
		CCMT09T312-CM						●														1.2	9.525	3.97	4.4
		CCMT120404-CM						●														0.4	12.7	4.76	5.5
		CCMT120408-CM						●														0.8	12.7	4.76	5.5

● : Line up



*-M,G: Without chipbreaker

*-M,G: Without chipbreaker

Reference pages: External toolholder → C030 - Internal toolholder → D014 -
J-Series toolholder → G040 - PINZBOHR® → K178 -

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

CC

Rhombic, 80° with hole Positive 7°

| | | |

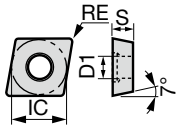
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CC

Rhombic, 80° with hole Positive 7°

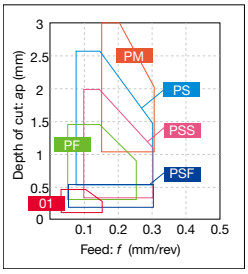
P	Steel	●ɔ	ɔ✣	ɔ	ɔ✣	✣	ɔ	●ɔ	ɔ	●				●ɔ			●ɔ			●									
M	Stainless	●ɔ		●	●ɔ	✣	ɔ	●ɔ	ɔ	●										●									
K	Cast iron	●ɔ					ɔ	●ɔ	ɔ	●				●ɔ			●ɔ			●									
N	Non-ferrous																			●									
S	Superalloy						●	●ɔ		●																			
H	Hard material																												

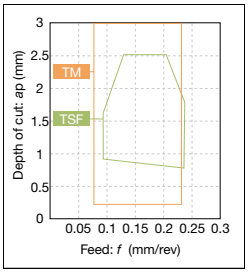


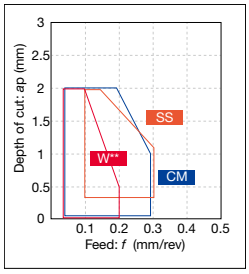
Application	Chipbreaker	Designation	Coated									Coated cermet		Cermet		Uncoated				Dimension (mm)			
			T9215	T9225	T6215	AH6225	AH6235	AH725	AH120	GH730	GH110	GT9530		NS9530		TH10				RE	IC	S	D1
Finishing to medium cutting	-	CCGW060202														●				0.2	6.35	2.38	2.8
		CCGW060204									●					●				0.4	6.35	2.38	2.8
		CCGW09T304														●				0.4	9.525	3.97	4.4
Medium cutting	PM	CCMT060204-PM	●	●	●	●	●	●	●	●		●		●						0.4	6.35	2.38	2.8
		CCMT060208-PM	●	●	●	●	●	●	●	●		●		●						0.8	6.35	2.38	2.8
		CCMT09T304-PM	●	●	●	●	●	●	●	●		●		●						0.4	9.525	3.97	4.4
		CCMT09T308-PM	●	●	●	●	●	●	●	●		●		●						0.8	9.525	3.97	4.4
		CCMT09T312-PM	●	●	●	●	●	●												1.2	9.525	3.97	4.4
		CCMT120408-PM			●	●	●	●												0.8	12.7	4.76	5.5
		CCMT120412-PM			●	●	●	●												1.2	12.7	4.76	5.5
	24	CCMT060202-24		●										●						0.2	6.35	2.38	2.8
		CCMT060204-24	●	●					●					●						0.4	6.35	2.38	2.8
		CCMT060208-24	●	●		●								●						0.8	6.35	2.38	2.8
		CCMT09T302-24		●										●						0.2	9.525	3.97	4.4
		CCMT09T304-24	●	●										●						0.4	9.525	3.97	4.4
		CCMT09T308-24	●	●		●			●					●						0.8	9.525	3.97	4.4
		CCMT120408-24	●	●					●					●						0.8	12.7	4.76	5.5

● : Line up

Chip control range







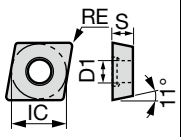
Reference pages: External toolholder → C030 - Internal toolholder → D014 -
J-Series toolholder → G040 - PINZBOHR® → K178 -

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

CP

Rhombic, 80° with hole Positive 11°

P	Steel	●ɔ	ɔ✠	ɔ		ɔ✠	✠	ɔ							●ɔ				●ɔ				●								
M	Stainless	●ɔ		●	ɔ	●ɔ	✠	ɔ															●								
K	Cast iron	●ɔ						ɔ							●ɔ				●ɔ				●								
N	Non-ferrous																						●								
S	Superalloy				ɔ			●																							
H	Hard material																														



Application	Chipbreaker	Designation	Coated								Coated cermet	Cermet	Uncoated			Dimension (mm)			
			T9215	T9225	T6215	AH8015	AH6225	AH6235	AH725		GT9530	NS9530	TH10			RE	IC	S	D1
Finishing	**PSF**	**CPMT060202-PSF**							●							0.2	6.35	2.38	2.8
		CPMT060204-PSF	●	●					●							0.4	6.35	2.38	2.8
		CPMT080202-PSF							●							0.2	7.94	2.38	3.4
		CPMT080204-PSF	●	●					●							0.4	7.94	2.38	3.4
		CPMT090302-PSF							●		●	●				0.2	9.525	3.18	4.4
		CPMT090304-PSF	●	●					●		●	●				0.4	9.525	3.18	4.4
		CPMT09T302-PSF							●							0.2	9.525	3.97	4.4
		CPMT09T304-PSF	●	●					●							0.4	9.525	3.97	4.4
	PF	**CPMT090302-PF**									●	●				0.2	9.525	3.18	4.4
		CPMT090304-PF									●	●				0.4	9.525	3.18	4.4
	TSF	**CPMT060202-TSF**	●	●	●	●	●					●				0.2	6.35	2.38	2.8
		CPMT060204-TSF	●	●	●	●	●					●				0.4	6.35	2.38	2.8
		CPMT060208-TSF	●	●	●	●	●					●				0.8	6.35	2.38	2.8
		CPMT09T302-TSF	●	●	●	●	●					●				0.2	9.525	3.97	4.4
		CPMT09T304-TSF	●	●	●	●	●					●				0.4	9.525	3.97	4.4
		CPMT09T308-TSF	●	●	●	●	●					●				0.8	9.525	3.97	4.4
	W15	**CPGT050202L-W15**										●				0.2	5.56	2.35	2.5
		CPGT050204L-W15										●				0.4	5.56	2.35	2.5
		CPGT080202R-W15											●			0.2	7.94	2.38	3.4
		CPGT080202L-W15										●	●			0.2	7.94	2.38	3.4
		CPGT080204R-W15											●			0.4	7.94	2.38	3.4
		CPGT080204L-W15										●	●			0.4	7.94	2.38	3.4
	W20	**CPGT090302R-W20**										●	●			0.2	9.525	3.18	4.4
		CPGT090302L-W20										●	●			0.2	9.525	3.18	4.4
		CPGT090304R-W20										●	●			0.4	9.525	3.18	4.4
		CPGT090304L-W20										●	●			0.4	9.525	3.18	4.4
Finishing to medium cutting	**PSS**	**CPMT060204-PSS**	●	●					●		●	●				0.4	6.35	2.38	2.8
		CPMT080204-PSS	●	●	●		●	●	●		●	●				0.4	7.94	2.38	3.4
		CPMT080208-PSS	●	●	●		●	●	●		●	●				0.8	7.94	2.38	3.4
		CPMT090304-PSS	●	●	●		●	●	●		●	●				0.4	9.525	3.18	4.4
		CPMT090308-PSS	●	●	●		●	●	●		●	●				0.8	9.525	3.18	4.4
		CPMT09T304-PSS	●	●					●							0.4	9.525	3.97	4.4
		CPMT09T308-PSS	●	●					●							0.8	9.525	3.97	4.4

● : Line up

Reference pages: Internal toolholder → D018 - Cartridge → K181 -
Boring bar tool → K199

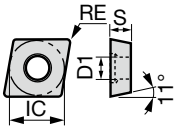
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CP

Rhombic, 80° with hole Positive 11°

P	Steel	●ɔ	ɔ✣	ɔ						ɔ✣	✣		ɔ	●ɔ	ɔ			●ɔ	●ɔ		●ɔ			●				
M	Stainless	●ɔ		●				●	ɔ	●ɔ	✣		ɔ	●ɔ	ɔ									●				
K	Cast iron	●ɔ			●	●ɔ	ɔ						ɔ	●ɔ	ɔ			●ɔ	●ɔ		●ɔ			●				
N	Non-ferrous																							●				
S	Superalloy							●	ɔ			ɔ	●	●ɔ														
H	Hard material																												



Application	Chipbreaker	Designation	Coated														Coated cermet		Cermet	Uncoated	Dimension (mm)			
			T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH730	GT9530	AT9530	NS9530	TH10	RE	IC	S	D1
Finishing to medium cutting	**PS**	**CPMT060202-PS**	●	●	●				●	●	●			●		●			●		0.2	6.35	2.38	2.8
		CPMT060204-PS	●	●	●				●	●	●			●	●	●	●	●	●		0.4	6.35	2.38	2.8
		CPMT060208-PS	●	●	●					●	●								●		0.8	6.35	2.38	2.8
		CPMT080202-PS	●	●	●						●	●		●			●	●	●		0.2	7.94	2.38	3.4
		CPMT080204-PS	●	●	●						●	●		●			●	●	●		0.4	7.94	2.38	3.4
		CPMT080208-PS	●	●	●						●	●		●			●	●	●		0.8	7.94	2.38	3.4
		CPMT090304-PS	●	●	●						●	●		●			●	●	●		0.4	9.525	3.18	4.4
		CPMT090308-PS	●	●	●						●	●		●			●	●	●	●	0.8	9.525	3.18	4.4
		CPMT09T302-PS	●	●	●				●	●	●			●					●		0.2	9.525	3.97	4.4
		CPMT09T304-PS	●	●	●				●	●	●			●					●		0.4	9.525	3.97	4.4
		CPMT09T308-PS	●	●	●				●	●	●			●	●				●		0.8	9.525	3.97	4.4
	TM	**CPMT060202-TM**	●	●	●					●	●								●		0.2	6.35	2.38	2.8
		CPMT060204-TM	●	●	●					●	●								●		0.4	6.35	2.38	2.8
		CPMT060208-TM	●	●	●					●	●								●		0.8	6.35	2.38	2.8
		CPMT09T302-TM	●	●	●					●	●								●		0.2	9.525	3.97	4.4
		CPMT09T304-TM	●	●	●					●	●								●		0.4	9.525	3.97	4.4
		CPMT09T308-TM	●	●	●					●	●								●		0.8	9.525	3.97	4.4
	CM	**CPMT060204-CM**						●													0.4	6.35	2.38	2.8
		CPMT060208-CM						●													0.8	6.35	2.38	2.8
		CPMT080204-CM						●													0.4	7.94	2.38	3.4
		CPMT080208-CM						●													0.8	7.94	2.38	3.4
		CPMT090304-CM				●	●	●													0.4	9.525	3.18	4.4
		CPMT090308-CM				●	●	●													0.8	9.525	3.18	4.4
		CPMT09T304-CM				●	●	●													0.4	9.525	3.97	4.4
		CPMT09T308-CM				●	●	●													0.8	9.525	3.97	4.4
		CPMT09T312-CM						●													1.2	9.525	3.97	4.4
		CPMT120408-CM						●													0.8	12.7	4.76	5.5
		CPMT120412-CM						●													1.2	12.7	4.76	5.5
	All-round	**CPMT120408**							●	●			●								0.8	12.7	4.76	5.5

● : Line up

Reference pages: Internal toolholder → D018 - Cartridge → K181 -
Boring bar tool → K199

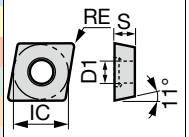
POSITIVE TYPE / DOUBLE SIDED

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

CP

Rhombic, 80° with hole
Positive 11°

P	Steel	●ⓒ ⓒ✠ ⓒ ⓒ ✠ ⓒ ●ⓒ
M	Stainless	●ⓒ ● ●ⓒ ✠ ⓒ
K	Cast iron	●ⓒ ⓒ ⓒ ●ⓒ
N	Non-ferrous	
S	Superalloy	●
H	Hard material	



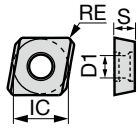
Application	Chipbreaker	Designation	Coated T9215	T9225	T6215	T5115	AH6225	AH6235	AH725	Cermet NS9530	RE	IC	S	D1
Finishing to medium cutting	-	CPMW080204				●					0.4	7.94	2.38	3.4
		CPMW080208				●					0.8	7.94	2.38	3.4
		CPMW090304				●					0.4	9.525	3.18	4.4
		CPMW090308				●					0.8	9.525	3.18	4.4
Medium cutting	PM	CPMT060204-PM			●		●	●	●		0.4	6.35	2.38	2.8
		CPMT060208-PM		●	●		●	●	●		0.8	6.35	2.38	2.8
		CPMT090304-PM		●	●		●	●	●	●	0.4	9.525	3.18	4.4
		CPMT090308-PM		●	●		●	●	●	●	0.8	9.525	3.18	4.4
	24	CPMT080204-24	●								0.4	7.94	2.38	3.4
		CPMT080208-24		●							0.8	7.94	2.38	3.4
		CPMT090308-24		●							0.8	9.525	3.18	4.4
		CPMT120408-24								●	0.8	12.7	4.76	5.5
		CPMT160508-24		●						●	0.8	15.875	5.56	5.5
		CPMT160512-24								●	1.2	15.875	5.56	5.5

● : Line up

CX

Rhombic, 80° with hole

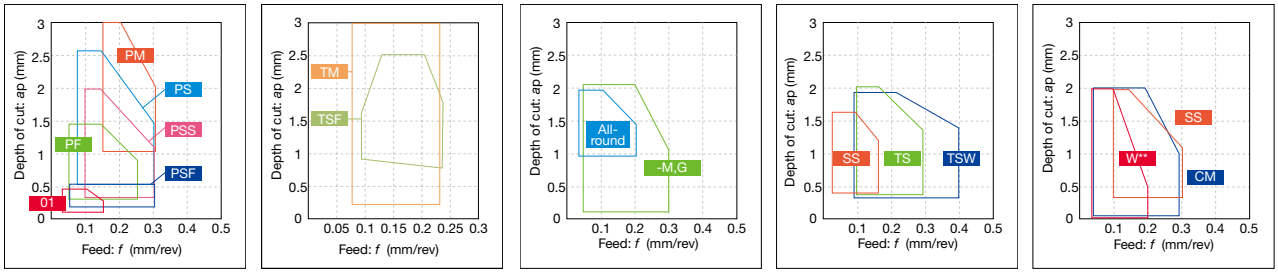
P	Steel	●ⓒ ⓒ✠ ⓒ
M	Stainless	●ⓒ ⓒ ⓒ
K	Cast iron	●ⓒ ⓒ
N	Non-ferrous	
S	Superalloy	ⓒ ●
H	Hard material	



Application	Chipbreaker	Designation	Coated T9215	T9225	AH8015	AH725	RE	IC	S	D1
Finishing to medium cutting	TS	CXMU060302R-TS	●	●	●	●	0.2	6.35	3.18	2.7
		CXMU060302L-TS	●	●	●	●	0.2	6.35	3.18	2.7
		CXMU060304R-TS	●	●	●	●	0.4	6.35	3.18	2.7
		CXMU060304L-TS	●	●	●	●	0.4	6.35	3.18	2.7
		CXMU060308R-TS	●	●	●	●	0.8	6.35	3.18	2.7
		CXMU060308L-TS	●	●	●	●	0.8	6.35	3.18	2.7

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: CPM*... : Internal toolholder → D018 -, Cartridge → K181 -, Boring bar tool → K199
CXMU...: Internal toolholder → D021 -

Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC

Rhombic, 55°
with hole
Positive 7°

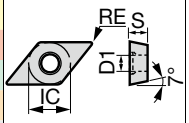
| | | |

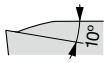
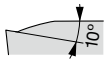
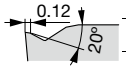
● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC

Rhombic, 55° with hole Positive 7°

P	Steel	●ɔ	ɔ✠			ɔ✠		ɔ						●ɔ				●ɔ																
M	Stainless	●ɔ			●	ɔ	●ɔ		ɔ																									
K	Cast iron	●ɔ							ɔ					●ɔ				●ɔ					●											
N	Non-ferrous																						●											
S	Superalloy				●	ɔ		ɔ	●														●											
H	Hard material																																	

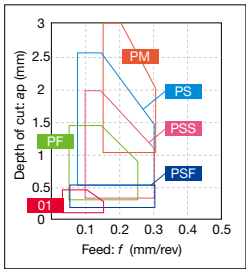


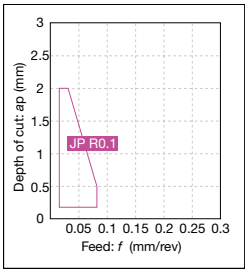
Application	Chipbreaker	Designation	Coated							Coated cermet	Cermet	Uncoated		Dimension (mm)			
			T9215	T9225	AH8005	AH8015	AH6225	AH905	AH725	GT9530	NS9530	KS05F		RE	IC	S	D1
Finishing	JS	DCGT070201M-JS				●	●							<0.1	6.35	2.38	2.8
		DCGT070202M-JS				●	●							<0.2	6.35	2.38	2.8
		DCGT11T301M-JS				●	●							<0.1	9.525	3.97	4.4
		DCGT11T302M-JS				●	●							<0.2	9.525	3.97	4.4
		DCGT11T304M-JS				●	●							<0.4	9.525	3.97	4.4
Finishing (sharp edge)	JS	DCGT11T300MF-JS										●		<0.05	9.525	3.97	4.4
		DCGT11T301MF-JS										●		<0.1	9.525	3.97	4.4
		DCGT11T302MF-JS										●		<0.2	9.525	3.97	4.4
		DCGT11T304MF-JS										●		<0.4	9.525	3.97	4.4
																	
Finishing	PSF	DCMT070202-PSF							●	●	●			0.2	6.35	2.38	2.8
		DCMT070204-PSF	●	●					●	●	●			0.4	6.35	2.38	2.8
		DCMT11T302-PSF							●	●	●			0.2	9.525	3.97	4.4
		DCMT11T304-PSF	●	●	●	●		●	●	●	●			0.4	9.525	3.97	4.4
		DCMT11T308-PSF	●	●	●	●		●	●					0.8	9.525	3.97	4.4

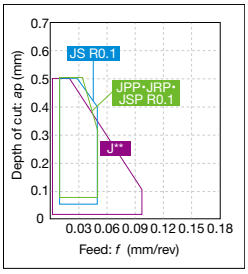
*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

Chip control range







*Chip control range with typical R0.1

Reference pages: External toolholder → C046 - Internal toolholder → D056 -
J-Series toolholder → G052 -

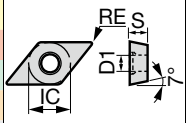
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DC

Rhombic, 55° with hole
Positive 7°

P	Steel	●ɔ	●ɔ✣	●ɔ		●ɔ✣	●ɔ	●ɔ	●ɔ	●ɔ	●ɔ			●ɔ	●ɔ			●ɔ			●									
M	Stainless	●ɔ		●	●ɔ	●ɔ	●ɔ	●ɔ	●ɔ	●ɔ	●ɔ										●									
K	Cast iron	●ɔ							●ɔ	●ɔ				●ɔ	●ɔ			●ɔ			●									
N	Non-ferrous																				●									
S	Superalloy				●ɔ																									
H	Hard material																													



Application	Chipbreaker	Designation	Coated										Coated cermet		Cermet		Uncoated				Dimension (mm)			
			T9215	T9225	T6215	AH8015	AH6225	SH7025	SH725	J740	GH730	GH330	GT9530	J9530	NS9530		TH10				RE	IC	S	D1
Finishing	PF	DCMT070202-PF									●		●		●						0.2	6.35	2.38	2.8
		DCMT070204-PF					●				●		●		●						0.4	6.35	2.38	2.8
		DCMT070208-PF					●						●		●						0.8	6.35	2.38	2.8
		DCMT11T302-PF									●		●		●						0.2	9.525	3.97	4.4
		DCMT11T304-PF									●		●		●						0.4	9.525	3.97	4.4
		DCMT11T308-PF											●								0.8	9.525	3.97	4.4
	TSF	DCMT070202-TSF	●	●	●	●	●								●						0.2	6.35	2.38	2.8
		DCMT070204-TSF	●	●	●	●	●								●						0.4	6.35	2.38	2.8
		DCMT070208-TSF	●	●	●	●	●								●						0.8	6.35	2.38	2.8
		DCMT11T302-TSF	●	●	●	●	●								●						0.2	9.525	3.97	4.4
		DCMT11T304-TSF	●	●	●	●	●								●						0.4	9.525	3.97	4.4
		DCMT11T308-TSF	●	●	●	●	●								●						0.8	9.525	3.97	4.4
Finishing (sharp edge)	J10	DCGT070200FR-J10						●	●	●							●				0.03	6.35	2.38	2.8
		DCGT070200FL-J10							●	●							●				0.03	6.35	2.38	2.8
		DCGT070201FR-J10						●	●	●					●		●				0.1	6.35	2.38	2.8
		DCGT070201FL-J10							●	●					●		●				0.1	6.35	2.38	2.8
		DCGT070202FR-J10						●	●	●					●		●				0.2	6.35	2.38	2.8
		DCGT070202FL-J10						●	●	●					●		●				0.2	6.35	2.38	2.8
		DCGT070204FR-J10						●	●												0.4	6.35	2.38	2.8
		DCGT070204FL-J10						●	●												0.4	6.35	2.38	2.8
		DCGT11T300FR-J10						●	●	●							●				0.03	9.525	3.97	4.4
		DCGT11T300FL-J10							●	●							●				0.03	9.525	3.97	4.4
		DCGT11T301FR-J10						●	●	●					●		●				0.1	9.525	3.97	4.4
		DCGT11T301FL-J10							●	●					●		●				0.1	9.525	3.97	4.4
		DCGT11T302FR-J10						●	●	●					●		●				0.2	9.525	3.97	4.4
		DCGT11T302FL-J10						●	●	●					●		●				0.2	9.525	3.97	4.4
Finishing	J10	DCGT070202R-J10												●							0.2	6.35	2.38	2.8
		DCGT11T302R-J10												●							0.2	9.525	3.97	4.4
	W10	DCGT070200R-W10															●				0.03	6.35	2.38	2.8
		DCGT070200L-W10															●				0.03	6.35	2.38	2.8
		DCGT070202R-W10													●		●				0.2	6.35	2.38	2.8
		DCGT070202L-W10											●		●						0.2	6.35	2.38	2.8
		DCGT070204R-W10										●			●		●				0.4	6.35	2.38	2.8
		DCGT070204L-W10										●	●		●		●				0.4	6.35	2.38	2.8
	W15	DCGT11T302R-W15													●		●				0.2	9.525	3.97	4.4
		DCGT11T302L-W15											●		●						0.2	9.525	3.97	4.4
		DCGT11T304R-W15													●						0.4	9.525	3.97	4.4
		DCGT11T304L-W15										●	●		●		●				0.4	9.525	3.97	4.4
		DCGT11T308R-W15													●		●				0.8	9.525	3.97	4.4
		DCGT11T308L-W15													●		●				0.8	9.525	3.97	4.4

Reference pages: External toolholder → C046 - Internal toolholder → D056 -
J-Series toolholder → G052 -

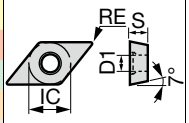
● : Line up

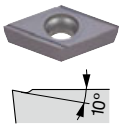
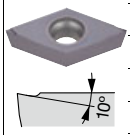
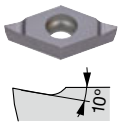
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC

Rhombic, 55° with hole Positive 7°

P	Steel	●◐	●◐
M	Stainless	●◐	●◐
K	Cast iron		
N	Non-ferrous		
S	Superalloy		●◐
H	Hard material		

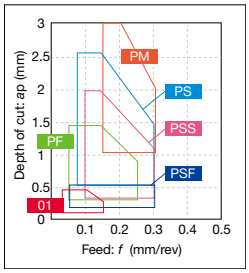


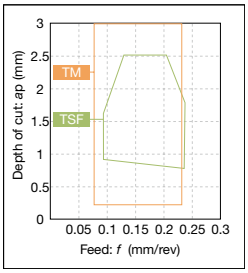
Application	Chipbreaker	Designation	Coated SH725	Coated SH730	RE	IC	S	D1
Finishing (sharp edge)	JPP	DCET0702008MFR-JPP	●	●	<0.08*	6.35	2.38	2.8
		DCET070201MFR-JPP	●	●	<0.1*	6.35	2.38	2.8
		DCET070201MFL-JPP	●	●	<0.1*	6.35	2.38	2.8
		DCET070202MFR-JPP	●	●	<0.2*	6.35	2.38	2.8
		DCET070202MFL-JPP	●	●	<0.2*	6.35	2.38	2.8
		DCET11T3008MFR-JPP	●	●	<0.08*	9.525	3.97	4.4
		DCET11T301MFR-JPP	●	●	<0.1*	9.525	3.97	4.4
		DCET11T301MFL-JPP	●	●	<0.1*	9.525	3.97	4.4
		DCET11T3018MFR-JPP	●	●	<0.18*	9.525	3.97	4.4
		DCET11T3018MFL-JPP	●		<0.18*	9.525	3.97	4.4
		DCET11T302MFR-JPP	●	●	<0.2*	9.525	3.97	4.4
		DCET11T302MFL-JPP	●	●	<0.2*	9.525	3.97	4.4
	JRP	DCET0702008MFR-JRP	●	●	<0.08*	6.35	2.38	2.8
		DCET070201MFR-JRP	●	●	<0.1*	6.35	2.38	2.8
		DCET070201MFL-JRP	●		<0.1*	6.35	2.38	2.8
		DCET070218MFR-JRP		●	<0.18*	6.35	2.38	2.8
		DCET070218MFL-JRP	●	●	<0.18*	6.35	2.38	2.8
		DCET070202MFR-JRP	●	●	<0.2*	6.35	2.38	2.8
		DCET070202MFL-JRP	●	●	<0.2*	6.35	2.38	2.8
		DCET11T3008MFR-JRP	●	●	<0.08*	9.525	3.97	4.4
		DCET11T301MFR-JRP	●	●	<0.1*	9.525	3.97	4.4
		DCET11T3018MFR-JRP		●	<0.18*	9.525	3.97	4.4
		DCET11T3018MFL-JRP	●		<0.18*	9.525	3.97	4.4
		DCET11T302MFR-JRP	●	●	<0.2*	9.525	3.97	4.4
		DCET11T302MFL-JRP	●	●	<0.2*	9.525	3.97	4.4
	JSP	DCET0702008MFN-JSP	●	●	<0.08*	6.35	2.38	2.8
		DCET070201MFN-JSP	●	●	<0.1*	6.35	2.38	2.8
		DCET070202MFN-JSP	●	●	<0.2*	6.35	2.38	2.8
		DCET11T3008MFN-JSP	●	●	<0.08*	9.525	3.97	4.4
		DCET11T301MFN-JSP	●	●	<0.1*	9.525	3.97	4.4
		DCET11T3018MFN-JSP	●	●	<0.18*	9.525	3.97	4.4
		DCET11T302MFN-JSP	●	●	<0.2*	9.525	3.97	4.4

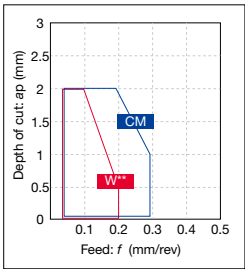
*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

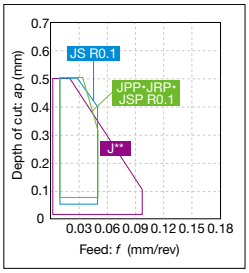
● : Line up

Chip control range









*Chip control range with typical R0.1

Reference pages: External toolholder → C046 - Internal toolholder → D056 -
J-Series toolholder → G052 -

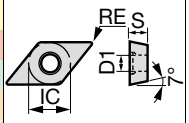
Insert POSITIVE TYPE

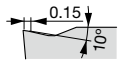
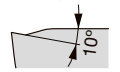
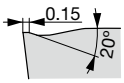
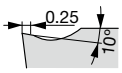
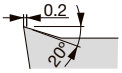
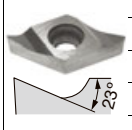
● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC

Rhombic, 55°
with hole
Positive 7°

P	Steel	●	ɔ	✠	ɔ							ɔ	✠	✠		ɔ	●	ɔ	ɔ		●	ɔ			●					●	
M	Stainless	●	ɔ		●					●		ɔ	●	ɔ	✠		ɔ	●	ɔ											●	
K	Cast iron	●	ɔ			●	●	ɔ	ɔ								ɔ	●	ɔ		●	ɔ			●					●	
N	Non-ferrous															ɔ	●	ɔ												●	
S	Superalloy									●		ɔ					●	●	ɔ											●	
H	Hard material																														



Application	Chipbreaker	Designation	Coated														Coated cermet		Cermet	Uncoated		Dimension (mm)			
			T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH730	GT9530	AT9530	NS9530	KS05F	TH10	RE	IC	S	D1
Finishing to medium cutting	**PSS**	**DCMT070204-PSS**	●	●	●						●	●		●			●		●			0.4	6.35	2.38	2.8
		DCMT070208-PSS	●	●	●						●	●		●			●		●			0.8	6.35	2.38	2.8
		DCMT11T304-PSS	●	●	●				●	●	●	●	●	●			●		●			0.4	9.525	3.97	4.4
		DCMT11T308-PSS	●	●	●				●	●	●	●	●	●			●		●			0.8	9.525	3.97	4.4
		DCMT11T312-PSS	●	●	●				●	●	●	●	●	●								1.2	9.525	3.97	4.4
	PS	**DCMT070202-PS**	●	●	●				●	●	●	●		●	●	●	●	●	●			0.2	6.35	2.38	2.8
		DCMT070204-PS	●	●	●				●	●	●	●		●	●	●	●	●	●			0.4	6.35	2.38	2.8
		DCMT070208-PS	●	●	●				●	●	●			●		●	●	●	●			0.8	6.35	2.38	2.8
		DCMT11T302-PS	●	●	●				●	●	●	●		●	●	●	●	●	●			0.2	9.525	3.97	4.4
		DCMT11T304-PS	●	●	●				●	●	●	●	●	●	●	●	●	●	●			0.4	9.525	3.97	4.4
		DCMT11T308-PS	●	●	●				●	●	●	●	●	●	●	●	●	●	●			0.8	9.525	3.97	4.4
		DCMT11T312-PS	●	●	●				●	●	●	●	●	●								1.2	9.525	3.97	4.4
	TM	**DCMT070202-TM**	●	●	●					●	●								●			0.2	6.35	2.38	2.8
		DCMT070204-TM	●	●	●					●	●								●			0.4	6.35	2.38	2.8
		DCMT070208-TM	●	●	●					●	●								●			0.8	6.35	2.38	2.8
		DCMT11T302-TM	●	●	●					●	●								●			0.2	9.525	3.97	4.4
		DCMT11T304-TM	●	●	●					●	●								●			0.4	9.525	3.97	4.4
		DCMT11T308-TM	●	●	●					●	●								●			0.8	9.525	3.97	4.4
	CM	**DCMT070204-CM**						●														0.4	6.35	2.38	2.8
		DCMT070208-CM						●														0.8	6.35	2.38	2.8
		DCMT11T304-CM				●	●	●														0.4	9.525	3.97	4.4
		DCMT11T308-CM				●	●	●														0.8	9.525	3.97	4.4
		DCMT11T312-CM						●														1.2	9.525	3.97	4.4
Finishing to medium cutting for non-ferrous alloys	**AL**	**DCGT070202-AL**																		●		0.2	6.35	2.38	2.8
		DCGT070204-AL																		●		0.4	6.35	2.38	2.8
		DCGT11T302-AL																		●		0.2	9.525	3.97	4.4
		DCGT11T304-AL																		●		0.4	9.525	3.97	4.4
		DCGT11T308-AL																		●		0.8	9.525	3.97	4.4
Finishing to medium cutting	**All-round**	**DCGT070202**																	●			0.2	6.35	2.38	2.8
		DCGT070204																	●			0.4	6.35	2.38	2.8
		DCGT11T302																	●			0.2	9.525	3.97	4.4
		DCGT11T304																	●			0.4	9.525	3.97	4.4
		DCGT11T308																	●			0.8	9.525	3.97	4.4
	Angular	**DCGT070202R**																			●	0.2	6.35	2.38	2.8
		DCGT070202L																			●	0.2	6.35	2.38	2.8
		DCGT070204R																			●	0.4	6.35	2.38	2.8
		DCGT070204L																			●	0.4	6.35	2.38	2.8
		DCGT11T302R																			●	0.2	9.525	3.97	4.4
		DCGT11T302L																			●	0.2	9.525	3.97	4.4
		DCGT11T304R																			●	0.4	9.525	3.97	4.4
		DCGT11T304L																			●	0.4	9.525	3.97	4.4

Reference pages: External toolholder → C046 - Internal toolholder → D056 -
J-Series toolholder → G052 -

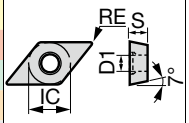
● : Line up

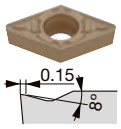
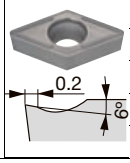
● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC

Rhombic, 55° with hole Positive 7°

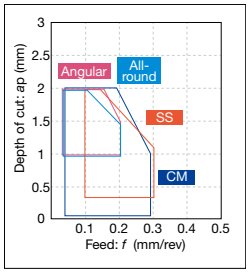
P	Steel	●ɔ	ɔ✠	ɔ		ɔ✠	✠	ɔ	●ɔ	ɔ	●			●ɔ			●ɔ			●									
M	Stainless	●ɔ		●		●ɔ	✠	ɔ	●ɔ	ɔ	●									●									
K	Cast iron	●ɔ			ɔ			ɔ	●ɔ	ɔ	●			●ɔ			●ɔ			●									
N	Non-ferrous																			●									
S	Superalloy							●	●ɔ		●																		
H	Hard material																												

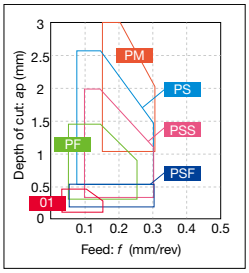


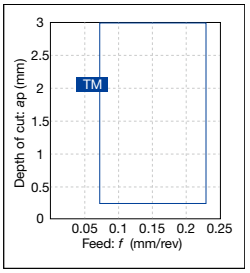
Application	Chipbreaker	Designation	Coated										Coated cermet		Cermet		Uncoated				Dimension (mm)			
			T9215	T9225	T6215	T5115	AH6225	AH6235	AH725	AH120	GH730	GH110	GT9530		NS9530		TH10				RE	IC	S	D1
Finishing to medium cutting	23	DCMT070204-23													●						0.4	6.35	2.38	2.8
		DCMT11T304-23													●						0.4	9.525	3.97	4.4
		DCMT11T308-23													●						0.8	9.525	3.97	4.4
	-	DCMW070204				●															0.4	6.35	2.38	2.8
		DCMW070208				●															0.8	6.35	2.38	2.8
		DCMW11T304				●															0.4	9.525	3.97	4.4
		DCMW11T308				●															0.8	9.525	3.97	4.4
	-	DCGW070202															●				0.2	6.35	2.38	2.8
		DCGW070204										●					●				0.4	6.35	2.38	2.8
		DCGW11T304															●				0.4	9.525	3.97	4.4
		DCGW11T308															●				0.8	9.525	3.97	4.4
Medium cutting	PM	DCMT070204-PM	●	●	●		●	●	●	●	●		●		●						0.4	6.35	2.38	2.8
		DCMT070208-PM	●	●	●		●	●	●	●	●		●		●						0.8	6.35	2.38	2.8
		DCMT11T304-PM	●	●	●		●	●	●	●	●		●		●						0.4	9.525	3.97	4.4
		DCMT11T308-PM	●	●	●		●	●	●	●	●		●		●						0.8	9.525	3.97	4.4
		DCMT11T312-PM		●	●		●	●	●												1.2	9.525	3.97	4.4
	24	DCMT070202-24													●						0.2	6.35	2.38	2.8
		DCMT070204-24	●	●											●						0.4	6.35	2.38	2.8
		DCMT070208-24		●											●						0.8	6.35	2.38	2.8
		DCMT11T302-24		●											●						0.2	9.525	3.97	4.4
		DCMT11T304-24	●	●											●						0.4	9.525	3.97	4.4
		DCMT11T308-24	●	●			●								●						0.8	9.525	3.97	4.4

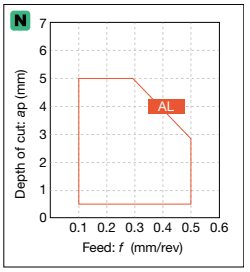
● : Line up

Chip control range









Reference pages: External toolholder → C046 - Internal toolholder → D056 -
J-Series toolholder → G052 -

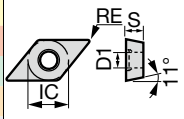
Insert POSITIVE TYPE

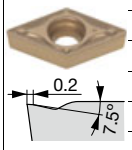
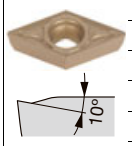
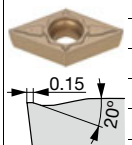
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DP

Rhombic, 55° with hole Positive 11°

P	Steel	●ɔ ɔ✣ ɔ ✣
M	Stainless	●ɔ ● ɔ ●ɔ
K	Cast iron	●ɔ ●ɔ
N	Non-ferrous	
S	Superalloy	ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated T9215	Coated T9225	Coated T6215	Coated AH8015	Coated AH6225	Cermet NS9530	Dimension (mm) RE	IC	S	D1
Finishing	TSF	DPMT070202-TSF	●	●	●	●	●	●	0.2	6.35	2.38	2.8
		DPMT070204-TSF	●	●	●	●	●	●	0.4	6.35	2.38	2.8
		DPMT070208-TSF	●	●	●	●	●	●	0.8	6.35	2.38	2.8
		DPMT11T302-TSF	●	●	●	●	●	●	0.2	9.525	3.97	4.4
		DPMT11T304-TSF	●	●	●	●	●	●	0.4	9.525	3.97	4.4
		DPMT11T308-TSF	●	●	●	●	●	●	0.8	9.525	3.97	4.4
Finishing to medium cutting	PS	DPMT070202-PS	●	●	●	●	●	●	0.2	6.35	2.38	2.8
		DPMT070204-PS	●	●	●	●	●	●	0.4	6.35	2.38	2.8
		DPMT070208-PS	●	●	●	●	●	●	0.8	6.35	2.38	2.8
		DPMT11T302-PS	●	●	●	●	●	●	0.2	9.525	3.97	4.4
		DPMT11T304-PS	●	●	●	●	●	●	0.4	9.525	3.97	4.4
		DPMT11T308-PS	●	●	●	●	●	●	0.8	9.525	3.97	4.4
	TM	DPMT070202-TM	●	●	●	●	●	●	0.2	6.35	2.38	2.8
		DPMT070204-TM	●	●	●	●	●	●	0.4	6.35	2.38	2.8
		DPMT070208-TM	●	●	●	●	●	●	0.8	6.35	2.38	2.8
		DPMT11T302-TM	●	●	●	●	●	●	0.2	9.525	3.97	4.4
		DPMT11T304-TM	●	●	●	●	●	●	0.4	9.525	3.97	4.4
		DPMT11T308-TM	●	●	●	●	●	●	0.8	9.525	3.97	4.4

● : Line up

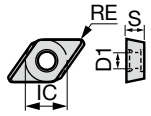
Insert POSITIVE TYPE / DOUBLE SIDE

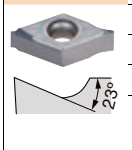
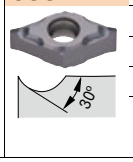
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DX

Rhombic, 55° with hole

P	Steel	●ɔ
M	Stainless	●ɔ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Designation	Coated SH725	Dimension (mm) RE	IC	S	D1
Finishing (sharp edge)	JRP	DXGU070301MFRE-JRP**	●	<0.1*	6.35	3.18	2.7
		DXGU070301MFLE-JRP**	●	<0.1*	6.35	3.18	2.7
		DXGU070302MFRE-JRP**	●	<0.2*	6.35	3.18	2.7
		DXGU070302MFLE-JRP**	●	<0.2*	6.35	3.18	2.7
	JSS	DXGU070301MFR-JSS	●	<0.1*	6.35	3.18	2.7
		DXGU070301MFL-JSS	●	<0.1*	6.35	3.18	2.7
		DXGU070302MFR-JSS	●	<0.2*	6.35	3.18	2.7
		DXGU070302MFL-JSS	●	<0.2*	6.35	3.18	2.7

* Corner radius (RE) with a sign of inequality (<) means minus tolerance.
** For external turning applications

● : Line up

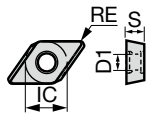
Reference pages: DPMT...: Internal toolholder → D058 -
DXGU...: External toolholder → C045 -, Internal toolholder → D036 -

● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

DX

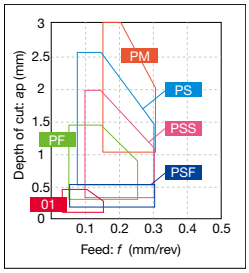
Rhombic, 55° with hole

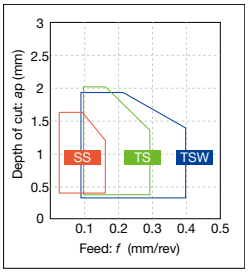
P	Steel	●ᑕ	●✣		ᑕ	●ᑕ		●ᑕ					●ᑕ																		
M	Stainless	●ᑕ			ᑕ	ᑕ	●ᑕ																								
K	Cast iron	●ᑕ			ᑕ			●ᑕ					●ᑕ					●													
N	Non-ferrous																	●													
S	Superalloy				ᑕ	●												●													
H	Hard material																														

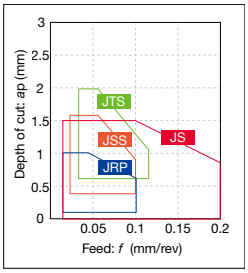


Application	Chipbreaker	Designation	Coated					Coated cermet		Cermet		Uncoated				Dimension (mm)			
			T9215	T9225	AH8015	AH725	SH725	GT9530		NS9530		KS05F				RE	IC	S	D1
Finishing	JSS	DXGU070301MR-JSS				●										<0.1*	6.35	3.18	2.7
		DXGU070301ML-JSS				●										<0.1*	6.35	3.18	2.7
		DXGU070302MR-JSS				●										<0.2*	6.35	3.18	2.7
		DXGU070302ML-JSS				●										<0.2*	6.35	3.18	2.7
	SS	DXGU070302R-SS			●	●		●		●		●				0.2	6.35	3.18	2.7
		DXGU070302L-SS			●	●		●		●		●				0.2	6.35	3.18	2.7
		DXGU070304R-SS			●	●		●		●		●				0.4	6.35	3.18	2.7
		DXGU070304L-SS			●	●		●		●		●				0.4	6.35	3.18	2.7
Finishing to medium cutting (sharp edge)	JS	DXGU070301MFR-JS(1)					●									<0.1*	6.35	3.18	2.7
		DXGU070301MFL-JS(1)					●									<0.1*	6.35	3.18	2.7
		DXGU070302MFR-JS(1)					●									<0.2*	6.35	3.18	2.7
		DXGU070302MFL-JS(1)					●									<0.2*	6.35	3.18	2.7
		DXGU070304MFR-JS(1)					●									<0.4*	6.35	3.18	2.7
		DXGU070304MFL-JS(1)					●									<0.4*	6.35	3.18	2.7
	JTS	DXGU070301MFR-JTS					●									<0.1*	6.35	3.18	2.7
		DXGU070301MFL-JTS					●									<0.1*	6.35	3.18	2.7
		DXGU070302MFR-JTS					●									<0.2*	6.35	3.18	2.7
		DXGU070302MFL-JTS					●									<0.2*	6.35	3.18	2.7
Finishing to medium cutting	JTS	DXGU070301MR-JTS				●										<0.1*	6.35	3.18	2.7
		DXGU070301ML-JTS				●										<0.1*	6.35	3.18	2.7
		DXGU070302MR-JTS				●										<0.2*	6.35	3.18	2.7
		DXGU070302ML-JTS				●										<0.2*	6.35	3.18	2.7
	TS	DXGU070302R-TS			●	●		●		●		●				0.2	6.35	3.18	2.7
		DXGU070302L-TS			●	●		●		●		●				0.2	6.35	3.18	2.7
		DXGU070304R-TS			●	●		●		●		●				0.4	6.35	3.18	2.7
		DXGU070304L-TS			●	●		●		●		●				0.4	6.35	3.18	2.7
		DXGU070308R-TS			●	●		●		●		●				0.8	6.35	3.18	2.7
		DXGU070308L-TS			●	●		●		●		●				0.8	6.35	3.18	2.7
	TS	DXMU070302R-TS	●	●	●	●										0.2	6.35	3.18	2.7
		DXMU070302L-TS	●	●	●	●										0.2	6.35	3.18	2.7
		DXMU070304R-TS	●	●	●	●										0.4	6.35	3.18	2.7
		DXMU070304L-TS	●	●	●	●										0.4	6.35	3.18	2.7
		DXMU070308R-TS	●	●	●	●										0.8	6.35	3.18	2.7
		DXMU070308L-TS	●	●	●	●										0.8	6.35	3.18	2.7

Chip control range







● : Line up

* Corner radius (RE) with a sign of inequality (<) means minus tolerance.

(1) Due to chipbreaker profile, max ap for face or ID turning is 1 mm

Reference pages: External toolholder → C045 - Internal toolholder → D036 -

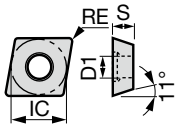
Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

EP

Rhombic, 75° with hole Positive 11°

P	Steel	◐	◐	◐
M	Stainless	◐	◐	◐
K	Cast iron			
N	Non-ferrous			
S	Superalloy		◐	
H	Hard material			

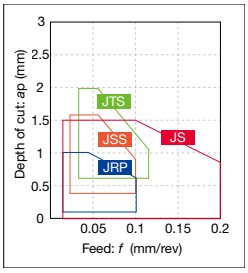


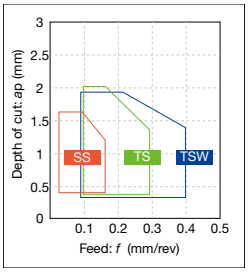
Application	Chipbreaker	Designation	Coated SH7025	Coated SH725	Coated SH730	Coated J740	Dimension (mm) RE	IC	S	D1
Finishing (sharp edge)	JS	EPGT03X101F-JS	●	●			<0.1	3.57	1.39	1.9
		EPGT03X102F-JS	●	●			<0.2	3.57	1.39	1.9
		EPGT03X104F-JS	●	●			<0.4	3.57	1.39	1.9
		EPGT040101F-JS	●	●			<0.1	3.97	1.59	2.3
		EPGT040102F-JS	●	●			<0.2	3.97	1.59	2.3
		EPGT040104F-JS	●	●			<0.4	3.97	1.59	2.3
Finishing	JS	EPGT03X101-JS			●		<0.1	3.57	1.39	1.9
		EPGT03X102-JS			●		<0.2	3.57	1.39	1.9
		EPGT03X104-JS			●		<0.4	3.57	1.39	1.9
		EPGT040101-JS			●		<0.1	3.97	1.59	2.3
		EPGT040102-JS			●		<0.2	3.97	1.59	2.3
		EPGT040104-JS			●		<0.4	3.97	1.59	2.3
Finishing (sharp edge)	J08	EPGT040100FL-J08		●			0.03	3.97	1.59	2.3
		EPGT040102FL-J08	●	●			0.2	3.97	1.59	2.3
		EPGT040104FL-J08	●	●			0.4	3.97	1.59	2.3
Finishing	J08	EPGT040100L-J08			●	●	0.03	3.97	1.59	2.3
		EPGT040102L-J08			●	●	0.2	3.97	1.59	2.3
		EPGT040104L-J08			●	●	0.4	3.97	1.59	2.3

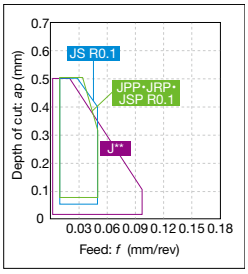
*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

Chip control range







*Chip control range with typical R0.1

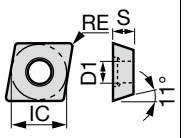
Reference pages: Internal toolholder → D034 - Boring bar tool → K201 - Top-borer tool → K202

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

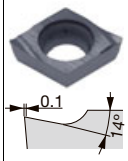
EP

Rhombic, 75° with hole Positive 11°

P	Steel	●	●ɔ	●ɔ				●ɔ				●ɔ				●	ɔ																
M	Stainless	●	●ɔ	●ɔ												●	ɔ																
K	Cast iron	●						●ɔ				●ɔ				●																	
N	Non-ferrous															●																	
S	Superalloy	●		●ɔ																													
H	Hard material																																

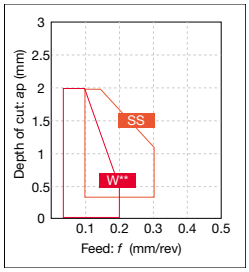


Application	Chipbreaker	Designation	Coated				Coated cermet	Cermet	Uncoated			Dimension (mm)			
			GH110	SH7025	SH725	SH730	GT9530	NS9530	TH10	UX30		RE	IC	S	D1
Finishing (sharp edge)	W08	EPGT03X100FL-W08		●	●							0.03	3.57	1.39	1.9
		EPGT03X100FR-W08			●							0.03	3.57	1.39	1.9
		EPGT03X101FL-W08		●	●							0.1	3.57	1.39	1.9
		EPGT03X101FR-W08			●							0.1	3.57	1.39	1.9
		EPGT03X102FL-W08		●	●							0.2	3.57	1.39	1.9
		EPGT03X102FR-W08		●	●							0.2	3.57	1.39	1.9
		EPGT03X104FL-W08		●	●							0.4	3.57	1.39	1.9
		EPGT03X104FR-W08		●	●							0.4	3.57	1.39	1.9
		EPGT040100FL-W08		●	●							0.03	3.97	1.59	2.3
		EPGT040100FR-W08			●							0.03	3.97	1.59	2.3
		EPGT040101FL-W08		●	●							0.1	3.97	1.59	2.3
		EPGT040101FR-W08			●							0.1	3.97	1.59	2.3
		EPGT040102FL-W08		●	●							0.2	3.97	1.59	2.3
		EPGT040102FR-W08		●	●							0.2	3.97	1.59	2.3
		EPGT040104FL-W08		●	●							0.4	3.97	1.59	2.3
		EPGT040104FR-W08		●	●							0.4	3.97	1.59	2.3
Finishing	W08	EPGT03X100R-W08				●			●			0.03	3.57	1.39	1.9
		EPGT03X100L-W08				●			●			0.03	3.57	1.39	1.9
		EPGT03X101R-W08				●			●			0.1	3.57	1.39	1.9
		EPGT03X101L-W08				●			●			0.1	3.57	1.39	1.9
		EPGT03X102R-W08				●			●			0.2	3.57	1.39	1.9
		EPGT03X102L-W08				●			●			0.2	3.57	1.39	1.9
		EPGT03X104R-W08				●			●			0.4	3.57	1.39	1.9
		EPGT03X104L-W08				●			●			0.4	3.57	1.39	1.9
		EPGT040100R-W08				●			●			0.03	3.97	1.59	2.3
		EPGT040100L-W08	●			●		●	●			0.03	3.97	1.59	2.3
		EPGT040101R-W08				●			●			0.1	3.97	1.59	2.3
		EPGT040101L-W08				●			●			0.1	3.97	1.59	2.3
		EPGT040102R-W08	●			●		●	●			0.2	3.97	1.59	2.3
		EPGT040102L-W08	●			●	●	●	●	●		0.2	3.97	1.59	2.3
		EPGT040104R-W08	●			●		●	●			0.4	3.97	1.59	2.3
		EPGT040104L-W08	●			●	●	●	●	●		0.4	3.97	1.59	2.3



● : Line up

Chip control range



Reference pages: Internal toolholder → D034 - Boring bar tool → K201 - Top-borer tool → K202

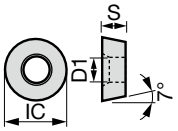
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

RC

Round, with hole
Positive 7°

		T9215	T9225	T5115	AH8005	AH8015	AH905	NS9530	KS05F
P	Steel	●ɔ	ɔ✣					●ɔ	
M	Stainless	●ɔ			●	ɔ			
K	Cast iron	●ɔ		ɔ				●ɔ	●
N	Non-ferrous								●
S	Superalloy				●	ɔ	ɔ		●
H	Hard material								



Application	Chipbreaker	Designation	Coated T9215	Coated T9225	Coated T5115	Coated AH8005	Coated AH8015	Coated AH905	Cermet NS9530	Uncoated KS05F	RE	IC	S	D1
Finishing	RS	RCMT10T3M0-RS	●	●		●	●	●			-	10	3.97	4.4
		RCMT1204M0-RS	●	●		●	●	●			-	12	4.76	4.4
		RCMT1606M0-RS	●	●							-	16	6.35	5.5
		RCMT2006M0-RS		●							-	20	6.35	6.5
		RCMT2507M0-RS		●							-	25	7.94	7.6
	6RS	RCMT1204M0-6RS	●	●					●		-	12	4.76	4.4
Finishing to medium cutting	6RM	RCMT1204M0-6RM	●	●					●		-	12	4.76	4.4
	CM	RCMT0502M0-CM			●						-	5	2.38	2.5
		RCMT0602M0-CM			●						-	6	2.38	2.8
		RCMT0803M0-CM			●						-	8	3.18	3.4
Finishing to medium cutting for non-ferrous alloys	AL	RCGT0602M0-AL								●	-	6	2.38	2.8
		RCGT0803M0-AL								●	-	8	3.18	3.4
		RCGT1003M0-AL								●	-	10	3.18	4.4

● : Line up

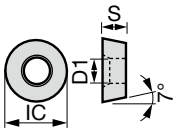
Reference pages: External toolholder → C056 -

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

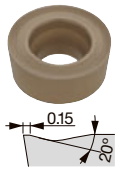
RC

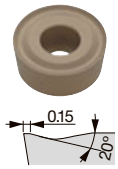
Round, with hole Positive 7°

P	Steel	●ɔ ɔ✠ ●ɔ ●
M	Stainless	●ɔ ● ɔ ●
K	Cast iron	●ɔ ●ɔ ●
N	Non-ferrous	●
S	Superalloy	● ɔ ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated T9215	Coated T9225	Coated AH8005	Coated AH8015	Coated AH905	Cermet NS9530	Uncoated TH10	Dimension (mm) RE	IC	S	D1
Heavy cutting	61	RCMT0502M0-61	●	●				●	●	-	5	2.38	2.5
		RCMT0602M0-61	●	●				●	●	-	6	2.38	2.8
		RCMT0803M0-61	●	●				●	●	-	8	3.18	3.4
	61	RCMM1003M0-61	●	●	●	●	●	●	●	-	10	3.18	3.6
		RCMM1204M0-61	●	●	●	●	●	●	●	-	12	4.76	4.2
		RCMM1606M0-61	●	●					●	-	16	6.35	5.2
		RCMM2006M0-61		●					●	-	20	6.35	6.5
		RCMM2507M0-61		●						-	25	7.94	7.2





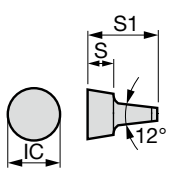
● : Line up

D1 (mm) Designation	0502M0	0602M0	0803M0	1003M0	1204M0	1606M0	2006M0	2507M0
RC*T	2.5	2.8	3.4	4.4	4.4	5.5	6.5	7.6
RCMM	-	-	-	3.6	4.2	5.2	6.5	7.2

RT

Special round insert

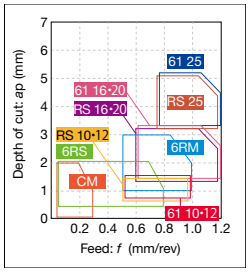
P	Steel	●
M	Stainless	●
K	Cast iron	● ɔ✠
N	Non-ferrous	● ɔ✠
S	Superalloy	ɔ✠
H	Hard material	

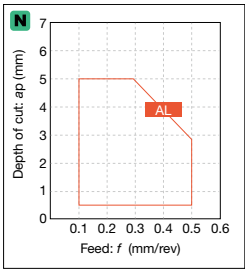


Application	Chipbreaker	Designation	Uncoated TH10	Uncoated KS20	Dimension (mm) RE	IC	S	S1
Medium cutting	-	RT05	●		-	5	2.5	6.5
		RT06	●	●	-	6	3	7.7
		RT08	●		-	8	4.2	10.3

● : Line up

Chip control range





Reference pages: RC...: External toolholder → C056 -

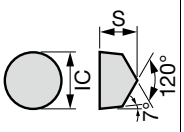
Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

RC

Round, without hole
Positive 7°

P	Steel	
M	Stainless	
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ●
H	Hard material	

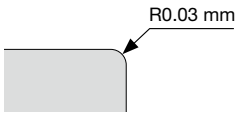


Application	Chipbreaker	Designation	Ceramic TS200	Ceramic TS300	RE	IC	S	D1
Medium cutting	-	**RCGX090700-E**	●	●	-	9.525	8	-
		RCGX**070700-T1**	●	●	-	9.525	8	-
		RCGX**120700-E**	●	●	-	12.7	8	-
		RCGX**120700-T1**	●	●	-	12.7	8	-

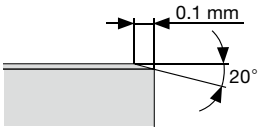
● : Line up

Edge prep

E: Low cutting force



T1: Strong cutting edge



MEMO

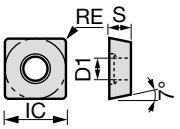
Insert POSITIVE TYPE

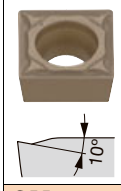
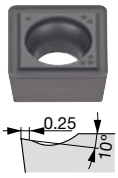
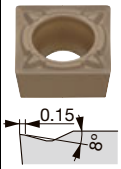
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

SC

Square with hole
Positive 7°

P	Steel	●ɔ	ɔ✣	ɔ				ɔ✣	✣	ɔ	●ɔ				●ɔ	●ɔ				●ɔ											
M	Stainless	●ɔ		●				●ɔ	✣	ɔ	●ɔ																				
K	Cast iron	●ɔ			●	●ɔ	ɔ			ɔ	●ɔ				●ɔ	●ɔ				●ɔ											
N	Non-ferrous																														
S	Superalloy									●	●ɔ																				
H	Hard material																														



Application	Chipbreaker	Designation	Coated										Coated cermet		Cermet		Dimension (mm)			
			T9215	T9225	T6215	T505	T515	T5115	AH6225	AH6235	AH725	AH120	GT9530	AT9530	NS9530		RE	IC	S	D1
Finishing to medium cutting	PS	SCMT09T304-PS	●	●	●				●	●	●		●	●	●		0.4	9.525	3.97	4.4
		SCMT09T308-PS	●	●	●				●	●	●		●	●	●		0.8	9.525	3.97	4.4
		SCMT120404-PS	●	●	●				●	●	●				●		0.4	12.7	4.76	5.5
		SCMT120408-PS	●	●	●				●	●	●				●		0.8	12.7	4.76	5.5
	CM	SCMT09T304-CM				●	●	●									0.4	9.525	3.97	4.4
		SCMT09T308-CM				●	●	●									0.8	9.525	3.97	4.4
		SCMT09T312-CM						●									1.2	9.525	3.97	4.4
		SCMT120404-CM				●	●	●									0.4	12.7	4.76	5.5
		SCMT120408-CM				●	●	●									0.8	12.7	4.76	5.5
	23	SCMT09T302-23													●		0.2	9.525	3.97	4.4
		SCMT09T308-23		●								●					0.8	9.525	3.97	4.4
		SCMT120408-23		●							●	●					0.8	12.7	4.76	5.5
Medium cutting	PM	SCMT09T304-PM	●	●	●				●	●	●				●		0.4	9.525	3.97	4.4
		SCMT09T308-PM	●	●	●				●	●	●				●		0.8	9.525	3.97	4.4
		SCMT120408-PM	●	●	●				●	●	●				●		0.8	12.7	4.76	5.5
		SCMT120412-PM		●	●				●	●	●				●		1.2	12.7	4.76	5.5
	24	SCMT070204-24		●											●		0.4	7.94	2.38	3.4
		SCMT09T302-24													●		0.2	9.525	3.97	4.4
		SCMT09T304-24		●											●		0.4	9.525	3.97	4.4
		SCMT09T308-24	●	●											●		0.8	9.525	3.97	4.4
		SCMT120404-24		●											●		0.4	12.7	4.76	5.5
		SCMT120408-24		●											●		0.8	12.7	4.76	5.5

● : Line up

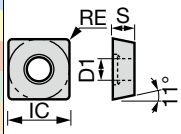
Reference pages: External toolholder → G079 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

SP

Square with hole Positive 11°

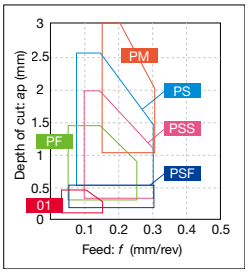
P	Steel	●ⓒ	ⓒ✣	ⓒ				ⓒ✣	✣	ⓒ			●ⓒ	●ⓒ			●ⓒ			●									
M	Stainless	●ⓒ		●				●ⓒ	✣	ⓒ										●									
K	Cast iron	●ⓒ			●	●ⓒ	ⓒ			ⓒ			●ⓒ	●ⓒ			●ⓒ			●									
N	Non-ferrous																			●									
S	Superalloy									●																			
H	Hard material																												

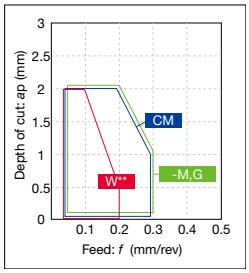


Application	Chipbreaker	Designation	Coated									Coated cermet		Cermet	Uncoated				Dimension (mm)			
			T9215	T9225	T6215	T505	T515	T5115	AH6225	AH6235	AH725	GT9530	AT9530	NS9530	TH10				RE	IC	S	D1
Finishing	**W15**	**SPGT090302L-W15**												●					0.2	9.525	3.18	4.4
		SPGT090304L-W15												●	●				0.4	9.525	3.18	4.4
		SPGT090308R-W15													●				0.8	9.525	3.18	4.4
		SPGT090308L-W15												●	●				0.8	9.525	3.18	4.4
	W20	**SPGT120404L-W20**												●					0.4	12.7	4.76	5.5
Finishing to medium cutting	**PS**	**SPMT090304-PS**	●	●	●				●	●	●	●	●	●					0.4	9.525	3.18	4.4
		SPMT090308-PS	●	●	●				●	●	●	●	●	●					0.8	9.525	3.18	4.4
		SPMT120404-PS	●	●	●				●	●	●								0.4	12.7	4.76	5.5
		SPMT120408-PS	●	●	●				●	●	●								0.8	12.7	4.76	5.5
	CM	**SPMT090304-CM**						●											0.4	9.525	3.18	4.4
		SPMT090308-CM						●											0.8	9.525	3.18	4.4
		SPMT120404-CM				●	●	●											0.4	12.7	4.76	5.5
		SPMT120408-CM				●	●	●											0.8	12.7	4.76	5.5
	23	**SPMT090304-23**		●										●					0.4	9.525	3.18	4.4
		SPMT090308-23		●										●					0.8	9.525	3.18	4.4

● : Line up

Chip control range





*-M,G: Without chipbreaker

Reference pages: Internal toolholder → D041 - Cartridge → K181 -

Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

SP

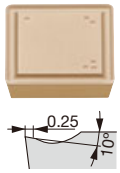
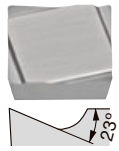
Square with hole Positive 11°

| | | |

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

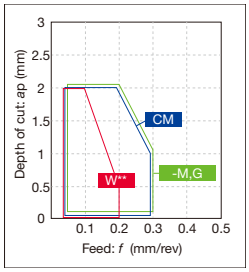
SP

Square
without hole
Positive 11°

		Coated			Cermet	Uncoated		Ceramic		Dimension (mm)			
Application	Chipbreaker	Designation	T9225	T5115	AH120	NS9530	TH10	UX30	LX10	LX11	RE	IC	S	D1
Finishing to medium cutting	CM	SPMR090304-CM		●							0.4	9.525	3.18	-
		SPMR090308-CM		●							0.8	9.525	3.18	-
		SPMR120304-CM		●							0.4	12.7	3.18	-
		SPMR120308-CM		●							0.8	12.7	3.18	-
		SPMR120312-CM		●							1.2	12.7	3.18	-
	23	SPMR090304-23				●					0.4	9.525	3.18	-
		SPMR090308-23	●			●					0.8	9.525	3.18	-
		SPMR120304-23	●			●					0.4	12.7	3.18	-
		SPMR120308-23	●			●					0.8	12.7	3.18	-
	-	SPGR090304L				●					0.4	9.525	3.18	-
		SPGN090304					●			●	0.4	9.525	3.18	-
	-	SPGN090308					●		●	●	0.8	9.525	3.18	-
		SPGN090316							●	●	1.6	9.525	3.18	-
		SPGN120304					●		●	●	0.4	12.7	3.18	-
		SPGN120308					●		●	●	0.8	12.7	3.18	-
		SPGN120312				●			●	●	1.2	12.7	3.18	-
		SPGN120408					●				0.8	12.7	4.76	-
	-	SPMN090304		●							0.4	9.525	3.18	-
		SPMN090308		●							0.8	9.525	3.18	-
		SPMN120304		●				●			0.4	12.7	3.18	-
		SPMN120308		●		●	●	●			0.8	12.7	3.18	-
		SPMN120312		●			●	●			1.2	12.7	3.18	-
		SPMN120408		●	●		●	●			0.8	12.7	4.76	-
		SPMN120412		●							1.2	12.7	4.76	-

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: Internal toolholder → D042 - Cartridge → K181 -

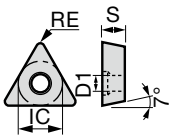
Insert POSITIVE TYPE

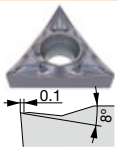
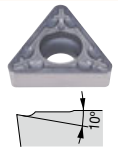
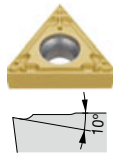
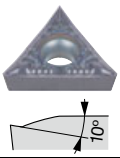
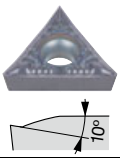
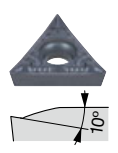
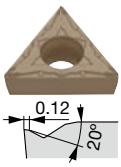
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TC

Triangular with hole Positive 7°

		T9215	T9225	T6215	AH8015	AH6225	AH725	SH7025	SH725	SH730	J740	GT9530	NS9530	NS520	TH10
P	Steel	●ɔ	ɔ✣			ɔ✣	ɔ	●ɔ	●ɔ	●ɔ		●ɔ			●
M	Stainless	●ɔ			ɔ	●ɔ	ɔ	●ɔ	●ɔ	●ɔ					●
K	Cast iron	●ɔ					ɔ					●ɔ	●ɔ	●ɔ	●
N	Non-ferrous								●ɔ						●
S	Superalloy				ɔ		●		●ɔ						
H	Hard material														



Application	Chipbreaker	Designation	Coated										Coated cermet	Cermet		Uncoated	Dimension (mm)			
			T9215	T9225	T6215	AH8015	AH6225	AH725	SH7025	SH725	SH730	J740	GT9530	NS9530	NS520	TH10	RE	IC	S	D1
Precision finishing (sharp edge)	JP	TCGT110200FN-JP							●	●							<0.05	6.35	2.38	2.8
		TCGT110201FN-JP							●	●							<0.1	6.35	2.38	2.8
		TCGT110202FN-JP							●	●							<0.2	6.35	2.38	2.8
	01	TCGT110202F-01							●	●							<0.2	6.35	2.38	2.8
		TCGT110204F-01							●	●							<0.4	6.35	2.38	2.8
Precision finishing	01	TCGT090204-01													●	●	0.4	5.56	2.38	2.5
		TCGT110202-01										●					0.2	6.35	2.38	2.8
		TCGT110204-01											●	●	●	●	0.4	6.35	2.38	2.8
		TCGT110208-01												●			0.8	6.35	2.38	2.8
		TCGT16T304-01														●	0.4	9.525	3.97	4.4
		TCGT16T308-01													●	●	0.8	9.525	3.97	4.4
Finishing (sharp edge)	JS	TCGT110200FN-JS							●	●	●						<0.05	6.35	2.38	2.8
		TCGT110201FN-JS							●	●	●						<0.1	6.35	2.38	2.8
		TCGT110202FN-JS							●	●	●						<0.2	6.35	2.38	2.8
		TCGT110204FN-JS							●	●	●						<0.4	6.35	2.38	2.8
Finishing	JS	TCGT110201N-JS						●									0.1	6.35	2.38	2.8
		TCGT110202N-JS						●									0.2	6.35	2.38	2.8
		TCGT110204N-JS						●									0.4	6.35	2.38	2.8
	JS	TCGT110201M-JS				●	●										<0.1	6.35	2.38	2.8
		TCGT110202M-JS				●	●										<0.2	6.35	2.38	2.8
		TCGT110204M-JS				●	●										<0.4	6.35	2.38	2.8
	PSF	TCMT090202-PSF						●									0.2	5.56	2.38	2.5
		TCMT090204-PSF	●	●				●									0.4	5.56	2.38	2.5
		TCMT110202-PSF						●									0.2	6.35	2.38	2.8
		TCMT110204-PSF	●	●				●									0.4	6.35	2.38	2.8
		TCMT110302-PSF						●									0.2	6.35	3.18	2.8
		TCMT110304-PSF	●	●				●									0.4	6.35	3.18	2.8
		TCMT16T304-PSF	●	●				●									0.4	9.525	3.97	4.4
	TSF	TCMT110204-TSF	●	●		●											0.4	6.35	2.38	2.8
		TCMT110208-TSF	●	●		●											0.8	6.35	2.38	2.8
		TCMT110302-TSF	●	●	●	●	●							●			0.2	6.35	3.18	2.8
		TCMT110304-TSF	●	●	●	●	●							●			0.4	6.35	3.18	2.8
		TCMT110308-TSF	●	●	●	●	●							●			0.8	6.35	3.18	2.8
		TCMT16T304-TSF	●	●		●											0.4	9.525	3.97	4.4
		TCMT16T308-TSF	●	●		●											0.8	9.525	3.97	4.4

*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

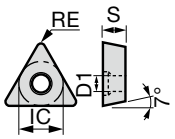
Reference pages: External toolholder → C054 Internal toolholder → D045
J-Series toolholder → G074 - PINZBOHR® → K178 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TC

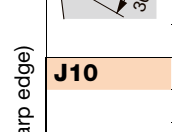
Triangular with hole Positive 7°

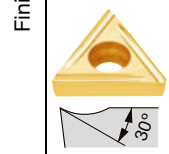
		Coated			Coated cermet	Cermet	Uncoated
		SH7025	SH725	J740	J9530	NS9530	TH10
P	Steel	◐	◐		◐	◐	●
M	Stainless	◐	◐				●
K	Cast iron				◐	◐	●
N	Non-ferrous						●
S	Superalloy						
H	Hard material						

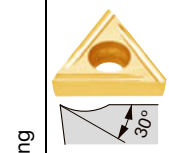


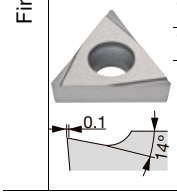
Application	Chipbreaker	Designation	Coated SH7025	Coated SH725	Coated J740	Coated cermet J9530	Cermet NS9530	Uncoated TH10	Dimension (mm) RE	IC	S	D1
Finishing (sharp edge)	J08	TCGT080200FR-J08	●	●	●			●	0.03	4.76	2.38	2.3
		TCGT080200FL-J08		●	●			●	0.03	4.76	2.38	2.3
		TCGT080201FR-J08	●	●	●			●	0.1	4.76	2.38	2.3
		TCGT080201FL-J08		●	●			●	0.1	4.76	2.38	2.3
		TCGT080202FR-J08	●	●	●			●	0.2	4.76	2.38	2.3
		TCGT080202FL-J08	●	●	●			●	0.2	4.76	2.38	2.3
		TCGT080204FR-J08	●	●					0.4	4.76	2.38	2.3
	J10	TCGT110200FR-J10	●	●	●			●	0.03	6.35	2.38	2.8
		TCGT110200FL-J10		●	●			●	0.03	6.35	2.38	2.8
		TCGT110201FR-J10	●	●	●			●	0.1	6.35	2.38	2.8
		TCGT110201FL-J10		●	●			●	0.1	6.35	2.38	2.8
		TCGT110202FR-J10	●	●	●		●	●	0.2	6.35	2.38	2.8
		TCGT110202FL-J10	●	●	●		●	●	0.2	6.35	2.38	2.8
		TCGT110204FR-J10	●	●					0.4	6.35	2.38	2.8
		TCGT110300FR-J10	●	●	●			●	0.03	6.35	3.18	2.8
		TCGT110300FL-J10		●	●			●	0.03	6.35	3.18	2.8
		TCGT110301FR-J10	●	●	●			●	0.1	6.35	3.18	2.8
		TCGT110301FL-J10		●	●			●	0.1	6.35	3.18	2.8
		TCGT110302FR-J10	●	●	●		●	●	0.2	6.35	3.18	2.8
		TCGT110302FL-J10	●	●	●		●	●	0.2	6.35	3.18	2.8
Finishing	J10	TCGT110302R-J10				●			0.2	6.35	3.18	2.8
		TCGT110302L-J10				●			0.2	6.35	3.18	2.8
	W15	TCGT16T302L-W15						●	0.2	9.525	3.97	4.4
		TCGT16T304L-W15					●	●	0.4	9.525	3.97	4.4
		TCGT16T308L-W15						●	0.8	9.525	3.97	4.4

● : Line up

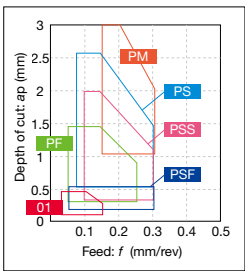


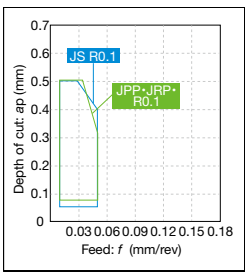


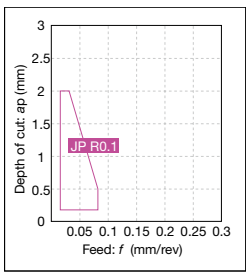


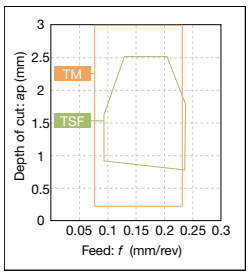


Chip control range









Reference pages: External toolholder → C054 Internal toolholder → D045
J-Series toolholder → G074 - PINZBOHR® → K178 -

Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TC

Triangular with hole Positive 7°

		Coated											Coated cermet		Cermet	Uncoated	Dimension (mm)			
Application	Chipbreaker	Designation	T9215	T9225	T6215	T505	T515	T5115	AH8015	AH6225	AH6235	AH725	GH730	GT9530	AT9530	NS9530	KS05F	RE	IC	S	D1
Finishing	PSS	TCMT090204-PSS	●	●								●						0.4	5.56	2.38	2.5
		TCMT090208-PSS	●	●								●						0.8	5.56	2.38	2.5
		TCMT110204-PSS	●	●								●						0.4	6.35	2.38	2.8
		TCMT110208-PSS	●	●								●						0.8	6.35	2.38	2.8
		TCMT110304-PSS	●	●								●						0.4	6.35	3.18	2.8
		TCMT110308-PSS	●	●								●						0.8	6.35	3.18	2.8
		TCMT16T304-PSS	●	●								●						0.4	9.525	3.97	4.4
		TCMT16T308-PSS	●	●								●						0.8	9.525	3.97	4.4
		TCMT16T312-PSS	●	●								●						1.2	9.525	3.97	4.4
	PS	TCMT090204-PS										●						0.4	5.56	2.38	2.5
		TCMT090208-PS										●						0.8	5.56	2.38	2.5
		TCMT110202-PS	●	●	●					●	●	●	●	●	●	●		0.2	6.35	2.38	2.8
		TCMT110204-PS	●	●	●					●	●	●	●	●	●	●		0.4	6.35	2.38	2.8
		TCMT110208-PS	●	●	●					●	●	●	●	●	●	●		0.8	6.35	2.38	2.8
		TCMT110302-PS	●	●	●				●	●	●					●		0.2	6.35	3.18	2.8
		TCMT110304-PS	●	●	●				●	●	●					●		0.4	6.35	3.18	2.8
		TCMT110308-PS	●	●	●				●	●	●					●		0.8	6.35	3.18	2.8
		TCMT16T302-PS	●	●	●					●	●	●				●		0.2	9.525	3.97	4.4
		TCMT16T304-PS	●	●	●					●	●	●				●		0.4	9.525	3.97	4.4
		TCMT16T308-PS	●	●	●					●	●	●						0.8	9.525	3.97	4.4
	TM	TCMT110204-TM	●	●					●									0.4	6.35	2.38	2.8
		TCMT110208-TM	●	●					●									0.8	6.35	2.38	2.8
		TCMT110302-TM	●	●	●				●	●						●		0.2	6.35	3.18	2.8
		TCMT110304-TM	●	●	●				●	●						●		0.4	6.35	3.18	2.8
		TCMT110308-TM	●	●	●				●	●						●		0.8	6.35	3.18	2.8
		TCMT16T304-TM	●	●					●									0.4	9.525	3.97	4.4
		TCMT16T308-TM	●	●					●									0.8	9.525	3.97	4.4
Finishing to medium cutting	CM	TCMT090204-CM						●										0.4	5.56	2.38	2.5
		TCMT090208-CM						●										0.8	5.56	2.38	2.5
		TCMT110204-CM						●										0.4	6.35	2.38	2.8
		TCMT110208-CM						●										0.8	6.35	2.38	2.8
		TCMT110304-CM						●										0.4	6.35	3.18	2.8
		TCMT110308-CM						●										0.8	6.35	3.18	2.8
		TCMT16T304-CM				●	●	●										0.4	9.525	3.97	4.4
		TCMT16T308-CM				●	●	●										0.8	9.525	3.97	4.4
		TCMT16T312-CM				●	●	●										1.2	9.525	3.97	4.4
Finishing to medium cutting for aluminium cutting	AL	TCGT110202-AL															●	0.2	6.35	2.38	2.8
		TCGT110204-AL															●	0.4	6.35	2.38	2.8
		TCGT16T302-AL															●	0.2	9.525	3.97	4.4
		TCGT16T304-AL															●	0.4	9.525	3.97	4.4
		TCGT16T308-AL															●	0.8	9.525	3.97	4.4

● : Line up

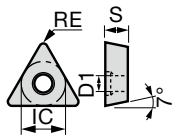
Reference pages: External toolholder → C054 Internal toolholder → D045
J-Series toolholder → G074 - PINZBOHR® → K178 -

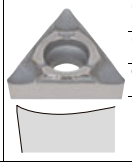
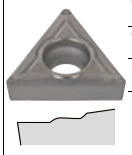
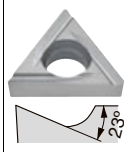
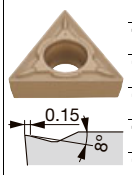
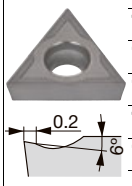
● : Continuous cutting
ᑕ : Light interrupted cutting
✠ : Heavy interrupted cutting

TC

Triangular with hole Positive 7°

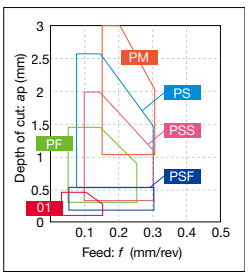
P	Steel	●ᑕ	ᑕ✠	ᑕ	ᑕ✠	✠	ᑕ							●ᑕ				●											
M	Stainless	●ᑕ		●	●ᑕ	✠	ᑕ											●											
K	Cast iron	●ᑕ					ᑕ	●ᑕ						●ᑕ				●											
N	Non-ferrous																	●											
S	Superalloy						●																						
H	Hard material																												

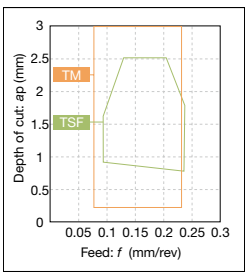


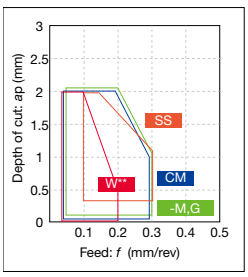
Application	Chipbreaker	Designation	Coated										Cermet		Uncoated				Dimension (mm)			
			T9215	T9225	T6215	AH6225	AH6235	AH725					NS9530		TH10				RE	IC	S	D1
Finishing	**SS**	**TCGT110202-SS**											●						0.2	6.35	2.38	2.8
		TCGT1102**04-SS**											●						0.4	6.35	2.38	2.8
		TCGT1102**08-SS**											●						0.8	6.35	2.38	2.8
		TCGT16T304-SS											●						0.4	9.525	3.97	4.4
Finishing to medium cutting	**23**	**TCMT090204-23**		●									●						0.4	5.56	2.38	2.5
		**TCMT110204-23**											●						0.4	6.35	2.38	2.8
		TCMT16T304-23											●						0.4	9.525	3.97	4.4
		TCMT16T3**08-23**		●															0.8	9.525	3.97	4.4
	-	**TCGT080102R**											●		●				0.2	4.76	1.59	2.7
																						
Medium cutting	**PM**	**TCMT110202-PM**			●	●	●	●											0.2	6.35	2.38	2.8
		TCMT1102**04-PM**	●	●	●	●	●	●					●						0.4	6.35	2.38	2.8
		TCMT1102**08-PM**	●	●	●	●	●	●					●						0.8	6.35	2.38	2.8
		TCMT110302-PM			●	●	●												0.2	6.35	3.18	2.8
		TCMT1103**04-PM**			●	●	●												0.4	6.35	3.18	2.8
		TCMT1103**08-PM**			●	●	●												0.8	6.35	3.18	2.8
		TCMT16T304-PM	●	●	●	●	●	●					●						0.4	9.525	3.97	4.4
		TCMT16T3**08-PM**	●	●	●	●	●	●					●						0.8	9.525	3.97	4.4
		TCMT16T3**12-PM**	●	●	●	●	●	●											1.2	9.525	3.97	4.4
	24	**TCMT090202-24**											●						0.2	5.56	2.38	2.5
		TCMT0902**04-24**	●	●									●						0.4	5.56	2.38	2.5
		**TCMT110202-24**											●						0.2	6.35	2.38	2.8
		TCMT1102**04-24**	●	●									●						0.4	6.35	2.38	2.8
		TCMT1102**08-24**		●															0.8	6.35	2.38	2.8
		TCMT16T304-24	●	●									●						0.4	9.525	3.97	4.4
		TCMT16T3**08-24**	●	●				●											0.8	9.525	3.97	4.4

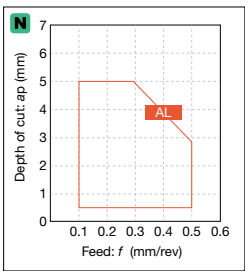
● : Line up

Chip control range









*-M,G: Without chipbreaker

Reference pages: External toolholder → C054 Internal toolholder → D045
J-Series toolholder → G074 - PINZBOHR® → K178 -

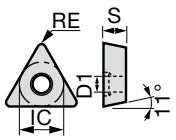
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

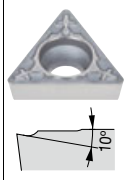
TP

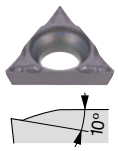
Triangular with hole Positive 11°

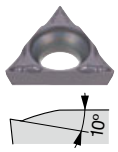
P	Steel	●ɔ	●✠	ɔ	ɔ	●ɔ	●ɔ			●ɔ	●ɔ			●ɔ	●ɔ			●															
M	Stainless	●ɔ		ɔ	ɔ	●ɔ	●ɔ											●															
K	Cast iron	●ɔ		ɔ	ɔ					●ɔ	●ɔ			●ɔ	●ɔ			●															
N	Non-ferrous																	●															
S	Superalloy			●			●ɔ																										
H	Hard material																																

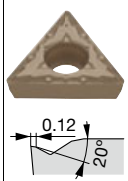


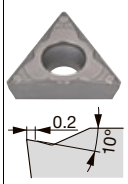
Application	Chipbreaker	Designation	Coated							Coated cermet		Cermet		Uncoated		Dimension (mm)			
			T9215	T9225	AH725	GH730	SH7025	SH725	SH730	GT9530	GT720	NS9530	NS520	TH10		RE	IC	S	D1
Precision finishing	01	TPGT090202-01								●		●				0.2	5.56	2.38	2.5
		TPGT0902**04-01**								●		●	●	●		0.4	5.56	2.38	2.5
		TPGT110202-01								●		●				0.2	6.35	2.38	2.8
		TPGT1102**04-01**								●		●	●	●		0.4	6.35	2.38	2.8
		TPGT1102**08-01**										●				0.8	6.35	2.38	2.8
		TPGT130302-01									●	●				0.2	7.94	3.18	3.4
		TPGT1303**04-01**								●		●	●	●		0.4	7.94	3.18	3.4
		TPGT1303**08-01**										●	●			0.8	7.94	3.18	3.4
		TPGT16T304-01								●		●	●	●		0.4	9.525	3.97	4.4
		TPGT16T3**08-01**									●	●	●			0.8	9.525	3.97	4.4
Finishing (sharp edge)	JS	TPGT070101F-JS					●	●								<0.1	4.37	1.59	2.58
		TPGT0701**02F-JS**					●	●								<0.2	4.37	1.59	2.58
		TPGT0701**04F-JS**					●	●								<0.4	4.37	1.59	2.58
Finishing	JS	TPGT070101-JS							●							<0.1	4.37	1.59	2.58
		TPGT0701**02-JS**							●							<0.2	4.37	1.59	2.58
		TPGT0701**04-JS**							●							<0.4	4.37	1.59	2.58
	PSF	TPMT090202-PSF			●							●				0.2	5.56	2.38	2.5
		TPMT0902**04-PSF**	●	●	●					●		●				0.4	5.56	2.38	2.5
		TPMT110202-PSF			●					●		●				0.2	6.35	2.38	2.8
		TPMT1102**04-PSF**	●	●	●					●		●				0.4	6.35	2.38	2.8
		TPMT110302-PSF			●							●				0.2	6.35	3.18	3.4
		TPMT1103**04-PSF**	●	●	●					●		●				0.4	6.35	3.18	3.4
		TPMT130304-PSF	●	●	●											0.4	7.94	3.18	3.4
		TPMT16T304-PSF	●	●	●											0.4	9.525	3.97	4.4
	PF	TPMT110204-PF				●				●		●				0.4	6.35	2.38	2.8
		TPMT1102**08-PF**								●		●				0.8	6.35	2.38	2.8
		TPMT110302-PF				●						●				0.2	6.35	3.18	3.4
		TPMT1103**04-PF**				●				●		●				0.4	6.35	3.18	3.4
		TPMT130304-PF								●		●				0.4	7.94	3.18	3.4
		TPMT1303**08-PF**										●				0.8	7.94	3.18	3.4
		TPMT16T304-PF								●		●				0.4	9.525	3.97	4.4











*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

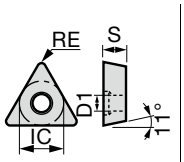
Reference pages: Mounting hole specification → B146
Internal toolholder → D046 -
Boring bar tool → K178 -
Cartridge → K181 -
Top-borer tool → K213

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular with hole Positive 11°

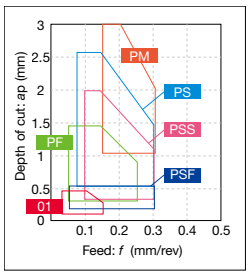
P	Steel	●ɔ	ɔ✣	ɔ		ɔ✣	●	●ɔ	●ɔ	●ɔ			●ɔ				●ɔ				●	ɔ				
M	Stainless	●ɔ		●	ɔ	●ɔ	●	●ɔ	●ɔ	●ɔ											●	ɔ				
K	Cast iron	●ɔ					●						●ɔ				●ɔ				●					
N	Non-ferrous																				●					
S	Superalloy				ɔ		●			●ɔ																
H	Hard material																									

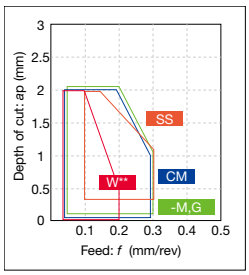


Application	Chipbreaker	Designation	Coated									Coated cermet		Cermet		Uncoated		Dimension (mm)			
			T9215	T9225	T6215	AH8015	AH6225	GH110	SH7025	SH725	SH730	GT9530		NS9530		TH10	UX30	RE	IC	S	D1
Finishing	TSF	TPMT110204-TSF	●	●														0.4	6.35	2.38	2.8
		TPMT1102**08**-TSF	●	●														0.8	6.35	2.38	2.8
		TPMT110302-TSF	●	●	●	●	●							●				0.2	6.35	3.18	3.4
		TPMT1103**04**-TSF	●	●	●	●	●							●				0.4	6.35	3.18	3.4
		TPMT1103**08**-TSF	●	●	●	●	●							●				0.8	6.35	3.18	3.4
		TPMT16T304-TSF	●	●														0.4	9.525	3.97	4.4
		TPMT16T3**08**-TSF	●	●														0.8	9.525	3.97	4.4
Finishing (sharp edge)	W08	TPGT070100FR-W08								●								0.03	4.37	1.59	2.58
		TPGT0701**00**FL-W08							●	●								0.03	4.37	1.59	2.58
		TPGT0701**01**FR-W08								●								0.1	4.37	1.59	2.58
		TPGT0701**01**FL-W08							●	●								0.1	4.37	1.59	2.58
		TPGT0701**02**FR-W08							●	●								0.2	4.37	1.59	2.58
		TPGT0701**02**FL-W08							●	●								0.2	4.37	1.59	2.58
		TPGT0701**04**FR-W08							●	●								0.4	4.37	1.59	2.58
		TPGT0701**04**FL-W08							●	●								0.4	4.37	1.59	2.58
Finishing	W08	TPGT070100R-W08									●					●		0.03	4.37	1.59	2.58
		TPGT0701**00**L-W08									●					●		0.03	4.37	1.59	2.58
		TPGT0701**01**R-W08									●					●		0.1	4.37	1.59	2.58
		TPGT0701**01**L-W08									●					●		0.1	4.37	1.59	2.58
		TPGT0701**02**R-W08									●					●		0.2	4.37	1.59	2.58
		TPGT0701**02**L-W08									●					●		0.2	4.37	1.59	2.58
		TPGT0701**04**R-W08									●					●		0.4	4.37	1.59	2.58
		TPGT0701**04**L-W08									●					●		0.4	4.37	1.59	2.58
		TPGT080200L-W08										●		●				0.03	4.76	2.38	2.3
		TPGT0802**02**L-W08						●				●		●		●	●	0.2	4.76	2.38	2.3
		TPGT0802**04**L-W08						●				●		●		●	●	0.4	4.76	2.38	2.3
	W10	TPGH080202L-W10										●		●				0.2	4.76	2.38	2.3
		TPGH0802**04**L-W10										●		●				0.4	4.76	2.38	2.3
		TPGH090204L-W10										●		●				0.4	5.56	2.38	3

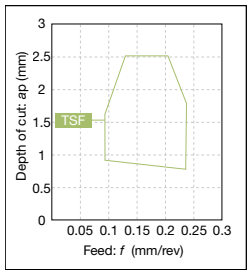
● : Line up

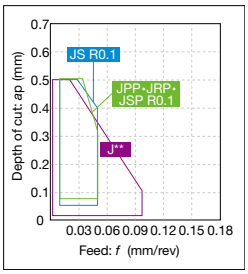
Chip control range





*-M,G: Without chipbreaker





*Chip control range with typical R0.1

Reference pages: Mounting hole specification → B146
Internal toolholder → D046 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203 -

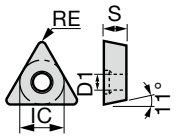
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular with hole Positive 11°

P	Steel	●	●ɔ				●ɔ				●ɔ				●	ɔ																	
M	Stainless	●	●ɔ												●	ɔ																	
K	Cast iron	●	●ɔ				●ɔ				●ɔ				●																		
N	Non-ferrous														●																		
S	Superalloy	●																															
H	Hard material																																



Application	Chipbreaker	Designation	Coated GH110	Coated GH330	Coated cermet GT9530	Cermet NS9530	Uncoated TH10	Uncoated UX30	RE	IC	S	D1
									Dimension (mm)			
Finishing	W13	TPGH110204L-W13			●	●			0.4	6.35	2.38	3.4
		TPGH110302L-W13			●	●			0.2	6.35	3.18	3.4
		TPGH110304L-W13			●	●			0.4	6.35	3.18	3.4
	W15	TPGT090202R-W15				●			0.2	5.56	2.38	2.5
		TPGT090202L-W15			●	●	●		0.2	5.56	2.38	2.5
		TPGT090204R-W15				●			0.4	5.56	2.38	2.5
		TPGT090204L-W15	●	●	●	●	●	●	0.4	5.56	2.38	2.5
		TPGT110202R-W15				●			0.2	6.35	2.38	2.8
		TPGT110202L-W15			●	●	●		0.2	6.35	2.38	2.8
		TPGT110204L-W15	●	●	●	●	●	●	0.4	6.35	2.38	2.8
		TPGT110208R-W15				●			0.8	6.35	2.38	2.8
		TPGT110208L-W15						●	0.8	6.35	2.38	2.8
		TPGT110302L-W15				●			0.2	6.35	3.18	3.4
		TPGT110304R-W15				●			0.4	6.35	3.18	3.4
		TPGT110304L-W15				●			0.4	6.35	3.18	3.4
		TPGT110308L-W15				●			0.8	6.35	3.18	3.4
		TPGT130302R-W15				●			0.2	7.94	3.18	3.4
		TPGT130302L-W15			●	●	●		0.2	7.94	3.18	3.4
		TPGT130304R-W15	●			●			0.4	7.94	3.18	3.4
		TPGT130304L-W15	●	●	●	●	●	●	0.4	7.94	3.18	3.4
		TPGT130308L-W15				●	●		0.8	7.94	3.18	3.4
		TPGT16T302R-W15				●			0.2	9.525	3.97	4.4
		TPGT16T302L-W15			●	●	●		0.2	9.525	3.97	4.4
		TPGT16T304R-W15				●	●		0.4	9.525	3.97	4.4
		TPGT16T304L-W15	●	●	●	●	●	●	0.4	9.525	3.97	4.4
		TPGT16T308L-W15				●	●	●	0.8	9.525	3.97	4.4
Finishing to medium cutting	SS	TPGT110202-SS				●			0.2	6.35	2.38	2.8
		TPGT110204-SS		●		●			0.4	6.35	2.38	2.8
		TPGT130302-SS				●			0.2	7.94	3.18	3.4
		TPGT130304-SS		●		●			0.4	7.94	3.18	3.4
		TPGT16T304-SS		●		●			0.4	9.525	3.97	4.4

● : Line up

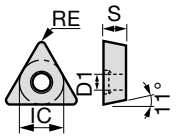
Reference pages: Mounting hole specification → B146
Internal toolholder → D046 -
Top-borer tool → K203
Cartridge → K181 -

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular with hole Positive 11°

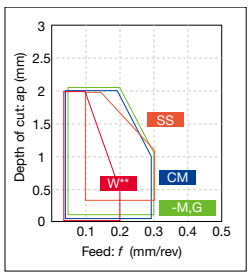
P	Steel	●◐	◐✣	◐			◐✣	✣	◐	●◐	◐				●◐	●◐					●◐										
M	Stainless	●◐		●	●	◐	●◐	✣	◐	●◐	◐																				
K	Cast iron	●◐							◐	●◐	◐				●◐	●◐					●◐										
N	Non-ferrous																														
S	Superalloy				●	◐			●	●◐																					
H	Hard material																														

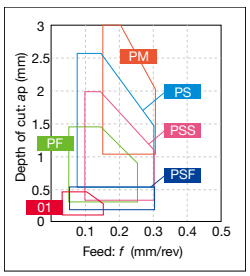


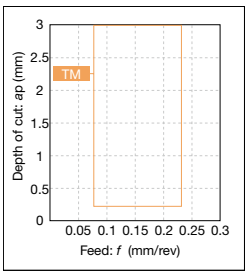
Application	Chipbreaker	Designation	Coated										Coated cermet		Cermet		Dimension (mm)			
			T9215	T9225	T6215	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GH730	GT9530	AT9530	NS9530		RE	IC	S	D1
Finishing to medium cutting	PSS	TPMT090204-PSS	●	●	●			●	●	●			●		●		0.4	5.56	2.38	2.5
		TPMT090208-PSS	●	●	●			●	●	●			●		●		0.8	5.56	2.38	2.5
		TPMT110204-PSS	●	●	●			●	●	●			●		●		0.4	6.35	2.38	2.8
		TPMT110208-PSS	●	●	●			●	●	●			●		●		0.8	6.35	2.38	2.8
		TPMT110304-PSS	●	●	●			●	●	●							0.4	6.35	3.18	3.4
		TPMT110308-PSS	●	●	●			●	●	●							0.8	6.35	3.18	3.4
		TPMT130304-PSS	●	●	●			●	●	●							0.4	7.94	3.18	3.4
		TPMT130308-PSS	●	●	●			●	●	●			●		●		0.8	7.94	3.18	3.4
		TPMT16T304-PSS	●	●	●			●	●	●			●		●		0.4	9.525	3.97	4.4
		TPMT16T308-PSS	●	●	●			●	●	●			●		●		0.8	9.525	3.97	4.4
	PS	TPMT090202-PS	●	●	●			●	●	●		●	●	●	●		0.2	5.56	2.38	2.5
		TPMT090204-PS	●	●	●			●	●	●		●	●	●	●		0.4	5.56	2.38	2.5
		TPMT090208-PS	●	●	●			●	●	●		●	●	●	●		0.8	5.56	2.38	2.5
		TPMT110202-PS	●	●	●			●	●	●		●	●	●	●		0.2	6.35	2.38	2.8
		TPMT110204-PS	●	●	●			●	●	●	●	●	●	●	●		0.4	6.35	2.38	2.8
		TPMT110208-PS	●	●	●			●	●	●	●	●	●	●	●		0.8	6.35	2.38	2.8
		TPMT110302 -PS	●	●	●		●	●							●		0.2	6.35	3.18	3.4
		TPMT110304-PS	●	●	●		●	●	●	●		●	●	●	●		0.4	6.35	3.18	3.4
		TPMT110308-PS	●	●	●	●	●	●	●	●		●	●	●	●		0.8	6.35	3.18	3.4
		TPMT130302-PS	●	●						●			●	●	●		0.2	7.94	3.18	3.4
		TPMT130304-PS	●	●	●			●	●	●			●	●	●		0.4	7.94	3.18	3.4
		TPMT130308-PS	●	●	●			●	●	●			●	●	●		0.8	7.94	3.18	3.4
		TPMT16T304-PS	●	●	●			●	●	●			●	●	●		0.4	9.525	3.97	4.4
		TPMT16T308-PS	●	●	●			●	●	●			●	●	●		0.8	9.525	3.97	4.4
	TM	TPMT110204-TM	●	●													0.4	6.35	2.38	2.8
		TPMT110208-TM	●	●													0.8	6.35	2.38	2.8
		TPMT110302-TM	●	●	●		●	●							●		0.2	6.35	3.18	3.4
		TPMT110304-TM	●	●	●		●	●							●		0.4	6.35	3.18	3.4
		TPMT110308-TM	●	●	●		●	●							●		0.8	6.35	3.18	3.4
		TPMT16T304-TM	●	●													0.4	9.525	3.97	4.4
		TPMT16T308-TM	●	●													0.8	9.525	3.97	4.4

● : Line up

Chip control range







*-M,G: Without chipbreaker

Reference pages: Mounting hole specification → B146
Internal toolholder → D046 -
Boring bar tool → K199 -
Cartridge → K181 -
Top-borer tool → K203

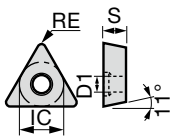
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular with hole Positive 11°

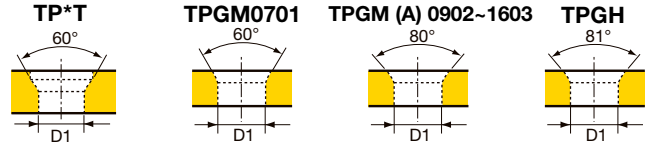
		T9225	T505	T515	T5115	GT9530	NS9530	TH10	UX30
P	Steel	ɔ✣				●ɔ	●ɔ	●	ɔ
M	Stainless							●	ɔ
K	Cast iron		●	●ɔ	ɔ	●ɔ	●ɔ	●	
N	Non-ferrous							●	
S	Superalloy								
H	Hard material								



Application	Chipbreaker	Designation	Coated				Coated cermet	Cermet	Uncoated		Dimension (mm)			
			T9225	T505	T515	T5115	GT9530	NS9530	TH10	UX30	RE	IC	S	D1
Finishing to medium cutting	CM	TPMT090204-CM				●					0.4	5.56	2.38	2.5
		TPMT090208-CM				●					0.8	5.56	2.38	2.5
		TPMT110204-CM				●					0.4	6.35	2.38	2.8
		TPMT110208-CM				●					0.8	6.35	2.38	2.8
		TPMT110304-CM				●					0.4	6.35	3.18	3.4
		TPMT110308-CM				●					0.8	6.35	3.18	3.4
		TPMT130304-CM				●					0.4	7.94	3.18	3.4
		TPMT130308-CM				●					0.8	7.94	3.18	3.4
		TPMT16T304-CM		●	●	●					0.4	9.525	3.97	4.4
		TPMT16T308-CM		●	●	●					0.8	9.525	3.97	4.4
		TPMT16T312-CM		●	●	●					1.2	9.525	3.97	4.4
	H11	TPGH110302L-H11					●	●			0.2	6.35	3.18	3.4
		TPGH110304L-H11					●	●			0.4	6.35	3.18	3.4
	23	TPMT090202-23						●			0.2	5.56	2.38	2.5
		TPMT090204-23	●					●			0.4	5.56	2.38	2.5
		TPMT110204-23	●					●			0.4	6.35	2.38	2.8
		TPMT130304-23	●					●			0.4	7.94	3.18	3.4
		TPMT130308-23	●					●			0.8	7.94	3.18	3.4
		TPMT16T304-23						●			0.4	9.525	3.97	4.4
		TPMT16T308-23	●					●			0.8	9.525	3.97	4.4
Finishing to medium cutting	-	TPGM070102R						●			0.2	4.37	1.59	2.7
		TPGM070102L						●	●		0.2	4.37	1.59	2.7
		TPGM070104R						●			0.4	4.37	1.59	2.7
		TPGM070104L						●	●		0.4	4.37	1.59	2.7
		TPGM090202R						●			0.2	5.56	2.38	3.2
		TPGM090202L						●			0.2	5.56	2.38	3.2
		TPGM090204L						●			0.4	5.56	2.38	3.2
	(Tungaloy standard hole specification) ISO non-compliant	TPGM110202R						●			0.2	6.35	2.38	3
		TPGM110202L						●		●	0.2	6.35	2.38	3
		TPGM110204R						●			0.4	6.35	2.38	3
		TPGM110204L						●		●	0.4	6.35	2.38	3
		TPGM110302R						●			0.2	6.35	3.18	3
		TPGM110302L						●			0.2	6.35	3.18	3
		TPGM110302L-2							●		0.2	6.35	3.18	3
		TPGM110304R						●			0.4	6.35	3.18	3
		TPGM110304L						●		●	0.4	6.35	3.18	3
		TPGM110304L-2							●		0.4	6.35	3.18	3
		TPGM160302L						●			0.2	9.525	3.18	4
		TPGM160304R						●			0.4	9.525	3.18	4
		TPGM160304L						●		●	0.4	9.525	3.18	4
		TPGM160304L-2							●		0.4	9.525	3.18	4

● : Line up

Mounting hole specification



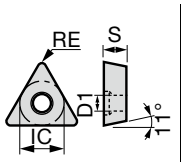
D1 (mm)	0701**	0802**	0902**	1102**	1103**	1303**	1603**	16T3**
TP*T(W)	-	2.3	2.5	2.8	3.4	3.4	-	4.4
TPGM(A)	2.7	-	3.2	3.0	3.0	-	4.0	-
TPGH	-	2.3	3.0	3.4	3.4	-	4.5	-

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

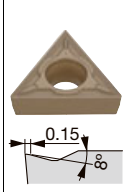
TP

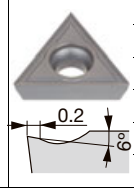
Triangular with hole Positive 11°

		T9215	T9225	T6215	T5115	AH6225	AH6235	AH725	AH120	GH730	GH110	GT9530	NS9530	TH10	UX30
P	Steel	●ɔ	ɔ✣	ɔ		ɔ✣	✣	ɔ	●ɔ	ɔ	●	●ɔ	●ɔ	●	ɔ
M	Stainless	●ɔ		●		●ɔ	✣	ɔ	●ɔ	ɔ	●			●	ɔ
K	Cast iron	●ɔ			ɔ			ɔ	●ɔ	ɔ	●	●ɔ	●ɔ	●	
N	Non-ferrous													●	
S	Superalloy							●	●ɔ		●				
H	Hard material														



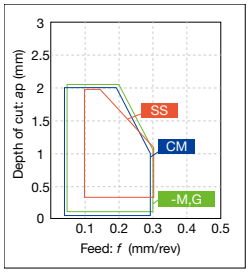
Application	Chipbreaker	Designation	RE	IC	S	D1
Finishing to medium cutting	-	TPMW110204	0.4	6.35	2.38	2.8
		TPMW110208	0.8	6.35	2.38	2.8
		TPMW130304	0.4	7.94	3.18	3.4
		TPMW130308	0.8	7.94	3.18	3.4
		TPMW16T304	0.4	9.525	3.97	4.4
		TPMW16T308	0.8	9.525	3.97	4.4
	-	TPGA090204	0.4	5.56	2.38	3.2
	(Tungaloy standard hole specification) ISO non-compliant	TPGA110202	0.2	6.35	2.38	3
		TPGA110204	0.4	6.35	2.38	3
		TPGA110302	0.2	6.35	3.18	3
		TPGA110304	0.4	6.35	3.18	3
		TPGA160304	0.4	9.525	3.18	4
		TPGA160308	0.8	9.525	3.18	4
	-	TPGW090202	0.2	5.56	2.38	2.5
		TPGW090204	0.4	5.56	2.38	2.5
		TPGW110202	0.2	6.35	2.38	2.8
		TPGW110204	0.4	6.35	2.38	2.8
		TPGW110304	0.4	6.35	3.18	3.4
		TPGW130304	0.4	7.94	3.18	3.4
		TPGW16T304	0.4	9.525	3.97	4.4
		TPGW16T308	0.8	9.525	3.97	4.4
Medium cutting	PM	TPMT090204-PM	0.4	5.56	2.38	2.5
		TPMT090208-PM	0.8	5.56	2.38	2.5
		TPMT110204-PM	0.4	6.35	2.38	2.8
		TPMT110208-PM	0.8	6.35	2.38	2.8
		TPMT110304-PM	0.4	6.35	3.18	3.4
		TPMT110308-PM	0.8	6.35	3.18	3.4
		TPMT130304-PM	0.4	7.94	3.18	3.4
		TPMT130308-PM	0.8	7.94	3.18	3.4
		TPMT16T304-PM	0.4	9.525	3.97	4.4
		TPMT16T308-PM	0.8	9.525	3.97	4.4
		TPMT16T312-PM	1.2	9.525	3.97	4.4
	24	TPMT090204-24	0.4	5.56	2.38	2.5
		TPMT110204-24	0.4	6.35	2.38	2.8
		TPMT110208-24	0.8	6.35	2.38	2.8
		TPMT130304-24	0.4	7.94	3.18	3.4
		TPMT130308-24	0.8	7.94	3.18	3.4
		TPMT16T304-24	0.4	9.525	3.97	4.4
		TPMT16T308-24	0.8	9.525	3.97	4.4

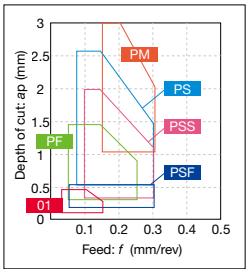




● : Line up

Chip control range





*-M,G: Without chipbreaker

Reference pages: Internal toolholder → D046 -
Cartridge → K181 -
Boring bar tool → K199 -

Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular without hole Positive 11°

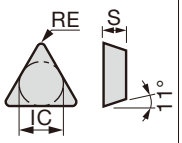
| | | |

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

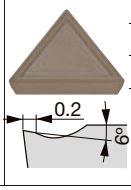
TP

Triangular without hole Positive 11°

P	Steel	●ɔ	ɔ✣	ɔ	●					●ɔ					●	ɔ															
M	Stainless	●ɔ		ɔ	●										●	ɔ															
K	Cast iron	●ɔ		ɔ	●					●ɔ					●																
N	Non-ferrous														●																
S	Superalloy			●	●																										
H	Hard material																●ɔ	●ɔ	●ɔ												



Application	Chipbreaker	Designation	Coated							Cermet		Uncoated		Ceramic						Dimension (mm)			
			T9215	T9225	AH725	GH110				NS9530		TH10	UX30	LX10	LX11	LX21				RE	IC	S	D1
Finishing to medium cutting	-	TPGN110302										●								0.2	6.35	3.18	-
		TPGN110304				●						●		●	●	●				0.4	6.35	3.18	-
		TPGN110308										●		●	●					0.8	6.35	3.18	-
		TPGN160302										●								0.2	9.525	3.18	-
		TPGN160304				●				●		●		●	●					0.4	9.525	3.18	-
		TPGN160308				●				●		●		●	●					0.8	9.525	3.18	-
		TPGN160312												●	●					1.2	9.525	3.18	-
		TPGN220404										●								0.4	12.7	4.76	-
Medium cutting	24	TPMR110304-24		●						●										0.4	6.35	3.18	-
		TPMR110308-24		●						●										0.8	6.35	3.18	-
		TPMR160304-24	●	●	●					●										0.4	9.525	3.18	-
		TPMR160308-24	●	●						●										0.8	9.525	3.18	-



● : Line up

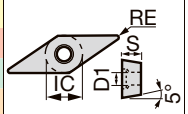
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

VB

Rhombic, 35°
with hole
Positive 5°

		T9215	T9225	AH8015	AH6225	AH725	SH7025	SH725	SH730	GT9530	AT9530	NS9530	KS05F
P	Steel	●ɔ	ɔ✠		ɔ✠	ɔ	●ɔ	●ɔ	●ɔ	●ɔ	●ɔ	●ɔ	
M	Stainless	●ɔ		ɔ	●ɔ	ɔ	●ɔ	●ɔ	●ɔ				
K	Cast iron	●ɔ				ɔ				●ɔ	●ɔ	●ɔ	●
N	Non-ferrous												●
S	Superalloy			ɔ		●		●ɔ					●
H	Hard material												



Application	Chipbreaker	Designation	T9215	T9225	AH8015	AH6225	AH725	SH7025	SH725	SH730	GT9530	AT9530	NS9530	KS05F	RE	IC	S	D1
Precision finishing (sharp edge)	JP	VBGT110300FN-JP						●	●				●		<0.05	6.35	3.18	2.8
		VBGT110301FN-JP						●	●				●		<0.1	6.35	3.18	2.8
		VBGT110302FN-JP						●	●				●		<0.2	6.35	3.18	2.8
	JP	VBGT110300MF-JP												●	<0.05	6.35	3.18	2.8
		VBGT110301MF-JP												●	<0.1	6.35	3.18	2.8
		VBGT110302MF-JP												●	<0.2	6.35	3.18	2.8
Finishing (sharp edge)	JS	VBGT110300FN-JS						●	●	●			●		<0.05	6.35	3.18	2.8
		VBGT110301FN-JS						●	●	●			●		<0.1	6.35	3.18	2.8
		VBGT110302FN-JS						●	●	●			●		<0.2	6.35	3.18	2.8
		VBGT110304FN-JS						●	●	●			●		<0.4	6.35	3.18	2.8
Finishing	JS	VBGT110301N-JS					●					●			0.1	6.35	3.18	2.8
		VBGT110302N-JS					●					●			0.2	6.35	3.18	2.8
		VBGT110304N-JS					●					●			0.4	6.35	3.18	2.8
	JS	VBGT110301M-JS			●	●									<0.1	6.35	3.18	2.8
		VBGT110302M-JS			●	●									<0.2	6.35	3.18	2.8
		VBGT110304M-JS			●	●									<0.4	6.35	3.18	2.8
Finishing (sharp edge)	JS	VBGT110300MF-JS												●	<0.05	6.35	3.18	2.8
		VBGT110301MF-JS												●	<0.1	6.35	3.18	2.8
		VBGT110302MF-JS												●	<0.2	6.35	3.18	2.8
		VBGT110304MF-JS												●	<0.4	6.35	3.18	2.8
Finishing	PSF	VBMT110302-PSF					●				●		●		0.2	6.35	3.18	2.8
		VBMT110304-PSF	●	●			●				●		●		0.4	6.35	3.18	2.8
		VBMT160402-PSF					●				●		●		0.2	9.525	4.76	4.4
		VBMT160404-PSF	●	●			●				●		●		0.4	9.525	4.76	4.4
	PF	VBMT110302-PF									●		●		0.2	6.35	3.18	2.8
		VBMT110304-PF									●		●		0.4	6.35	3.18	2.8
		VBMT110308-PF		●							●		●		0.8	6.35	3.18	2.8
		VBMT160404-PF									●		●		0.4	9.525	4.76	4.4
		VBMT160408-PF		●							●		●		0.8	9.525	4.76	4.4

*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

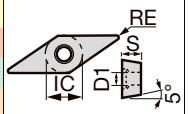
Reference pages: Internal toolholder → D059 - J-Series toolholder → G062 -

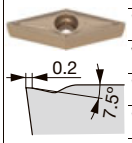
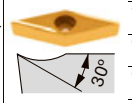
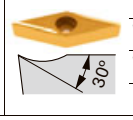
● : Continuous cutting
ɕ : Light interrupted cutting
✣ : Heavy interrupted cutting

VB

Rhombic, 35° with hole Positive 5°

P	Steel	●ɕ	●ɕ✣	ɕ		ɕ✣	●ɕ	●ɕ	●ɕ						●ɕ				●ɕ				●			
M	Stainless	●ɕ		●	ɕ	●ɕ	●ɕ	●ɕ	●ɕ														●			
K	Cast iron	●ɕ													●ɕ				●ɕ				●			
N	Non-ferrous																						●			
S	Superalloy				ɕ			●ɕ																		
H	Hard material																									

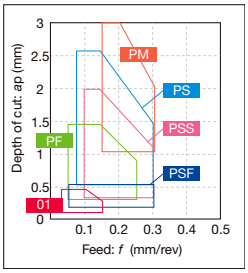


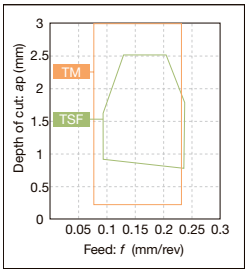
Application	Chipbreaker	Designation	Coated												Coated cermet				Cermet				Uncoated				Dimension (mm)			
			T9215	T9225	T6215	AH8015	AH6225	SH7025	SH725	SH730	J740				J9530				NS9530				TH10				RE	IC	S	D1
Finishing	TSF	VBMT110302-TSF	●	●	●	●	●												●								0.2	6.35	3.18	2.8
		VBMT110304-TSF	●	●	●	●	●												●								0.4	6.35	3.18	2.8
		VBMT110308-TSF	●	●	●	●	●												●								0.8	6.35	3.18	2.8
		VBMT160402-TSF	●	●	●	●	●												●								0.2	9.525	4.76	4.4
		VBMT160404-TSF	●	●	●	●	●												●								0.4	9.525	4.76	4.4
		VBMT160408-TSF	●	●	●	●	●												●								0.8	9.525	4.76	4.4
For external turning on Swiss lathes (sharp edge)	J10	VBGT110300FR-J10						●	●		●												●				0.03	6.35	3.18	2.8
		VBGT110300FL-J10							●		●												●				0.03	6.35	3.18	2.8
		VBGT110301FR-J10						●	●		●								●				●				0.1	6.35	3.18	2.8
		VBGT110301FL-J10							●		●								●				●				0.1	6.35	3.18	2.8
		VBGT110302FR-J10						●	●		●								●				●				0.2	6.35	3.18	2.8
		VBGT110302FL-J10						●	●		●								●				●				0.2	6.35	3.18	2.8
		VBGT110304FR-J10						●	●		●								●				●				0.4	6.35	3.18	2.8
		VBGT110304FL-J10						●	●		●								●				●				0.4	6.35	3.18	2.8
Finishing	J10	VBGT110302R-J10													●												0.2	6.35	3.18	2.8
		VBGT110302L-J10													●												0.2	6.35	3.18	2.8
		VBGT110304R-J10													●												0.4	6.35	3.18	2.8
		VBGT110304L-J10													●												0.4	6.35	3.18	2.8

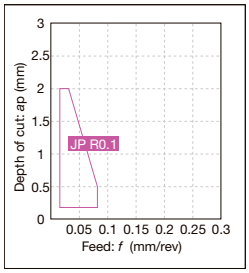
*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

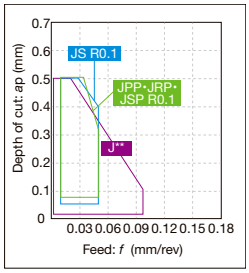
● : Line up

Chip control range









*Chip control range with typical R0.1

Reference pages: Internal toolholder → D059 - J-Series toolholder → G062 -

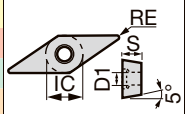
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

VB

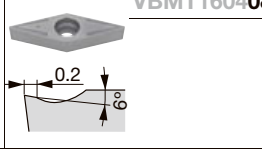
Rhombic, 35°
with hole
Positive 5°

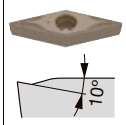
P	Steel	●ɔ	ɔ✣	ɔ						ɔ✣	✣	ɔ	●ɔ			●ɔ	●ɔ			●ɔ											
M	Stainless	●ɔ		●				●	ɔ	●ɔ	✣	ɔ	●ɔ																		
K	Cast iron	●ɔ			●	●ɔ	ɔ					ɔ	●ɔ			●ɔ	●ɔ			●ɔ											
N	Non-ferrous																														
S	Superalloy							●	ɔ			●	●ɔ																		
H	Hard material																														

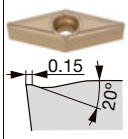


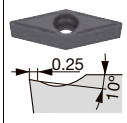
Application	Chipbreaker	Designation	Coated												Coated cermet		Cermet		Dimension (mm)			
			T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GT9530	AT9530	NS9530		RE	IC	S	D1
Finishing to medium cutting	PSS	VBMT110304-PSS	●	●	●						●	●	●		●		●		0.4	6.35	3.18	2.8
		VBMT110308-PSS	●	●	●						●	●	●		●		●		0.8	6.35	3.18	2.8
		VBMT160404-PSS	●	●	●						●	●	●		●		●		0.4	9.525	4.76	4.4
		VBMT160408-PSS	●	●	●						●	●	●		●		●		0.8	9.525	4.76	4.4
		VBMT160412-PSS	●	●									●						1.2	9.525	4.76	4.4
	PS	VBMT110302-PS	●	●	●				●	●	●	●	●		●	●	●		0.2	6.35	3.18	2.8
		VBMT110304-PS	●	●	●				●	●	●	●	●	●	●	●	●		0.4	6.35	3.18	2.8
		VBMT110308-PS	●	●	●				●	●	●	●	●	●	●	●	●		0.8	6.35	3.18	2.8
		VBMT160402-PS	●	●	●				●	●	●	●	●		●	●	●		0.2	9.525	4.76	4.4
		VBMT160404-PS	●	●	●				●	●	●	●	●	●	●	●	●		0.4	9.525	4.76	4.4
		VBMT160408-PS	●	●	●				●	●	●	●	●	●	●	●	●		0.8	9.525	4.76	4.4
	TM	VBMT110302-TM	●	●	●					●	●						●		0.2	6.35	3.18	2.8
		VBMT110304-TM	●	●	●					●	●						●		0.4	6.35	3.18	2.8
		VBMT110308-TM	●	●	●					●	●						●		0.8	6.35	3.18	2.8
		VBMT160402-TM	●	●	●					●	●						●		0.2	9.525	4.76	4.4
		VBMT160404-TM	●	●	●					●	●						●		0.4	9.525	4.76	4.4
		VBMT160408-TM	●	●	●					●	●						●		0.8	9.525	4.76	4.4
	CM	VBMT110304-CM						●											0.4	6.35	3.18	2.8
		VBMT110308-CM						●											0.8	6.35	3.18	2.8
		VBMT160404-CM				●	●	●											0.4	9.525	4.76	4.4
		VBMT160408-CM				●	●	●											0.8	9.525	4.76	4.4
		VBMT160412-CM				●	●	●											1.2	9.525	4.76	4.4
Medium cutting	24	VBMT160404-24	●	●													●					
		VBMT160408-24	●	●													●					

● : Line up

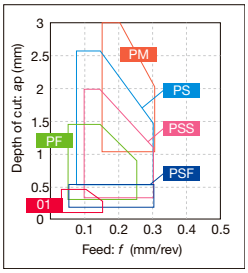


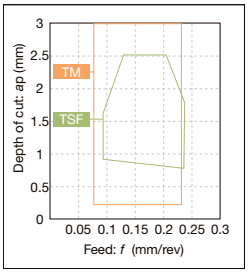


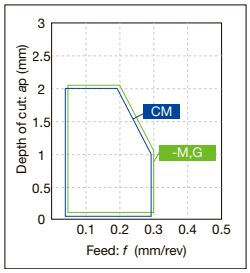




Chip control range







*-M,G: Without chipbreaker

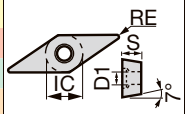
Reference pages: Internal toolholder → D059 - J-Series toolholder → G062 -

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

VC

Rhombic, 35° with hole Positive 7°

P	Steel	●ɔ ɔ✣ ɔ ✣ ɔ ●ɔ
M	Stainless	●ɔ ● ɔ ●ɔ ✣ ɔ ●ɔ
K	Cast iron	●ɔ ● ●ɔ ɔ ɔ ●ɔ ●ɔ
N	Non-ferrous	
S	Superalloy	● ɔ ɔ ● ●ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	Coated cermet GT9530	AT9530	Cermet NS9530	Dimension (mm) RE	IC	S	D1
Finishing	PSF	VCMT080202-PSF												●		●		●	0.2	4.76	2.38	2.3
		VCMT080204-PSF	●	●										●		●		●	0.4	4.76	2.38	2.3
		VCMT110302-PSF												●					0.2	6.35	3.18	2.8
		VCMT110304-PSF	●	●										●					0.4	6.35	3.18	2.8
		VCMT160404-PSF	●	●					●	●			●	●		●		●	0.4	9.525	4.76	4.4
		VCMT160408-PSF	●	●					●	●			●	●		●		●	0.8	9.525	4.76	4.4
	PF	VCMT080202-PF														●		●	0.2	4.76	2.38	2.3
		VCMT080204-PF														●		●	0.4	4.76	2.38	2.3
		VCMT160404-PF														●		●	0.4	9.525	4.76	4.4
		VCMT160408-PF														●		●	0.8	9.525	4.76	4.4
	TSF	VCMT110302-TSF	●	●	●					●	●							●	0.2	6.35	3.18	2.8
		VCMT110304-TSF	●	●	●					●	●							●	0.4	6.35	3.18	2.8
		VCMT110308-TSF	●	●	●					●	●							●	0.8	6.35	3.18	2.8
		VCMT160402-TSF	●	●	●					●	●							●	0.2	9.525	4.76	4.4
		VCMT160404-TSF	●	●	●					●	●							●	0.4	9.525	4.76	4.4
		VCMT160408-TSF	●	●	●					●	●							●	0.8	9.525	4.76	4.4
Finishing to medium cutting	PSS	VCMT110304-PSS	●	●	●						●	●		●		●		●	0.4	6.35	3.18	2.8
		VCMT110308-PSS	●	●	●						●	●		●		●		●	0.8	6.35	3.18	2.8
		VCMT160404-PSS	●	●	●				●	●	●	●	●	●		●		●	0.4	9.525	4.76	4.4
		VCMT160408-PSS	●	●	●				●	●	●	●	●	●		●		●	0.8	9.525	4.76	4.4
	PS	VCMT110302-PS	●	●	●				●	●	●	●		●		●	●	●	0.2	6.35	3.18	2.8
		VCMT110304-PS	●	●	●				●	●	●	●		●		●	●	●	0.4	6.35	3.18	2.8
		VCMT110308-PS	●	●	●				●	●	●	●		●		●	●	●	0.8	6.35	3.18	2.8
		VCMT160402-PS	●	●	●					●	●							●	0.2	9.525	4.76	4.4
		VCMT160404-PS	●	●	●				●	●	●	●	●	●	●	●	●	●	0.4	9.525	4.76	4.4
		VCMT160408-PS	●	●	●				●	●	●	●	●	●	●	●	●	●	0.8	9.525	4.76	4.4
	TM	VCMT110302-TM	●	●	●					●	●							●	0.2	6.35	3.18	2.8
		VCMT110304-TM	●	●	●					●	●							●	0.4	6.35	3.18	2.8
		VCMT110308-TM	●	●	●					●	●							●	0.8	6.35	3.18	2.8
		VCMT160402-TM	●	●	●					●	●							●	0.2	9.525	4.76	4.4
		VCMT160404-TM	●	●	●					●	●							●	0.4	9.525	4.76	4.4
		VCMT160408-TM	●	●	●					●	●							●	0.8	9.525	4.76	4.4
	CM	VCMT080204-CM						●											0.4	4.76	2.38	2.3
		VCMT160404-CM				●	●	●											0.4	9.525	4.76	4.4
		VCMT160408-CM				●	●	●											0.8	9.525	4.76	4.4
		VCMT160412-CM						●											1.2	9.525	4.76	4.4

● : Line up

Reference pages: External toolholder → C048 - Internal toolholder → D039 - TungCap → K015 -

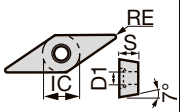
Insert POSITIVE TYPE

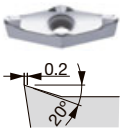
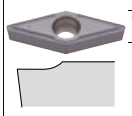
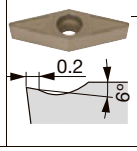
● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

VC

Rhombic, 35° with hole Positive 7°

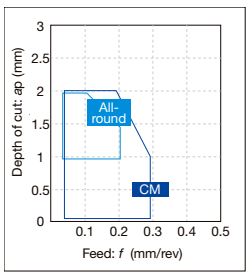
P	Steel	●ⓒ ⓒ✠
M	Stainless	●ⓒ ● ⓒ
K	Cast iron	●ⓒ ●ⓒ ●
N	Non-ferrous	●
S	Superalloy	● ● ⓒ ⓒ ●
H	Hard material	

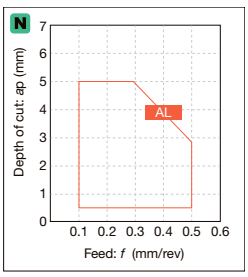


Application	Chipbreaker	Designation	Coated T9215	Coated T9225	Coated AH8005	Coated AH8015	Coated AH905	Cermet NS9530	Uncoated KS05F	RE	IC	S	D1
Finishing to medium cutting for non-ferrous alloys	**AL**	**VCGT160404-AL**							●	0.4	9.525	4.76	4.4
		VCGT160408-AL							●	0.8	9.525	4.76	4.4
		VCGT160412-AL							●	1.2	9.525	4.76	4.4
		VCGT220520-AL							●	2	12.7	5.56	5.5
		VCGT220530-AL							●	3	12.7	5.56	5.5
Finishing to medium cutting	**All-round**	**VCMT160404**			●	●	●			0.4	9.525	4.76	4.4
		VCMT160408			●	●	●			0.8	9.525	4.76	4.4
		VCMT160412			●	●	●			1.2	9.525	4.76	4.4
Medium cutting	**24**	**VCMT160404-24**	●	●				●		0.4	9.525	4.76	4.4
		VCMT160408-24	●	●				●		0.8	9.525	4.76	4.4

● : Line up

Chip control range





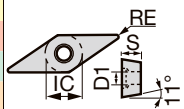
Reference pages: External toolholder → C048 - Internal toolholder → D039 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

VP

Rhombic, 35° with hole Positive 11°

P	Steel	●ⓒ ●ⓒ
M	Stainless	●ⓒ ●ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	●ⓒ
H	Hard material	

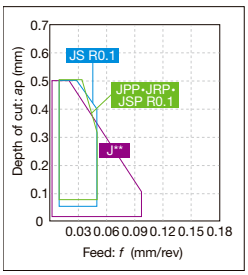


Application	Chipbreaker	Designation	Coated SH725	Coated SH730	RE	IC	S	D1
Finishing (sharp edge)	JPP	VPET0802008MFR-JPP	●	●	<0.08*	4.76	2.38	2.3
		VPET0802008MFL-JPP	●		<0.08*	4.76	2.38	2.3
		VPET080201MFR-JPP	●	●	<0.1*	4.76	2.38	2.3
		VPET080201MFL-JPP	●	●	<0.1*	4.76	2.38	2.3
		VPET0802018MFR-JPP	●		<0.18*	4.76	2.38	2.3
		VPET0802018MFL-JPP	●		<0.18*	4.76	2.38	2.3
		VPET080202MFR-JPP	●	●	<0.2*	4.76	2.38	2.3
		VPET080202MFL-JPP	●	●	<0.2*	4.76	2.38	2.3
		VPET1103008MFR-JPP	●	●	<0.08*	6.35	3.18	2.8
		VPET110301MFR-JPP	●	●	<0.1*	6.35	3.18	2.8
		VPET110301MFL-JPP	●		<0.1*	6.35	3.18	2.8
		VPET1103018MFR-JPP	●	●	<0.18*	6.35	3.18	2.8
		VPET110302MFR-JPP	●	●	<0.2*	6.35	3.18	2.8
		VPET110302MFL-JPP	●	●	<0.2*	6.35	3.18	2.8
	JRP	VPET0802008MFR-JRP	●	●	<0.08*	4.76	2.38	2.3
		VPET080201MFR-JRP	●	●	<0.1*	4.76	2.38	2.3
		VPET080201MFL-JRP	●	●	<0.1*	4.76	2.38	2.3
		VPET0802018MFR-JRP	●		<0.18*	4.76	2.38	2.3
		VPET0802018MFL-JRP	●		<0.18*	4.76	2.38	2.3
		VPET080202MFR-JRP	●	●	<0.2*	4.76	2.38	2.3
		VPET080202MFL-JRP	●	●	<0.2*	4.76	2.38	2.3
		VPET1103008MFR-JRP	●	●	<0.08*	6.35	3.18	2.8
		VPET1103008MFL-JRP		●	<0.08*	6.35	3.18	2.8
		VPET110301MFR-JRP	●	●	<0.1*	6.35	3.18	2.8
		VPET110301MFL-JRP	●	●	<0.1*	6.35	3.18	2.8
		VPET1103018MFR-JRP	●	●	<0.18*	6.35	3.18	2.8
		VPET1103018MFL-JRP	●		<0.18*	6.35	3.18	2.8
		VPET110302MFR-JRP	●	●	<0.2*	6.35	3.18	2.8
		VPET110302MFL-JRP	●	●	<0.2*	6.35	3.18	2.8
	JSP	VPET0802008MFN-JSP	●	●	<0.08*	4.76	2.38	2.3
		VPET080201MFN-JSP	●	●	<0.1*	4.76	2.38	2.3
		VPET0802018MFN-JSP	●	●	<0.18*	4.76	2.38	2.3
		VPET080202MFN-JSP	●	●	<0.2*	4.76	2.38	2.3
		VPET1103008MFN-JSP	●	●	<0.08*	6.35	3.18	2.8
		VPET110301MFN-JSP	●	●	<0.1*	6.35	3.18	2.8
		VPET1103018MFN-JSP	●	●	<0.18*	6.35	3.18	2.8
		VPET110302MFN-JSP	●	●	<0.2*	6.35	3.18	2.8

*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

Chip control range



*Chip control range with typical R0.1

Reference pages: J-Series toolholder → G044 -

Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

VP

Rhombic, 35° with hole Positive 11°

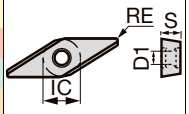
| | | |

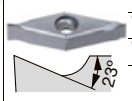
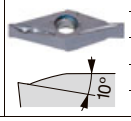
Insert POSITIVE TYPE / DOUBLE SIDE

VX

Rhombic, 35° with hole

P	●ᑕ
M	●ᑕ
K	
N	
S	
H	



Application	Chipbreaker	Designation	Coated SH725	RE	IC	S	D1
Finishing (sharp edge)	JRP 	VXGU09T201MFRE-JRP**	●	<0.1*	5.56	2.47	2.5
		VXGU09T201MFLE-JRP**	●	<0.1*	5.56	2.47	2.5
		VXGU09T202MFRE-JRP**	●	<0.2*	5.56	2.47	2.5
		VXGU09T202MFLE-JRP**	●	<0.2*	5.56	2.47	2.5
Finishing to medium cutting (sharp edge)	JS 	VXGU09T201MFR-JS(1)	●	<0.1*	5.56	2.47	2.5
		VXGU09T201MFL-JS(1)	●	<0.1*	5.56	2.47	2.5
		VXGU09T202MFR-JS(1)	●	<0.2*	5.56	2.47	2.5
		VXGU09T202MFL-JS(1)	●	<0.2*	5.56	2.47	2.5
		VXGU09T204MFR-JS(1)	●	<0.4*	5.56	2.47	2.5
		VXGU09T204MFL-JS(1)	●	<0.4*	5.56	2.47	2.5

*Corner radius (RE) with a sign of inequality (<) means minus tolerance.
** For external turning applications
(1)Due to chipbreaker profile, max ap for face or ID turning is 1 mm

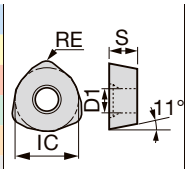
● : Line up

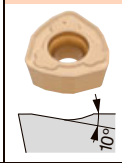
Insert POSITIVE TYPE

WP

Trigon, 80° with hole Positive 11°

P	Steel	●ᑕ ᑕ✣ ●ᑕ
M	Stainless	●ᑕ ●ᑕ
K	Cast iron	●ᑕ ●ᑕ
N	Non-ferrous	
S	Superalloy	●ᑕ
H	Hard material	



Application	Chipbreaker	Designation	Coated T9215	T9225	AH120	RE	IC	S	D1
Heavy cutting	ML 	WPMT090725ZPR-ML	●	●	●	2.5	15	7	5.5
		WPMT090725ZPL-ML	●	●	●	2.5	15	7	5.5

● : Line up

Reference pages: VXGU...: External toolholder → G065 - WPMT...: External toolholder → C068

Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

WB

Trigon, 80° with hole Positive 5°

| | | |

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

WX

Trigon, 80°
with hole

| | | |

Insert POSITIVE TYPE / DOUBLE SIDE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

WX

Trigon, 80°
with hole

| | | |

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

YW

Rhombic, 25° with hole Positive 7°

| | | |

Insert POSITIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

JXR

Reverse turning

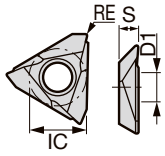
| | | |

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

JTB*

Back turning

		Coated			Coated cermet	Cermet	Uncoated
		SH7025	SH725	J740	J9530	NS9530	TH10
P	Steel	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●
M	Stainless	●ⓒ	●ⓒ				●
K	Cast iron				●ⓒ	●ⓒ	●
N	Non-ferrous						●
S	Superalloy						
H	Hard material						

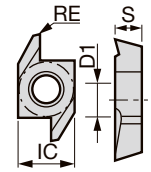


Application	Chipbreaker	Designation	Coated SH7025	Coated SH725	Coated J740	Coated cermet J9530	Cermet NS9530	Uncoated TH10	Dimension (mm) RE	IC	S	D1
Back turning	-	JTBR3000F	●	●	●			●	0.03	9.5	3.18	4.4
		JTBL3000F		●	●			●	0.03	9.5	3.18	4.4
		JTBR3005F	●	●	●			●	0.05	9.5	3.18	4.4
		JTBL3005F		●	●			●	0.05	9.5	3.18	4.4
		JTBR3005			●	●			0.05	9.5	3.18	4.4
		JTBL3005			●				0.05	9.5	3.18	4.4
		JTBR3010F	●	●	●		●	●	0.10	9.5	3.18	4.4
		JTBL3010F		●	●		●	●	0.10	9.5	3.18	4.4
		JTBR3010			●	●			0.10	9.5	3.18	4.4
		JTBL3010			●				0.10	9.5	3.18	4.4
		JTBR3015F	●	●	●				0.15	9.5	3.18	4.4
		JTBL3015F		●					0.15	9.5	3.18	4.4

J10E*

Back turning

		Coated			Coated cermet	Cermet	Uncoated
		SH7025	SH725	J740	J9530	NS9530	TH10
P	Steel	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●
M	Stainless	●ⓒ	●ⓒ				●
K	Cast iron				●ⓒ	●ⓒ	●
N	Non-ferrous						●
S	Superalloy						
H	Hard material						



Application	Chipbreaker	Designation	Coated SH7025	Coated SH725	Coated J740	Coated cermet J9530	Cermet NS9530	Uncoated TH10	Dimension (mm) RE	IC	S	D1
Back turning	-	J10ER005BF	●	●	●		●	●	0.05	6.35	3.18	3.0
		J10EL005BF	●	●	●			●	0.05	6.35	3.18	3.0
		J10ER005B			●	●			0.05	6.35	3.18	3.0
		J10EL005B			●				0.05	6.35	3.18	3.0
		J10ER010BF	●	●	●		●	●	0.10	6.35	3.18	3.0
		J10EL010BF	●	●	●			●	0.10	6.35	3.18	3.0
		J10ER010B			●	●			0.10	6.35	3.18	3.0
		J10EL010B			●				0.10	6.35	3.18	3.0
		J10EL015BF	●	●					0.15	6.35	3.18	3.0
		J10ER015BF	●	●					0.15	6.35	3.18	3.0

● : Line up

Reference pages: JTB...: J-Series toolholder → G083 J10E...: J-Series toolholder → G089

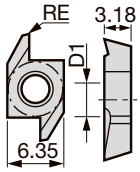
Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

10E*

Back turning

P	Steel	●
M	Stainless	●
K	Cast iron	●
N	Non-ferrous	●
S	Superalloy	
H	Hard material	



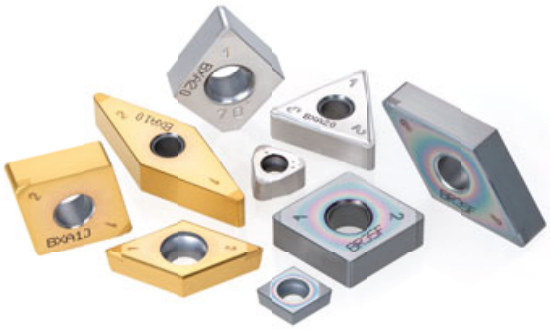
Application	Chipbreaker	Designation	Uncoated TH10	Dimension (mm) RE	IC	S	D1
Back turning	-	**10ER100B**	●	0.03	6.35	3.18	3.0
		10EL100B	●	0.03	6.35	3.18	3.0
		10ER150B	●	0.03	6.35	3.18	3.0
		10EL150B	●	0.03	6.35	3.18	3.0
		10ER300	●	-	6.35	3.18	3.0
		10EL300	●	-	6.35	3.18	3.0

● : Line up

MEMO

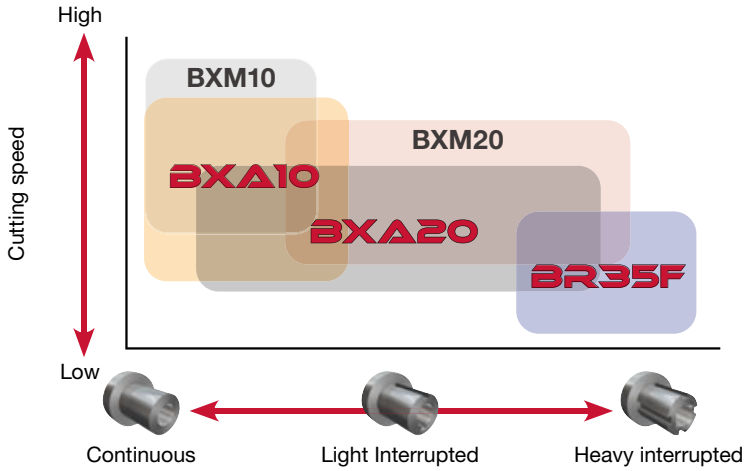
BXA10/BXA20/BR35F

Coated CBN series for a wide range of hard part turning



■ Application areas

The most suitable grade can be selected for your application requirements



BXA10

- First choice for continuous to light interrupted cuts
- For *Vc* = 230 m/min or less

BXA20

- Versatile grade from continuous to heavy interrupted cuts
- For *Vc* = 180 m/min or less

BR35F

- First choice for heavy interrupted cuts
- For *Vc* = 150 m/min or less

BXM10

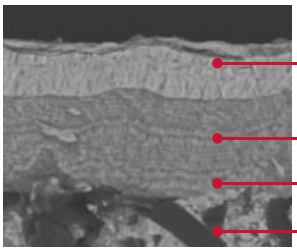
- Complementary grade for continuous to light interrupted cuts
- For extremely high cutting speeds of *Vc* = 300 m/min

BXM20

- Complementary versatile grade for continuous to heavy interrupted cuts
- For high cutting speeds of *Vc* = 200 m/min

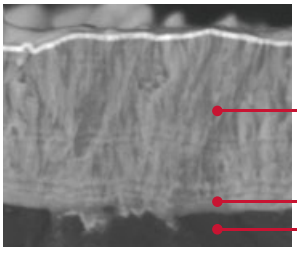
■ Grade properties

BXA10



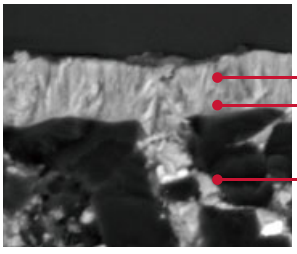
- TiCN coating with high thermal stability and wear resistance
- Multilayer TiAlN coating with good adhesion and resistance to delamination and chipping
- Strong coating-substrate adhesion prevents delamination
- Dedicated CBN substrate with excellent flank wear and crater wear resistance

BXA20



- Thick multilayer TiAlN coating with superior wear and chipping resistance
- Strong coating-substrate adhesion prevents delamination
- Dedicated CBN substrate with excellent crater wear and fracture resistance

BR35F



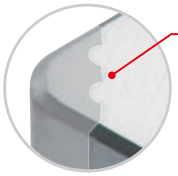
- Multilayer AlCrN coating with excellent fracture resistance
- Strong coating-substrate adhesion prevents delamination
- Dedicated CBN substrate with excellent chipping and fracture resistance

WavyJoint

New brazing technology for increased machining efficiency

A maximum depth of cut up to 0.8 mm.
Reduces the number of passes to increase productivity.

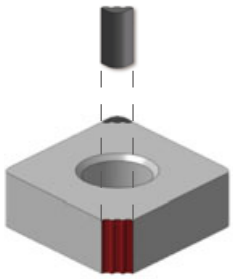
Innovative WavyJoint brazing technology
Prevents the CBN tips from debrazing, eliminating abrupt insert fractures during demanding dry machining, while securing stable and predictable hard turning operations.



The "wavy" contact surface enhances the brazing strength

Double sided inserts

WavyJoint

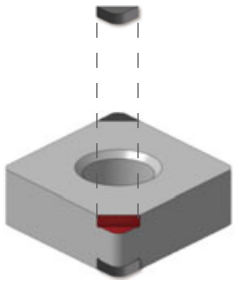


Vs.

CBN Tip Size: 200% larger for improved wear resistance of the cutting edge

Brazing Area: 160% larger for enhanced brazing strength

Standard



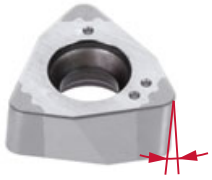
MINIFORCE TURN

Double-sided positive insert with CBN tips

MiniForce-Turn now offers WavyJoint CBN inserts that provide additional strength and security in aggressive cutting conditions.

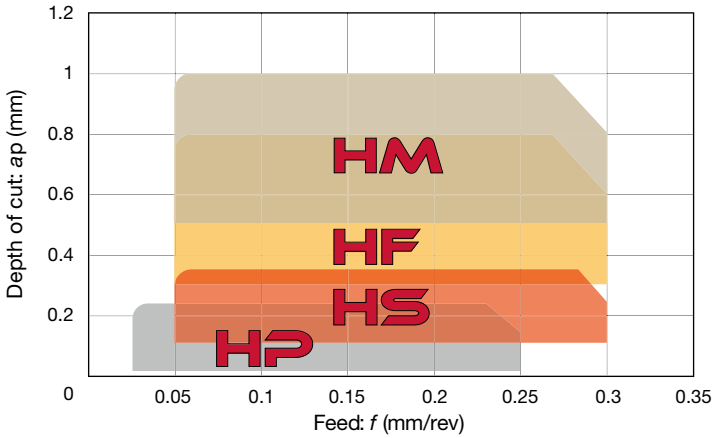
■ **WXGQ0403... insert**

Double-sided positive inserts



6-edged insert with dovetail design

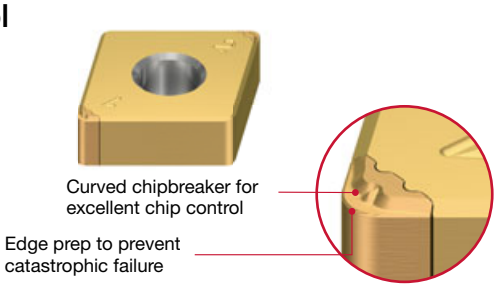
CBN inserts with chipbreaker ideal for carburized layer removal and finishing hardened steel



HS chipbreaker

Optimized chipbreaker design for excellent chip control during hard turning at aggressive conditions

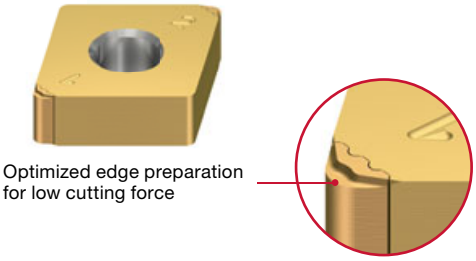
- Designed for high feed machining.
- Provides excellent chip control for a wide range of D.O.C. and feed rates.
- Edge preparation is designed to prevent catastrophic failure.



HP chipbreaker

Designed for finish machining of hardened parts with close tolerances

- Optimized chipbreaker geometry significantly reduces cutting force imposed on the cutting edge, ensuring long tool life.
- The edge preparation is designed to generate low cutting force, providing chatter-free machining and close tolerances.
- The built-in wiper yields excellent surface quality and good chip control.



HF and HM chipbreaker

- Suited for hard turning applications requiring great D.O.C. such as carburized layer removal.
- Effective chip breaking is possible for a wide range of hard materials.
- **BXA20** and **BXM20** CBN grade inserts are available for aggressive cutting depths.

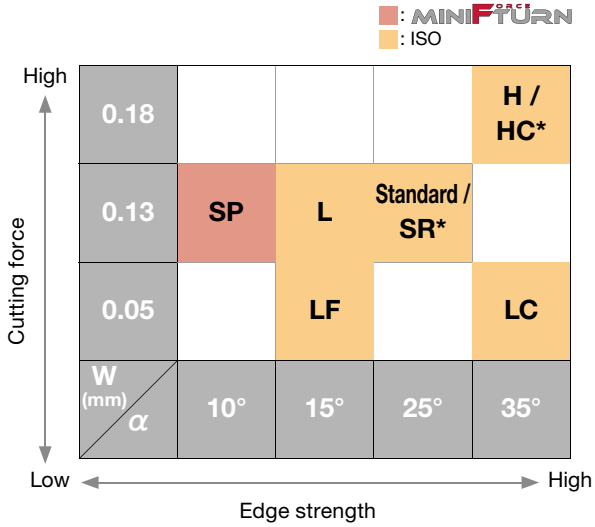
■ Edge preparations

Various styles of edge preparations are available according to the application needs

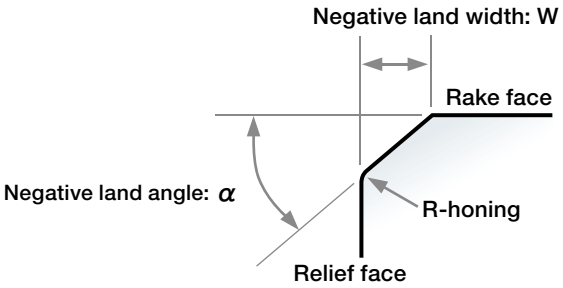
BXA10 and BXA20 grade ISO inserts are available in five different styles of edge preps: L, LF, LC, standard and -H; BR35F grade ISO inserts are offered in two styles of edge preps: SR and HC.

*For the new BR35F grade ISO inserts, "SR" is assigned for the edge prep symbol for S01325, instead of "Standard" as previously assigned. Likewise, "HC" for S01835, instead of conventional "H".

MiniForce-Turn inserts are available in the SP style edge prep (S01310).



*Edge prep symbol for BR35F grade inserts only



S	0	1	3	2	5
Edge prep. ID	Negative land width W			Negative land angle α	

S ··· Chamfered + R-honing

Non-Ferrous Application Series

Complete turning solutions for non-ferrous materials

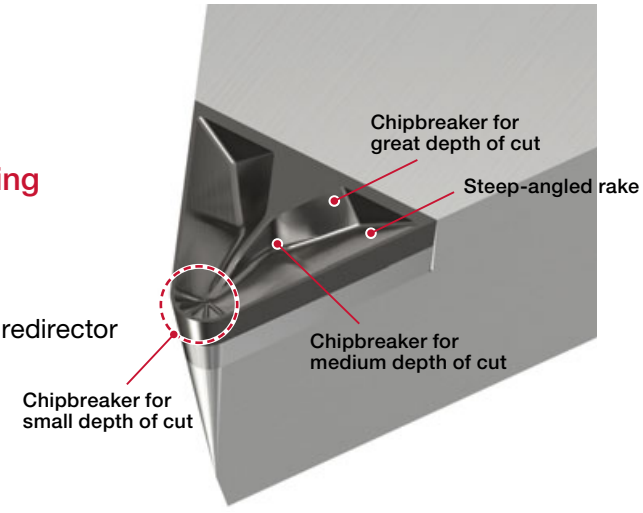
■ PCD inserts with 3D chipbreaker

NS chipbreaker

No more chip nesting in aluminum alloy machining

Unique 3D chipbreaker

- Versatile geometry allows excellent chip control
- One insert handles from rough to finish operations
- Optimal rake angle design effectively directs chips to the redirector

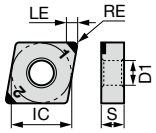


CBN Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

80°Rhombic with hole



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

		BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX815	BX930
K	Cast iron														●◐		●
S	Superalloy														●◐	●	
H	Hard material	●	●◐	✣	●	●◐	✣	●	●◐	●	●	●◐	✣				
	Sintered metal													●◐	◐✣		

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping
Precision finishing	2QP-CNGA120402-LF	0.2	2.3	2			○			
	2QP-CNGA120402-L		2.3	2				○		
	2QP-CNGA120404F	0.4	2.3	2			○			
	2QP-CNGA120404-E		2.3	2		○				
	2QP-CNGA120404-LT		2.3	2						○
	2QP-CNGA120404-LF		2.3	2			○			
	4QS-CNGA120404-LF		1.6	4			○			
	2QP-CNGA120404-L		2.3	2				○		
	2QP-CNGA120404FW		2.3	2	○	○				
	4QS-CNGA120404FW		1.6	4	○	○				
	2QP-CNMA120404W		2.3	2	○	○				
	4QP-CNMA120404W		2.3	4	○	○				
	2QP-CNGA120408F	0.8	2.2	2			○			
	2QP-CNGA120408-E		2.2	2						
	2QP-CNGA120408-LT		2.2	2						
	2QP-CNGA120408-LF		2.2	2			○			
	4QS-CNGA120408-LF		1.5	4			○			
	2QP-CNGA120408-L		2.2	2				○		
	2QP-CNGA120408FW		2.2	2	○	○				
	4QS-CNGA120408FW		1.8	4	○	○				
	2QP-CNMA120408W		2.2	2	○	○				
	4QP-CNMA120408W		2.2	4	○	○				
	2QP-CNGA120412-E	1.2	2.4	2						
	2QP-CNGA120412-LT		2.4	2						
	2QP-CNGA120412-LF		2.4	2			○			
	4QS-CNGA120412-LF		1.7	4			○			
	2QP-CNGA120412-L		2.4	2				○		
	2QP-CNGA120412FW		2.4	2	○	○				
	4QS-CNGA120412FW		2.1	4	○	○				
	2QP-CNMA120412W		2.4	2	○	○				
	4QP-CNMA120412W		2.4	4	○	○				
	2QP-CNGA120416-E	1.6	3.3	2						
	2QP-CNGA120416-LT		3.3	2						
	2QP-CNGA120420-E	2	3.2	2						
	2QP-CNGA120420-LT		3.2	2						
Finishing	2QP-CNGA120402	0.2	2.3	2		○				
	2QP-CNGA120402-LC		2.3	2					○	
	2QP-CNGA120404	0.4	2.3	2		○				
	T2QP-CNGA120404		2.3	2		○				
	2QP-CNGA120404SR		2.3	2		○				
	4QS-CNGA120404		1.6	4		○				
	4QS-CNGA120404SR		1.6	4		○				
	4QP-CNGA120404		2.3	4		○				
	2QP-CNGA120404-LC		2.3	2					○	
	4QS-CNGA120404-LC		1.6	4					○	

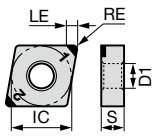
T at the beginning of the designation means 10 pieces per package.

● : Line up

Reference pages: External toolholder → C015 - | Internal toolholder → D025 -
J-Series toolholder → G050 | TungCap → K008 -
PINZBOHR® → K178 - | Cartridge → K181 -

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

80°Rhombic with hole

		BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
K	Cast iron														●◐	●
S	Superalloy														●◐	
H	Hard material	●	●◐	✣	●	●◐	✣	●	●◐	●	●	●◐	✣			
	Sintered metal													●◐	◐✣	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
Finishing	2QP-CNGA120408	0.8	2.2	2		○					●	●		●	●				●	●	●	●	●	●	●
	T2QP-CNGA120408		2.2	2		○															●				
	2QP-CNGA120408SR		2.2	2		○							●												
	4QS-CNGA120408		1.5	4		○					●	●													
	4QS-CNGA120408SR		1.5	4		○							●												
	4QP-CNGA120408		2.2	4		○										●	●	●							
	2QP-CNGA120408-LC	0.8	2.2	2					○		●	●													
	4QS-CNGA120408-LC		1.5	4					○		●	●													
	2QP-CNGA120412	1.2	2.4	2		○					●	●		●	●				●	●	●	●	●	●	●
	2QP-CNGA120412SR		2.4	2		○							●												
	4QS-CNGA120412		1.7	4		○					●	●													
	4QS-CNGA120412SR		1.7	4		○							●												
	4QP-CNGA120412		2.4	4		○										●	●	●							
	2QP-CNGA120412-LC		2.4	2					○		●	●													
	4QS-CNGA120412-LC		1.7	4					○		●	●													
	2QP-CNGA120416	1.6	3.3	2		○					●	●													
	2QP-CNGA120416SR		3.3	2		○							●												
	2QP-CNGA120420	2	3.2	2		○					●	●													
	2QP-CNGA120420SR		3.2	2		○							●												
	2QP-CNGA120424	2.4	3.1	2		○					●	●													
	2QP-CNGA120424SR		3.1	2		○							●												
Medium cutting	2QP-CNGA120404-H	0.4	2.3	2						○	●	●			●						●	●			
	2QP-CNGA120404HC		2.3	2						○			●												
	4QS-CNGA120404-H		1.6	4						○	●	●													
	4QS-CNGA120404HC		1.6	4						○			●												
	4QP-CNGA120404-H		2.3	4						○								●							
	2QP-CNGA120408-H	0.8	2.2	2						○	●	●			●						●	●			
	2QP-CNGA120408HC		2.2	2						○			●												
	4QS-CNGA120408-H		1.5	4						○	●	●													
	4QS-CNGA120408HC		1.5	4						○			●												
	4QP-CNGA120408-H		2.2	4						○								●							
	2QP-CNGA120412-H	1.2	2.4	2						○	●	●			●						●	●			
	2QP-CNGA120412HC		2.4	2						○			●												
	4QS-CNGA120412-H		1.7	4						○	●	●													
	4QS-CNGA120412HC		1.7	4						○			●												
	4QP-CNGA120412-H		2.4	4						○								●							
	2QP-CNGA120416HC	1.6	3.3	2						○			●												
	2QP-CNGA120420HC	2	3.2	2						○			●												
	2QP-CNGA120424HC	2.4	3.1	2						○			●												

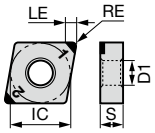
● : Line up

Reference pages:
External toolholder → C015 -
J-Series toolholder → G050
PINZBOHR® → K178 -
Internal toolholder → D025 -
TungCap → K008 -
Cartridge → K181 -

CBN Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN with chipbreaker



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

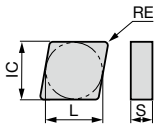
80°Rhombic with hole

		BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
K	Cast iron	●	●◐	✣	●	●◐	●◐
S	Superalloy						
H	Hard material						
	Sintered metal						

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
Precision finishing	2QP-CNGM120404-HP	0.4	2.3	2		○					●	●	●	●		
	4QS-CNGG120404-HP		1.6	4		○					●	●	●			
	2QP-CNGM120404-HS		2.3	2		○					●	●	●			
	4QS-CNGG120404-HS		1.6	4		○					●	●	●			
	2QP-CNGM120408-HP	0.8	2.2	2		○					●	●	●	●		
	4QS-CNGG120408-HP		1.5	4		○					●	●	●			
	2QP-CNGM120408FW-HP		2.2	2	○	○					●	●		●		
	4QS-CNGG120408FW-HP		1.8	4	○	○					●	●				
	2QP-CNGM120408-HS		2.2	2		○					●	●	●			
	4QS-CNGG120408-HS		1.8	4		○					●	●	●			
	2QP-CNGM120408FW-HS		2.2	2	○	○					●	●				
	2QP-CNGM120412-HP	1.2	2.4	2		○					●	●	●	●		
	2QP-CNGM120412-HS		2.4	2		○					●	●	●			
	4QS-CNGG120412-HS		2.2	4		○					●	●	●			
	2QP-CNGM120412FW-HS		2.4	2	○	○					●	●				
Medium cutting	2QP-CNGM120408-HF	0.8	2.2	2		○						●			●	
	4QS-CNGG120408-HF		1.8	4		○						●				
	4QP-CNGG120408-HF		2.2	4		○										●
	2QP-CNGM120408-HM		2.2	2		○						●			●	
	4QS-CNGG120408-HM		1.5	4		○						●				
	4QP-CNGG120408-HM		2.2	4		○										●
	2QP-CNGM120412-HF	1.2	2.4	2		○						●			●	
	4QS-CNGG120412-HF		2.2	4		○						●				
	4QP-CNGG120412-HF		2.4	4		○										●
	2QP-CNGM120412-HM		2.4	2		○						●			●	
	4QS-CNGG120412-HM		1.7	4		○						●				
	4QP-CNGG120412-HM		2.4	4		○										●

● : Line up

CN Solid insert



IC : 9.525 mm
S : 3.18 mm

80° Rhombic without hole

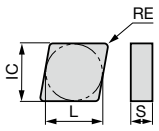
		BXC90
K	Cast iron	✣
S	Superalloy	
H	Hard material	
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	S-CNGN090308	0.8		4		○					●
	S-CNGN090312	1.2		4		○					●

● : Line up

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

CN Solid insert



IC : 12.7 mm
S : 4.76 mm

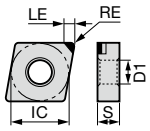
80° Rhombic without hole

K	Cast iron	✠
S	Superalloy	
H	Hard material	
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	**S-CNGN120408**	0.8		4		○					●
	S-CNGN1204**12**	1.2		4		○					●

● : Line up

CN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

80°Rhombic with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Medium cutting	**CNGA120402-QBN**	0.2	4.1	1		○					●
	CNGA1204**04-QBN**	0.4	4	1		○					●
	CNGA1204**08-QBN**	0.8	3.9	1		○					●
	CNGA1204**12-QBN**	1.2	3.9	1		○					●

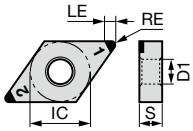
● : Line up

Reference pages:
External toolholder → C015 -
J-Series toolholder → G050
PINZBOHR® → K178 -
Internal toolholder → D025 -
TungCap → K008 -
Cartridge → K181 -

CBN Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

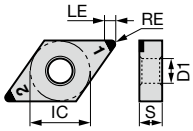
55° Rhombic with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20
Finishing	2QP-DNGA110404	0.4	2.5	2		○					●	●
	2QP-DNGA110408	0.8	2.1	2		○					●	●
	2QP-DNGA110412	1.2	2	2		○					●	●

● : Line up

DN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

55° Rhombic with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

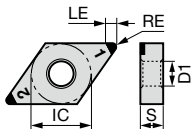
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX815	BX930
Precision finishing	2QP-DNGA150402-LF	0.2	2.7	2			○				●	●														
	4QS-DNGA150402-LF		2.2	4			○				●	●														
	2QP-DNGA150402-L		2.7	2				○			●	●														
	2QP-DNGA150404-E	0.4	2.5	2		○																			●	
	2QP-DNGA150404-LT		2.5	2						○															●	
	2QP-DNGA150404-LF		2.5	2			○				●	●														
	4QS-DNGA150404-LF		2	4			○				●	●														
	2QP-DNGA150404-L		2.5	2				○			●	●		●	●					●						
	2QP-DNGA150404WJ		2.5	2	○	○						●		●	●											
	2QP-DNGA150408-E	0.8	2.1	2																					●	
	2QP-DNGA150408-LT		2.1	2																					●	
	2QP-DNGA150408-LF		2.1	2			○				●	●														
	4QS-DNGA150408-LF		1.6	4			○				●	●														
	2QP-DNGA150408-L		2.1	2				○			●	●		●	●					●						
	2QP-DNGA150408WJ		2.1	2	○	○						●		●	●											
	2QP-DNGA150412-E	1.2	2	2																					●	
	2QP-DNGA150412-LT		2	2																					●	
	2QP-DNGA150412-LF		2	2			○				●	●														
	4QS-DNGA150412-LF		1.6	4			○				●	●														
	2QP-DNGA150412-L		2	2				○			●	●			●					●						
Finishing	2QP-DNGA150402	0.2	2.7	2		○					●	●														
	4QS-DNGA150402		2.2	4		○					●	●														
	2QP-DNGA150402-LC		2.7	2					○		●	●														
	4QS-DNGA150402-LC		2.2	4					○		●	●														
	2QP-DNGA150404	0.4	2.5	2		○					●	●		●	●				●	●	●	●	●	●		●
	4QP-DNGA150404		2.5	4		○										●	●	●								
	2QP-DNGA150404SR		2.5	2		○							●													
	4QS-DNGA150404		2	4		○					●	●														
	4QS-DNGA150404SR		2	4		○							●													
	2QP-DNGA150404-LC		2.5	2					○		●	●														
	4QS-DNGA150404-LC		2	4					○		●	●														

Please see page L025 about the toolholders recommended for wiper inserts of the designation with WJ at the end.

● : Line up

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

DN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

55° Rhombic with hole

		BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
K	Cast iron														◐	●
S	Superalloy														◐	
H	Hard material	●	◐	✠	●	◐	✠	●	◐	●	●	◐	✠			
	Sintered metal													◐	✠	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
Finishing	2QP-DNGA150408	0.8	2.1	2		○					●	●		●	●				●	●	●	●	●	●	●
	2QP-DNGA150408SR		2.1	2		○							●												
	4QS-DNGA150408		1.6	4		○					●	●													
	4QS-DNGA150408SR		1.6	4		○							●												
	4QP-DNGA150408		2.1	4		○										●	●	●							
	2QP-DNGA150408-LC		2.1	2					○		●	●													
	4QS-DNGA150408-LC		1.6	4					○		●	●													
	2QP-DNGA150412	1.2	2	2		○					●	●		●	●				●	●	●	●		●	●
	2QP-DNGA150412SR		2	2		○							●												
	4QS-DNGA150412		1.6	4		○					●	●													
	4QS-DNGA150412SR		1.6	4		○							●												
	4QP-DNGA150412		2	4		○										●	●	●							
	2QP-DNGA150412-LC		2	2					○		●	●													
	4QS-DNGA150412-LC		1.6	4					○		●	●													
	2QP-DNGA150416	1.6	3.4	2		○					●	●													
	2QP-DNGA150416SR		3.4	2		○							●												
	2QP-DNGA150420	2	3	2		○					●	●													
	2QP-DNGA150420SR		3	2		○							●												
	2QP-DNGA150424	2.4	2.6	2		○					●	●													
	2QP-DNGA150424SR		2.6	2		○							●												
Medium cutting	2QP-DNGA150404-H	0.4	2.5	2						○	●	●			●						●	●			
	2QP-DNGA150404HC		2.5	2						○			●												
	4QS-DNGA150404-H		2	4						○	●	●													
	4QS-DNGA150404HC		2	4						○			●												
	4QP-DNGA150404-H		2.5	4						○								●							
	2QP-DNGA150408-H	0.8	2.1	2						○	●	●			●					●	●				
	2QP-DNGA150408HC		2.1	2						○			●												
	4QS-DNGA150408-H		1.6	4						○	●	●													
	4QS-DNGA150408HC		1.6	4						○			●												
	4QP-DNGA150408-H		2.1	4						○								●							
	2QP-DNGA150412-H	1.2	2	2						○	●	●			●						●	●			
	2QP-DNGA150412HC		2	2						○			●												
	4QS-DNGA150412-H		1.6	4						○	●	●													
	4QS-DNGA150412HC		1.6	4						○			●												
	4QP-DNGA150412-H		2	4						○								●							
	2QP-DNGA150416HC	1.6	3.4	2						○			●												
	2QP-DNGA150420HC	2	3	2						○			●												
	2QP-DNGA150424HC	2.4	2.6	2						○			●												

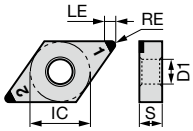
● : Line up

Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

CBN Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN with chipbreaker



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

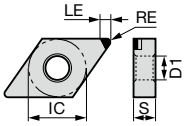
55° Rhombic with hole

		BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
K	Cast iron						
S	Superalloy						
H	Hard material	●	●◐	✣	●	●◐	●◐
	Sintered metal						

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
Precision finishing	2QP-DNGM150404-HP	0.4	2.5	2		○					●	●	●	●		
	4QS-DNGG150404-HP		2	4		○					●	●	●			
	2QP-DNGM150404-HS		2.5	2		○					●	●	●			
	4QS-DNGG150404-HS		2	4		○					●	●	●			
	2QP-DNGM150408-HP	0.8	2.1	2		○					●	●	●	●		
	4QS-DNGG150408-HP		1.6	4		○					●	●	●			
	2QP-DNGM150408-HS		2.1	2		○					●	●	●			
	4QS-DNGG150408-HS		1.6	4		○					●	●	●			
	2QP-DNGM150412-HP	1.2	2	2		○					●	●	●			
	2QP-DNGM150412-HS		2	2		○					●	●	●			
	4QS-DNGG150412-HS		1.6	4		○					●	●	●			
Medium cutting	2QP-DNGM150408-HF	0.8	2.1	2		○						●			●	
	4QS-DNGG150408-HF		2	4		○						●				
	4QP-DNGG150408-HF		2.1	4		○										●
	2QP-DNGM150408-HM		2.1	2		○									●	
	4QS-DNGG150408-HM		1.6	4		○						●				
	4QP-DNGG150408-HM		2.1	4		○										●
	2QP-DNGM150412-HF	1.2	2	2		○						●			●	
	4QS-DNGG150412-HF		2.6	4		○						●				
	4QP-DNGG150412-HF		2	4		○										●
	2QP-DNGM150412-HM		2	2		○									●	
	4QP-DNGG150412-HM		2	4		○										●

● : Line up

DN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

55° Rhombic with hole

		BX360
K	Cast iron	
S	Superalloy	
H	Hard material	●◐
	Sintered metal	

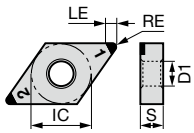
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	DNGA150402-QBN	0.2	4.3	1		○					●
	DNGA150404-QBN	0.4	4.4	1		○					●
	DNGA150408-QBN	0.8	3.8	1		○					●
	DNGA150412-QBN	1.2	3.4	1		○					●

● : Line up

Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

DN



IC : 12.7 mm
D1 : 5.16 mm
S : 6.35 mm

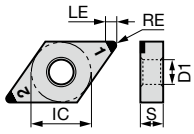
55° Rhombic with hole

K	Cast iron																																
S	Superalloy																																
H	Hard material	●	●◐	✠	●	●◐																											
	Sintered metal																																

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20
Precision finishing	2QP-DNGA150604-LF	0.4	2.5	2			○				●	●			
	2QP-DNGA150604-L		2.5	2				○			●	●			
	2QP-DNGA150608-LF	0.8	2.1	2			○				●	●			
	2QP-DNGA150608-L		2.1	2				○			●	●			
	2QP-DNGA150612-LF	1.2	2	2			○				●	●			
	2QP-DNGA150612-L		2	2				○			●	●			
Finishing	2QP-DNGA150604	0.4	2.5	2		○					●	●		●	●
	2QP-DNGA150604SR		2.5	2		○							●		
	2QP-DNGA150604-LC		2.5	2					○		●	●			
	2QP-DNGA150608	0.8	2.1	2		○					●	●		●	●
	2QP-DNGA150608SR		2.1	2		○							●		
	2QP-DNGA150608-LC		2.1	2					○		●	●			
	2QP-DNGA150612	1.2	2	2		○					●	●		●	●
	2QP-DNGA150612SR		2	2		○							●		
	2QP-DNGA150612-LC		2	2					○		●	●			
Medium cutting	2QP-DNGA150604-H	0.4	2.5	2						○	●	●			
	2QP-DNGA150604HC		2.5	2						○			●		
	2QP-DNGA150608-H	0.8	2.1	2						○	●	●			
	2QP-DNGA150608HC		2.1	2						○			●		
	2QP-DNGA150612-H	1.2	2	2						○	●	●			
	2QP-DNGA150612HC		2	2						○			●		

● : Line up

DN with chipbreaker



IC : 12.7 mm
D1 : 5.16 mm
S : 6.35 mm

55° Rhombic with hole

K	Cast iron																																
S	Superalloy																																
H	Hard material	●	●◐	✠	●																												
	Sintered metal																																

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-DNGM150608-HP	0.8	2.1	2		○					●	●	●	●
	2QP-DNGM150608-HS		2.1	2		○					●	●	●	

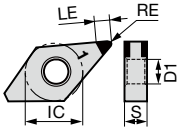
● : Line up

Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

CBN Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

FN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

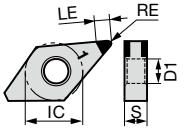
45° Rhombic with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA20
Precision finishing	2QP-FNGA150404-LF	0.4	2.6	2			○				●
	2QP-FNGA150404-L		2.6	2				○			●
	2QP-FNGA150408-LF	0.8	3	2			○				●
	2QP-FNGA150408-L		3	2				○			●
	2QP-FNGA150412-LF	1.2	3.3	2			○				●
	2QP-FNGA150412-L		3.3	2				○			●
Finishing	2QP-FNGA150402	0.2	2.8	2		○					●
	2QP-FNGA150404	0.4	2.6	2		○					●
	2QP-FNGA150404-LC		2.6	2					○		●
	2QP-FNGA150408	0.8	3	2		○					●
	2QP-FNGA150408-LC		3	2					○		●
	2QP-FNGA150412	1.2	3.3	2		○					●
	2QP-FNGA150412-LC		3.3	2					○		●
Medium cutting	2QP-FNGA150404-H	0.4	2.6	2						○	●
	2QP-FNGA150408-H	0.8	3	2						○	●
	2QP-FNGA150412-H	1.2	3.3	2						○	●

● : Line up

FN with chipbreaker



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

45° Rhombic with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●ⓒ
	Sintered metal	

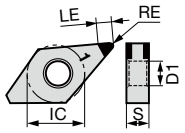
Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA20
Precision finishing	2QP-FNGG150404-HP	0.4	2.6	2		○					●
	2QP-FNGG150408-HP	0.8	3	2		○					●
	2QP-FNGG150412-HP	1.2	3.3	2		○					●

● : Line up

Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

FN



IC : 12.7 mm
D1 : 5.16 mm
S : 6.35 mm

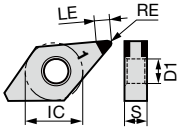
45° Rhombic with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●◐
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA20
Precision finishing	**2QP-FNGA150604-LF**	0.4	2.6	2			○				●
	2QP-FNGA1506**04-L**		2.6	2				○			●
	2QP-FNGA1506**08-LF**	0.8	3	2			○				●
	2QP-FNGA1506**08-L**		3	2				○			●
	2QP-FNGA1506**12-LF**	1.2	3.3	2			○				●
	2QP-FNGA1506**12-L**		3.3	2				○			●
Finishing	2QP-FNGA1506**04**	0.4	2.6	2		○					●
	2QP-FNGA1506**04-LC**		2.6	2					○		●
	2QP-FNGA1506**08**	0.8	3	2		○					●
	2QP-FNGA1506**08-LC**		3	2					○		●
	2QP-FNGA1506**12**	1.2	3.3	2		○					●
	2QP-FNGA1506**12-LC**		3.3	2					○		●
Medium cutting	2QP-FNGA1506**04-H**	0.4	2.6	2						○	●
	2QP-FNGA1506**08-H**	0.8	3	2						○	●
	2QP-FNGA1506**12-H**	1.2	3.3	2						○	●

● : Line up

FN with chipbreaker



IC : 12.7 mm
D1 : 5.16 mm
S : 6.35 mm

45° Rhombic with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●◐
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA20
Precision finishing	**2QP-FNGG150604-HP**	0.4	2.6	2		○					●
	2QP-FNGG150608-HP	0.8	3	2		○					●
	2QP-FNGG150612-HP	1.2	3.3	2		○					●

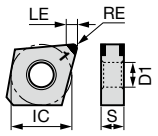
● : Line up

Reference pages: External toolholder → C034 - Internal toolholder → D069 -
J-Series toolholder → G068 TungCap → C034 -, K012 -

CBN Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

GN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

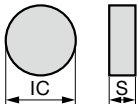
70° Rhombic with hole

| | | |

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

RN Solid insert

Round, without hole



IC : 9.525 mm
S : 3.18 mm

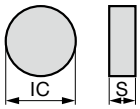
K	Cast iron	✠
S	Superalloy	
H	Hard material	
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	S-RNGN090300			-		○					●

● : Line up

RN Solid insert

Round, without hole



IC : 12.7 mm
S : 4.76 mm

K	Cast iron	✠
S	Superalloy	
H	Hard material	
	Sintered metal	

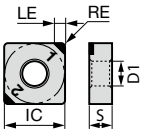
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	S-RNGN120400			-		○					●

● : Line up

CBN Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

SN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

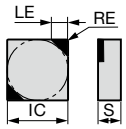
Square with hole

		BXA10	BXA20	BR35F	BXM20	BXC50	BXA40	BX310	BX330	BX360	BX380	BX480	BX930
K	Cast iron											◐	●
S	Superalloy											◐	
H	Hard material	●	◐	✣	◐	✣	◐	●	●	◐	✣		
	Sintered metal											◐	✣

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM20	BXC50	BXA40	BX310	BX330	BX360	BX380	BX480	BX930
Precision finishing	2QP-SNGA120404-L	0.4	2.4	2				○										●				
	2QP-SNGA120408-LF	0.8	2.4	2			○				●	●										
	2QP-SNGA120408-L		2.4	2				○			●	●		●				●				
	2QP-SNGA120412-LF	1.2	2.4	2			○				●	●										
	2QP-SNGA120412-L		2.4	2				○			●	●		●				●				
Finishing	2QP-SNGA120404	0.4	2.4	2		○					●	●		●			●	●	●	●	●	●
	4QS-SNGA120404		1.8	4		○					●	●										
	4QP-SNGA120404		2.4	4		○									●	●						
	2QP-SNGA120408	0.8	2.4	2		○					●	●		●			●	●	●	●	●	●
	2QP-SNGA120408SR		2.4	2		○							●									
	4QS-SNGA120408		1.8	4		○					●	●										
	4QS-SNGA120408SR		1.8	4		○							●									
	4QP-SNGA120408		2.4	4		○									●	●						
	2QP-SNGA120412	1.2	2.4	2		○					●	●		●			●	●	●	●	●	●
	2QP-SNGA120412SR		2.4	2		○							●									
	4QS-SNGA120412		1.8	4		○					●	●										
	4QS-SNGA120412SR		1.8	4		○							●									
	4QP-SNGA120412		2.4	4		○									●	●						
Medium cutting	2QP-SNGA120404-H	0.4	2.4	2						○									●	●		
	2QP-SNGA120408-H	0.8	2.4	2						○		●		●					●	●		
	4QP-SNGA120408-H		2.4	4						○						●						
	2QP-SNGA120412-H	1.2	2.4	2						○		●		●					●	●		
	4QP-SNGA120412-H		2.4	4						○						●						

● : Line up

SN



IC : 9.525 mm
S : 3.18 mm

Square without hole

		BX910
K	Cast iron	●
S	Superalloy	
H	Hard material	
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX910
Finishing	2QP-SNGN090308	0.8	2.4	2		○					●
	2QP-SNGN090312	1.2	2.4	2		○					●

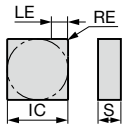
● : Line up

Reference pages: External toolholder → C101 - Internal toolholder → D043 -
Cartridge → K181 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

SN Solid insert

Square without hole



IC : 9.525 mm
S : 3.18 mm

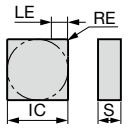
K	Cast iron	✠
S	Superalloy	
H	Hard material	
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	S-SNGN090308	0.8		8		○					●
	S-SNGN090312	1.2		8		○					●

● : Line up

SN Solid insert

Square without hole



IC : 12.7 mm
S : 3.18 mm

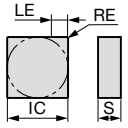
K	Cast iron	✠
S	Superalloy	
H	Hard material	
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	S-SNGN120308	0.8		8		○					●
	S-SNGN120312	1.2		8		○					●

● : Line up

SN Solid insert

Square without hole



IC : 12.7 mm
S : 4.76 mm

K	Cast iron	✠
S	Superalloy	
H	Hard material	
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	S-SNGN120408	0.8		8		○					●
	S-SNGN120412	1.2		8		○					●

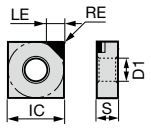
● : Line up

Reference pages: External toolholder → C101 - Internal toolholder → D043 -
Cartridge → K181 -

CBN Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

SN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

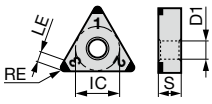
Square with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	SNGA120402-QBN	0.2	4.1	1		○					●
	SNGA120404-QBN	0.4	4.1	1		○					●
	SNGA120408-QBN	0.8	4.1	1		○					●
	SNGA120412-QBN	1.2	4.1	1		○					●

● : Line up

TN



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

Triangular with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX815	BX930
Precision finishing	3QP-TNGA160402-LF	0.2	2.3	3			○				●	●														
	3QP-TNGA160402-L		2.3	3				○			●	●														
	3QP-TNGA160404F	0.4	2.2	3			○																●			
	3QP-TNGA160404-LF		2.2	3			○				●	●														
	6QS-TNGA160404-LF		1.9	6			○				●	●														
	3QP-TNGA160404-L		2.2	3				○			●	●		●	●					●						
	3QP-TNGA160404WG		2.4	3	○	○					●	●			●											
	3QP-TNGA160408F	0.8	1.9	3			○																●			
	3QP-TNGA160408-E		1.9	3		○																			●	
	3QP-TNGA160408-LT		1.9	3						○															●	
	3QP-TNGA160408-LF		1.9	3			○				●	●														
	6QS-TNGA160408-LF		1.6	6			○				●	●														
	3QP-TNGA160408-L		1.9	3				○			●	●		●	●					●						
	3QP-TNGA160408WG		2.2	3	○	○					●	●		●	●											
	3QP-TNGA160412-LF	1.2	2.4	3			○				●	●														
	6QS-TNGA160412-LF		1.8	6			○				●	●														
	3QP-TNGA160412-L		2.4	3				○			●	●		●	●					●						
Finishing	3QP-TNGA160402	0.2	2.3	3		○					●	●														
	3QP-TNGA160402-LC		2.3	3					○		●	●														
	3QP-TNGA160404	0.4	2.2	3		○					●	●		●	●				●	●	●	●	●	●		●
	T3QP-TNGA160404		2.2	3		○															●					
	3QP-TNGA160404SR		2.2	3		○							●													
	6QS-TNGA160404		1.9	6		○					●	●														
	6QS-TNGA160404SR		1.9	6		○							●													
	6QP-TNGA160404		2.2	6		○										●	●	●								
	3QP-TNGA160404-LC		2.2	3					○		●	●														
	6QS-TNGA160404-LC		1.9	6					○		●	●														

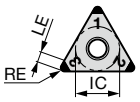
T at the beginning of the designation means 10 pieces per package.
Please see page L025 about the toolholders recommended for wiper inserts of the designation with WG at the end.

● : Line up

● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

TN

Triangular with hole



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

		BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
K	Cast iron														●ᑕ	●
S	Superalloy														●ᑕ	
H	Hard material	●	●ᑕ	✣	●	●ᑕ	✣	●	●ᑕ	●	●	●ᑕ	✣			
	Sintered metal													●ᑕ	ᑕ✣	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping
Finishing	**3QP-TNGA160408**	0.8	1.9	3		○				
	T3QP-TNGA160408		1.9	3		○				
	3QP-TNGA160408SR		1.9	3		○				
	6QS-TNGA160408		1.6	6		○				
	6QS-TNGA1604**08SR**		1.6	6		○				
	6QP-TNGA160408		1.9	6		○				
	3QP-TNGA160408-LC		1.9	3					○	
	6QS-TNGA160408-LC		1.9	6					○	
	3QP-TNGA160412	1.2	2.4	3		○				
	3QP-TNGA1604**12SR**		2.4	3		○				
	6QS-TNGA160412		1.8	6		○				
	6QS-TNGA1604**12SR**		1.8	6		○				
	6QP-TNGA160412		2.4	6		○				
	3QP-TNGA160412-LC		2.4	3					○	
	6QS-TNGA160412-LC		1.8	6					○	
	3QP-TNGA160416	1.6	3.3	3		○				
	3QP-TNGA1604**16SR**		3.3	3		○				
	3QP-TNGA1604**20**	2	3	3		○				
	3QP-TNGA1604**20SR**		3	3		○				
	3QP-TNGA1604**24**	2.4	2.7	3		○				
	3QP-TNGA1604**24SR**		2.7	3		○				
Medium cutting	3QP-TNGA1604**04-H**	0.4	2.2	3						○
	3QP-TNGA1604**04HC**		2.2	3						○
	6QS-TNGA160404-H		1.9	6						○
	6QS-TNGA1604**04HC**		1.9	6						○
	6QP-TNGA160404-H		2.2	6						○
	3QP-TNGA160408-H	0.8	1.9	3						○
	3QP-TNGA1604**08HC**		1.9	3						○
	6QS-TNGA160408-H		1.6	6						○
	6QS-TNGA1604**08HC**		1.6	6						○
	6QP-TNGA160408-H		1.9	6						○
	3QP-TNGA160412-H	1.2	2.4	3						○
	3QP-TNGA1604**12HC**		2.4	3						○
	6QS-TNGA160412-H		1.8	6						○
	6QS-TNGA1604**12HC**		1.8	6						○
	6QP-TNGA160412-H		2.4	6						○
	3QP-TNGA160416HC	1.6	3.3	3						○
	3QP-TNGA1604**20HC**	2	3	3						○
	3QP-TNGA1604**24HC**	2.4	2.7	3						○

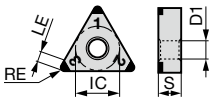
● : Line up

Reference pages: SN: External toolholder → C101 -, Internal toolholder → D043 -, Cartridge → K181 -
TN: External toolholder → C032 -, Internal toolholder → D049 -, Cartridge → K181 -

CBN Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN with chipbreaker



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

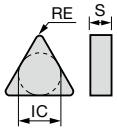
Triangular with hole

		BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
K	Cast iron	●	●◐	✠	●	●◐	●◐
S	Superalloy						
H	Hard material						
	Sintered metal						

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
Precision finishing	3QP-TNGM160404-HP	0.4	2.2	3		○					●	●	●	●		
	6QS-TNGG160404-HP		1.9	6		○					●	●	●			
	3QP-TNGM160404-HS		2.2	3		○					●	●	●			
	6QS-TNGG160404-HS		1.9	6		○					●	●	●			
	3QP-TNGM160408-HP	0.8	1.9	3		○					●	●	●	●		
	6QS-TNGG160408-HP		1.6	6		○					●	●	●			
	3QP-TNGM160408-HS		1.9	3		○					●	●	●			
	6QS-TNGG160408-HS		1.6	6		○					●	●	●			
	3QP-TNGM160412-HP	1.2	2.4	3		○					●	●	●			
	6QS-TNGG160412-HP		1.8	6		○					●	●	●			
	3QP-TNGM160412-HS		2.4	3		○					●	●	●			
	6QS-TNGG160412-HS		1.8	6		○					●	●	●			
Medium cutting	3QP-TNGM160408-HF	0.8	1.9	3		○						●			●	
	6QS-TNGG160408-HF		2.1	4		○						●				
	6QP-TNGG160408-HF		1.9	6		○										●
	3QP-TNGM160408-HM		1.9	3		○									●	
	6QS-TNGG160408-HM		1.6	6		○						●				
	6QP-TNGG160408-HM		1.9	6		○										●
	3QP-TNGM160412-HF	1.2	2.4	3		○						●			●	
	6QS-TNGG160412-HF		2.5	4		○						●				
	6QP-TNGG160412-HF		2.4	6		○										●
	3QP-TNGM160412-HM		2.4	3		○									●	
	6QP-TNGG160412-HM		2.4	6		○										●

● : Line up

TN Solid insert



IC : 6.35 mm
S : 3.18 mm

Triangular without hole

		BXC90
K	Cast iron	✠
S	Superalloy	
H	Hard material	
	Sintered metal	

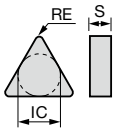
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	S-TNGN110308	0.8		6		○					●
	S-TNGN110312	1.2		6		○					●

● : Line up

Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TN Solid insert



IC : 9.525 mm
S : 4.76 mm

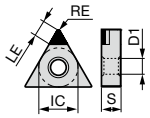
Triangular without hole

K	Cast iron	✠
S	Superalloy	
H	Hard material	
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXC90
Medium cutting	**S-TNGN160408**	0.8		6		○					●
	S-TNGN1604**12**	1.2		6		○					●

● : Line up

TN



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

Triangular with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●◐
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	**TNGA160402-QBN**	0.2	4.4	1		○					●
	TNGA1604**04-QBN**	0.4	4.2	1		○					●
	TNGA1604**08-QBN**	0.8	4	1		○					●
	TNGA1604**12-QBN**	1.2	3.7	1		○					●

● : Line up

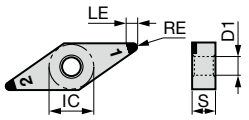
Reference pages: External toolholder → C032 - Internal toolholder → D049 -
J-Series toolholder → G051 - Cartridge → K181 -

CBN Insert NEGATIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

VN

35° Rhombic with hole



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

		BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
K	Cast iron														●◐	●
S	Superalloy														●◐	
H	Hard material	●	●◐	✣	●	●◐	✣	●	●◐	●	●	●◐	✣			
	Sintered metal													●◐	◐✣	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping
Precision finishing	2QP-VNGA160402-LF	0.2	3.5	2			○			
	4QS-VNGA160402-LF		3	4			○			
	2QP-VNGA160402-L		3.5	2				○		
	2QP-VNGA160404-LF	0.4	3.1	2			○			
	4QS-VNGA160404-LF		2.6	4			○			
	2QP-VNGA160404-L		3.1	2				○		
	2QP-VNGA160408-LF	0.8	2.2	2			○			
	4QS-VNGA160408-LF		1.7	4			○			
	2QP-VNGA160408-L		2.2	2				○		
	2QP-VNGA160412-LF	1.2	3	2			○			
	4QS-VNGA160412-LF		1.7	4			○			
	2QP-VNGA160412-L		3	2				○		
Finishing	2QP-VNGA160402	0.2	3.5	2		○				
	4QS-VNGA160402		3	4		○				
	2QP-VNGA160402-LC		3.5	2					○	
	4QS-VNGA160402-LC		3	4					○	
	2QP-VNGA160404	0.4	3.1	2		○				
	2QP-VNGA160404SR		3.1	2		○				
	4QS-VNGA160404		2.6	4		○				
	4QS-VNGA160404SR		2.6	4		○				
	4QP-VNGA160404		3.1	4		○				
	2QP-VNGA160404-LC		3.1	2					○	
	4QS-VNGA160404-LC		2.6	4					○	
	2QP-VNGA160408	0.8	2.2	2		○				
	2QP-VNGA160408SR		2.2	2		○				
	4QS-VNGA160408		1.7	4		○				
	4QS-VNGA160408SR		1.7	4		○				
	4QP-VNGA160408		2.2	4		○				
	2QP-VNGA160408-LC		2.2	2					○	
	4QS-VNGA160408-LC		1.7	4					○	
	2QP-VNGA160412	1.2	3	2		○				
	4QS-VNGA160412		1.7	4		○				
	4QP-VNGA160412		3	4		○				
	2QP-VNGA160412-LC		3	2					○	
	4QS-VNGA160412-LC		1.7	4					○	
Medium cutting	2QP-VNGA160404-H	0.4	3.1	2						○
	2QP-VNGA160404HC		3.1	2						○
	4QS-VNGA160404-H		2.6	4						○
	4QS-VNGA160404HC		2.6	4						○
	4QP-VNGA160404-H		3.1	4						○
	2QP-VNGA160408-H	0.8	2.2	2						○
	2QP-VNGA160408HC		2.2	2						○
	4QS-VNGA160408-H		1.7	4						○
	4QS-VNGA160408HC		1.7	4						○
	4QP-VNGA160408-H		2.2	4						○
	2QP-VNGA160412-H	1.2	3	2						○
	4QS-VNGA160412-H		1.7	4						○

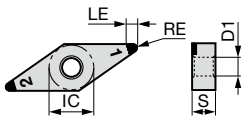
● : Line up

Reference pages: External toolholder → C041 - Internal toolholder → D074 -
TungCap → C042 -, K014 -

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

VN with chipbreaker

35° Rhombic with hole



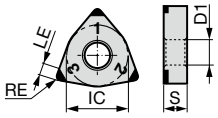
IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

K	Cast iron																												
S	Superalloy																												
H	Hard material	●	●◐	●	●◐	●◐																							
	Sintered metal																												

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BXM10	BXM20	BXA40
Precision finishing	2QP-VNGM160404-HP	0.4	3.1	2		○					●	●			
	4QS-VNGG160404-HP		2.6	4		○					●	●			
	2QP-VNGM160404-HS		3.1	2		○					●	●			
	4QS-VNGG160404-HS		2.6	4		○					●	●			
	2QP-VNGM160408-HP	0.8	2.2	2		○					●	●	●		
	4QS-VNGG160408-HP		1.7	4		○					●	●			
	2QP-VNGM160408-HS		2.2	2		○					●	●			
	4QS-VNGG160408-HS		1.7	4		○					●	●			
Medium cutting	2QP-VNGM160408-HF	0.8	2.2	2		○								●	
	4QP-VNGG160408-HF		2.2	4		○									●
	2QP-VNGM160408-HM		2.2	2		○								●	
	4QS-VNGG160408-HM		1.7	4		○						●			
	4QP-VNGG160408-HM		2.2	4		○									●

● : Line up

WN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

80° Trigon with hole

K	Cast iron																								●◐	●			
S	Superalloy																								●◐				
H	Hard material	●	●◐	●	●◐	✣	●	●◐	●	●	●◐	✣																	
	Sintered metal																								◐✣				

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX480	BX930
Precision finishing	3QP-WNGA080408-LF	0.8	2.2	3			○				●	●											
	6QS-WNGA080408-LF		1.5	6			○				●	●											
	3QP-WNGA080408-L		2.2	3				○			●	●											
	3QP-WNGA080408FW		2.2	3	○	○					●	●	●	●									
	6QS-WNGA080408FW		1.8	6	○	○					●	●											
Finishing	3QP-WNGA080404	0.4	2.3	3		○					●	●											
	6QS-WNGA080404		1.6	6		○					●	●											
	6QP-WNGA080404		2.3	6		○									●								
	3QP-WNGA080408	0.8	2.2	3		○					●	●	●	●				●	●	●	●	●	●
	6QS-WNGA080408		1.5	6		○					●	●											
	6QP-WNGA080408		2.2	6		○									●	●	●						
	3QP-WNGA080412	1.2	2.4	3		○					●	●									●		
	6QS-WNGA080412		1.7	6		○					●	●											
Medium cutting	3QP-WNGA080408-H	0.8	2.2	3						○	●	●											
	6QS-WNGA080408-H		1.5	6						○	●	●											

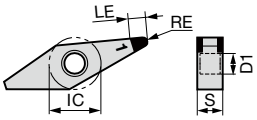
● : Line up

Reference pages: VN: External toolholder → C041 -, Internal toolholder → D074 -, TungCap → C042 -, K014 -
WN: External toolholder → C024 -, Internal toolholder → D031 -, TungCap → C024 -, K010 -

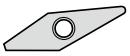
CBN Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

YN



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm



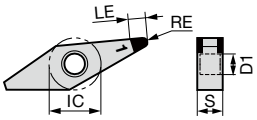
25° Rhombic with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●ɔ
	Sintered metal	

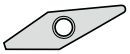
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA20
Precision finishing	2QP-YNGA160404-LF	0.4	3.1	2			○				●
	2QP-YNGA160404-L		3.1	2				○			●
	2QP-YNGA160408-LF	0.8	3	2			○				●
	2QP-YNGA160408-L		3	2				○			●
Finishing	2QP-YNGA160402	0.2	3.5	2		○					●
	2QP-YNGA160404	0.4	3.1	2		○					●
	2QP-YNGA160404-LC		3.1	2					○		●
	2QP-YNGA160408	0.8	3	2		○					●
	2QP-YNGA160408-LC		3	2					○		●

● : Line up

YN with chipbreaker



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm



25° Rhombic with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●ɔ
	Sintered metal	

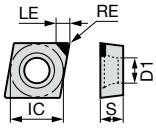
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA20
Precision finishing	2QP-YNGG160404-HP	0.4	3.1	2		○					●
	2QP-YNGG160408-HP	0.8	3	2		○					●

● : Line up

Reference pages: External toolholder → C041 - Internal toolholder → D074 -
TungCap → C042 -, K014 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

CC



IC : 3.57 mm
D1 : 1.9 mm
S : 1.39 mm

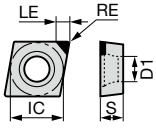
80°Rhombic with hole, Positive 7°

K	Cast iron	
S	Superalloy	
H	Hard material	●
	Sintered metal	●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX310	BX470
Precision finishing	**1QP-CCGW03X102**	0.2	1.4	1		○					●	●
	1QP-CCGW03X1**04**	0.4	1.3	1		○					●	●

● : Line up

CC



IC : 4.37 mm
D1 : 2.3 mm
S : 1.79 mm

80°Rhombic with hole, Positive 7°

K	Cast iron	
S	Superalloy	
H	Hard material	●
	Sintered metal	●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX310	BX470
Precision finishing	**1QP-CCGW04T102**	0.2	1.9	1		○					●	●
	1QP-CCGW04T1**04**	0.4	1.8	1		○					●	●

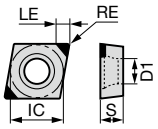
● : Line up

Reference pages: External toolholder → C030 - Internal toolholder → D014 -
J-Series toolholder → G040 - PINZBOHR® → K178 -

CBN Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CC



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

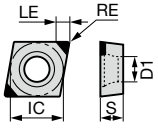
80°Rhombic with hole, Positive 7°

		BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
K	Cast iron												●ɔ	●
S	Superalloy												●ɔ	
H	Hard material	●	●ɔ	✣	●	●ɔ	●	●ɔ	●	●	●ɔ			
	Sintered metal											●ɔ	ɔ✣	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
Precision finishing	2QP-CCGW060202-LF	0.2	2.3	2			○				●	●											
	2QP-CCGW060202-L		2.3	2				○			●	●											
	2QP-CCGW060204-LF	0.4	2.3	2			○				●	●											
	2QP-CCGW060204-L		2.3	2				○			●	●											
	2QP-CCGW060208-LF	0.8	2.2	2			○				●	●											
	2QP-CCGW060208-L		2.2	2				○			●	●											
Finishing	2QP-CCGW060202	0.2	2.3	2		○					●	●		●	●	●	●						
	2QP-CCMW060202		2.3	2		○												●	●	●			
	2QP-CCGW060202-LC		2.3	2					○		●	●											
	2QP-CCGW060204	0.4	2.3	2		○					●	●		●	●	●	●				●	●	
	2QP-CCGW060204SR		2.3	2		○							●										
	2QP-CCMW060204		2.3	2		○												●	●	●			●
	Q-CCMW060204		2.5	1		○													●				
	2QP-CCGW060204-LC		2.3	2					○		●	●											
	2QP-CCGW060208	0.8	2.2	2		○					●	●											
	2QP-CCGW060208SR		2.2	2		○							●										
	2QP-CCMW060208		2.2	2		○													●				
	2QP-CCGW060208-LC		2.2	2					○		●	●											

● : Line up

CC with chipbreaker



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

80°Rhombic with hole, Positive 7°

		BXA10	BXA20	BR35F	BXM10
K	Cast iron				
S	Superalloy				
H	Hard material	●	●ɔ	✣	●
	Sintered metal				

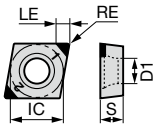
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-CCGT060204-HP	0.4	2.3	2		○					●	●	●	●
	2QP-CCGT060204-HS		2.2	2		○					●	●	●	

● : Line up

Reference pages: External toolholder → C030 - Internal toolholder → D014 -
J-Series toolholder → G040 - PINZBOHR® → K178 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

CC



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

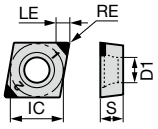
80°Rhombic with hole, Positive 7°

K	Cast iron																		◐	●					
S	Superalloy																		◐						
H	Hard material	●	◐	✠	●	◐	●	◐	●	●	◐														
	Sintered metal																◐	✠							

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
Precision finishing	2QP-CCGW09T302-LF	0.2	2.3	2			○				●	●											
	2QP-CCGW09T302-L		2.3	2				○			●	●											
	2QP-CCGW09T304-LF	0.4	2.3	2			○				●	●											
	2QP-CCGW09T304-L		2.3	2				○			●	●											
	2QP-CCGW09T304FW		2.3	2	○	○					●	●											
	2QP-CCGW09T308-LF	0.8	2.2	2			○				●	●											
	2QP-CCGW09T308-L		2.2	2				○			●	●											
	2QP-CCGW09T308FW		2.2	2	○	○					●	●											
Finishing	2QP-CCGW09T302	0.2	2.3	2		○					●	●											
	2QP-CCGW09T302-LC		2.3	2					○		●	●											
	2QP-CCGW09T304	0.4	2.3	2		○					●	●		●	●	●	●				●	●	
	2QP-CCGW09T304SR		2.3	2		○							●										
	2QP-CCMW09T304		2.3	2		○												●	●	●			●
	Q-CCMW09T304		2.5	1		○													●				
	2QP-CCGW09T304-LC		2.3	2					○		●	●											
	2QP-CCGW09T308	0.8	2.2	2		○					●	●		●	●	●	●				●		
	2QP-CCMW09T308SR		2.2	2		○							●										
	2QP-CCMW09T308		2.2	2		○												●	●	●			
	2QP-CCGW09T308-LC		2.2	2					○		●	●											
Medium cutting	2QP-CCGW09T302-H	0.2	2.3	2						○		●											
	2QP-CCGW09T304-H	0.4	2.3	2						○		●											
	2QP-CCGW09T304HC		2.3	2						○			●										
	2QP-CCGW09T308-H	0.8	2.2	2						○		●											
	2QP-CCGW09T308HC		2.2	2						○			●										

● : Line up

CC with chipbreaker



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

80°Rhombic with hole, Positive 7°

K	Cast iron																								
S	Superalloy																								
H	Hard material	●	◐	✠	●																				
	Sintered metal																								

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-CCGT09T304-HP	0.4	2.3	2		○					●	●	●	●
	2QP-CCGT09T304-HS		2.2	2		○					●	●	●	
	2QP-CCGT09T304FW-HP		2.3	2	○	○					●			●
	2QP-CCGT09T304FW-HS		2.2	2	○	○					●	●		
	2QP-CCGT09T308-HP	0.8	2.2	2		○					●	●	●	●
	2QP-CCGT09T308-HS		2.2	2		○					●	●	●	
	2QP-CCGT09T308FW-HP		2.2	2	○	○					●			●
	2QP-CCGT09T308FW-HS		2.1	2	○	○					●	●		

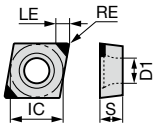
● : Line up

Reference pages: External toolholder → C030 - Internal toolholder → D014 -
J-Series toolholder → G040 - PINZBOHR® → K178 -

CBN Insert POSITIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

CP



IC : 7.94 mm
D1 : 3.4 mm
S : 2.38 mm

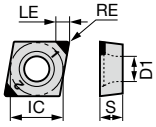
80° Rhombic with hole, Positive 11°

K	Cast iron	
S	Superalloy	
H	Hard material	● ●ⓒ ✠ ● ●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20
Finishing	2QP-CPGW080202	0.2	2.3	2		○					●	●			
	2QP-CPGW080204	0.4	2.3	2		○					●	●			
	2QP-CPGW080208	0.8	2.2	2		○					●	●			

● : Line up

CP



IC : 9.525 mm
D1 : 4.4 mm
S : 3.18 mm

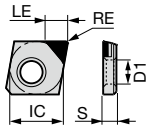
80° Rhombic with hole, Positive 11°

K	Cast iron	
S	Superalloy	
H	Hard material	● ●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	2QP-CPGW090302	0.2	2.3	2		○					●	●
	2QP-CPGW090304	0.4	2.3	2		○					●	●
	2QP-CPGW090308	0.8	2.2	2		○					●	●

● : Line up

CP



IC : 9.525 mm
D1 : 4 mm
S : 2.38 mm

80° Rhombic with hole, Positive 11°

K	Cast iron	
S	Superalloy	
H	Hard material	●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	CPGA090204-QBN	0.4	4	1		○					●
	CPGA090208-QBN	0.8	3.8	1		○					●

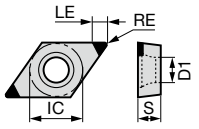
Tungaloy's standard hole specifi cation (ISO non-compliant)

● : Line up

Reference pages: Internal toolholder → D018 - Cartridge → K181 -
Boring bar tool → K199

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

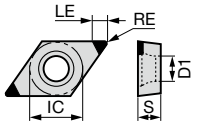
55° Rhombic with hole, Positive 7°

		BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
K	Cast iron												ⓒ	●
S	Superalloy												ⓒ	
H	Hard material	●	ⓒ	✠	●	ⓒ	●	ⓒ	●	●	ⓒ			
	Sintered metal											ⓒ	✠	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
Finishing	2QP-DCGW070202-LF	0.2	2.7	2			○				●	●											
	2QP-DCGW070202-L		2.7	2				○			●	●											
	2QP-DCGW070204-LF	0.4	2.5	2			○				●	●											
	2QP-DCGW070204-L		2.5	2				○			●	●											
	2QP-DCGW070208-LF	0.8	2.1	2			○				●	●											
	2QP-DCGW070208-L		2.1	2				○			●	●											
Medium cutting	2QP-DCGW070202	0.2	2.7	2		○					●	●		●	●	●	●						
	2QP-DCGW070202SR		2.7	2		○							●										
	2QP-DCMW070202		2.7	2		○												●	●	●			
	2QP-DCGW070202-LC		2.7	2					○		●	●											
	2QP-DCGW070204	0.4	2.5	2		○					●	●		●	●	●	●				●	●	
	2QP-DCMW070204		2.5	2		○							●					●	●	●			●
	Q-DCMW070204		2.1	1		○													●				
	2QP-DCGW070204-LC		2.5	2					○		●	●											
	2QP-DCGW070208	0.8	2.1	2		○					●	●									●		
	2QP-DCGW070208SR		2.1	2		○							●										
	2QP-DCGW070208-LC		2.1	2					○		●	●											

● : Line up

DC with chipbreaker



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

55° Rhombic with hole, Positive 7°

		BXA10	BXA20	BR35F	BXM10
K	Cast iron				
S	Superalloy				
H	Hard material	●	ⓒ	✠	●
	Sintered metal				

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-DCGT070204-HP	0.4	2.5	2		○					●	●	●	●
	2QP-DCGT070204-HS		2.5	2		○					●	●	●	

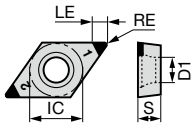
● : Line up

Reference pages: External toolholder → C046 - Internal toolholder → D056 -
J-Series toolholder → G052 -

CBN Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

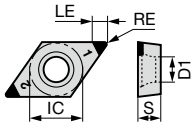
55° Rhombic with hole, Positive 7°

		BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX815	BX930
K	Cast iron											●	●ɔ	●	
S	Superalloy												●ɔ	●	
H	Hard material	●	●ɔ	✠	●	●ɔ	●	●ɔ	●	●	●ɔ				
	Sintered metal											●ɔ	ɔ✠		

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX815	BX930
Precision finishing	2QP-DCGW11T302F	0.2	2.7	2			○														●			
	2QP-DCGW11T302-LF		2.7	2			○				●	●												
	2QP-DCGW11T302-L		2.7	2				○			●	●												
	2QP-DCGW11T304F	0.4	2.5	2			○														●			
	2QP-DCGW11T304-E		2.5	2		○																	●	
	2QP-DCGW11T304-LT		2.5	2						○													●	
	2QP-DCGW11T304-LF		2.5	2			○				●	●												
	2QP-DCGW11T304-L		2.5	2				○			●	●												
	2QP-DCGW11T308-LF	0.8	2.1	2			○				●	●												
	2QP-DCGW11T308-L		2.1	2				○			●	●												
Finishing	2QP-DCGW11T301	0.1	2.8	2		○					●	●												
	2QP-DCGW11T302	0.2	2.7	2		○					●	●		●	●	●	●							
	2QP-DCGW11T302SR		2.7	2		○							●											
	2QP-DCMW11T302		2.7	2		○												●	●	●				
	2QP-DCGW11T302-LC		2.7	2					○		●	●												
	2QP-DCGW11T304	0.4	2.5	2		○					●	●		●	●	●	●				●	●		
	2QP-DCGW11T304SR		2.5	2		○							●											
	2QP-DCMW11T304		2.5	2		○												●	●	●				●
	Q-DCMW11T304		2.1	1		○													●					
	2QP-DCGW11T304-LC		2.5	2					○		●	●												
	2QP-DCGW11T308	0.8	2.1	2		○					●	●		●	●	●	●				●			
	2QP-DCGW11T308SR		2.1	2		○							●											
	2QP-DCMW11T308		2.1	2		○												●	●	●				
	2QP-DCGW11T308-LC		2.1	2					○		●	●												
Medium cutting	2QP-DCGW11T302-H	0.2	2.7	2						○		●												
	2QP-DCGW11T304-H	0.4	2.5	2						○		●												
	2QP-DCGW11T304HC		2.5	2						○			●											
	2QP-DCGW11T308-H	0.8	2.1	2						○		●												
	2QP-DCGW11T308HC		2.1	2						○			●											

● : Line up

DC with chipbreaker



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

55° Rhombic with hole, Positive 7°

		BXA10	BXA20	BR35F	BXM10
K	Cast iron				
S	Superalloy				
H	Hard material	●	●ɔ	✠	●
	Sintered metal				

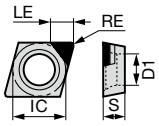
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-DCGT11T304-HP	0.4	2.5	2		○					●	●	●	●
	2QP-DCGT11T304-HS		2.5	2		○					●	●	●	
	2QP-DCGT11T308-HP	0.8	2.1	2		○					●	●	●	●
	2QP-DCGT11T308-HS		2.1	2		○					●	●	●	

● : Line up

Reference pages: External toolholder → C046 - Internal toolholder → D056 - J-Series toolholder → G052 -

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

EP



IC : 3.57 mm
D1 : 1.9 mm
S : 1.39 mm

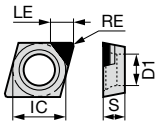
75° Rhombic, Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX310	BX470
Finishing	**1QP-EPGW03X102**	0.2	1.4	1		○					●	●
Finishing	1QP-EPGW03X1**04**	0.4	1.3	1		○					●	●

● : Line up

EP



IC : 3.97 mm
D1 : 2.3 mm
S : 1.59 mm

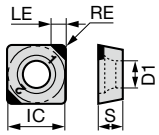
75° Rhombic, Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX310	BX470
Finishing	**1QP-EPGW040102**	0.2	1.7	1		○					●	●
Finishing	1QP-EPGW0401**04**	0.4	1.6	1		○					●	●

● : Line up

SP



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

Square Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX910
Finishing	**2QP-SPGW09T308**	0.8	2.4	2		○					●
Finishing	2QP-SPGW09T3**12**	1.2	2.4	2		○					●

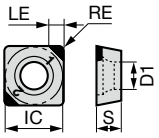
● : Line up

Reference pages: EP: Internal toolholder → D034 -, Boring bar tool → K201 -, Top-borer tool → K202
SP: Internal toolholder → D041 -, Cartridge → K181 -

CBN Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

SP



IC : 12.7 mm
D1 : 5.5 mm
S : 4.76 mm

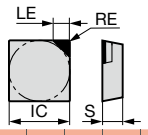
Square Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX910
Finishing	2QP-SPGW120408	0.8	2.4	2		○					●
Finishing	2QP-SPGW120412	1.2	2.4	2		○					●
Finishing	2QP-SPGW120416	1.6	2.4	2		○					●

● : Line up

SP



IC : 12.7 mm
S : 3.18 mm

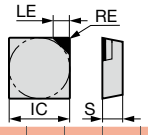
Square Positive 11° without hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX330	BX360	BX910	BX930
Finishing	2QP-SPMN090304	0.4	2.4	2		○					●	●		●
Finishing	Q-SPGN090304		2.8	1		○					●			
Finishing	2QP-SPGN090308	0.8	2.4	2		○							●	
Finishing	2QP-SPMN090308		2.4	2		○					●	●		●
Finishing	Q-SPGN090308		2.8	1		○					●			
Finishing	2QP-SPGN090312	1.2	2.4	2		○							●	

● : Line up

SP



IC : 9.525 mm
S : 3.18 mm

Square Positive 11° without hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

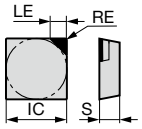
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	SPGN090304-QBN	0.4	4.1	1		○					●
Finishing	SPGN090308-QBN	0.8	4.1	1		○					●
Finishing	SPGN090312-QBN	1.2	4.1	1		○					●

● : Line up

Reference pages: Internal toolholder → D041 - Cartridge → K181 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

SP



IC : 12.7 mm
S : 3.18 mm

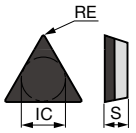
Square Positive 11° without hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	**SPGN120308-QBN**	0.4	4.1	1		○					●
Finishing	SPGN1203**12-QBN**	0.8	4.1	1		○					●

● : Line up

TB



IC : 3.97 mm
S : 1.59 mm

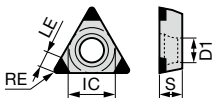
Triangular Positive 5° without hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	**TBGN060104-15-QBN**	0.4	-	3		○					●
Finishing	TBGN0601**08-15-QBN**	0.8	-	3		○					●

● : Line up

TC



IC : 5.56 mm
D1 : 2.5 mm
S : 2.38 mm

Triangular Positive 7° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20
Finishing	**3QP-TCGW090202**	0.2	2.3	3		○					●	●
Finishing	3QP-TCGW0902**04**	0.4	2.2	3		○					●	●
Finishing	3QP-TCGW0902**08**	0.8	1.9	3		○					●	●

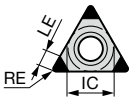
● : Line up

Reference pages: SP: Internal toolholder → D042, Cartridge → K181 -
TC: External toolholder → C054, Internal toolholder → D045
J-Series toolholder → G074 -, PINZBOHR® → K178 -

CBN Insert POSITIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

TC



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

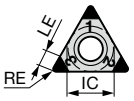
Triangular Positive 7° with hole

K	Cast iron	
S	Superalloy	
H	Hard material	● ●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	3QP-TCGW110202	0.2	2.3	3		○					●	●
	3QP-TCGW110204	0.4	2.2	3		○					●	●
	3QP-TCGW110208	0.8	1.9	3		○					●	●

● : Line up

TC



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

Triangular Positive 7° with hole

K	Cast iron	
S	Superalloy	
H	Hard material	● ●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	3QP-TCGW16T302	0.2	2.3	3		○					●	●
	3QP-TCGW16T304	0.4	2.2	3		○					●	●
	3QP-TCGW16T308	0.8	1.9	3		○					●	●

● : Line up

TP

IC : 4.76 mm
D1 : 2.3 mm
S : 2.38 mm

Triangular Positive 11° with hole

K	Cast iron	●
S	Superalloy	
H	Hard material	● ●ⓒ ● ●ⓒ ● ●ⓒ ● ● ●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
Finishing	3QP-TPGW080202	0.2	2.3	3		○					●	●								
	3QP-TPGW080204	0.4	2.2	3		○					●	●	●	●	●	●				
	3QP-TPMW080204		2.2	3		○											●	●	●	●
	Q-TPMW080204		2.2	1		○												●		
	3QP-TPGW080208	0.8	1.9	3		○					●	●								

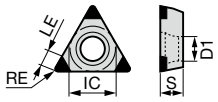
● : Line up

Reference pages: TC: External toolholder → C054, Internal toolholder → D045
J-Series toolholder → G074 -, PINZBOHR® → K178 -
TP: Internal toolholder → D046 -, Cartridge → K181 -
Boring bar tool → K199 -, Top-borer tool → K203

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

TP

Triangular Positive 11° with hole



IC : 5.56 mm
D1 : 2.5 mm
S : 2.38 mm

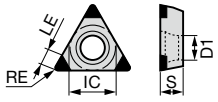
		BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
K	Cast iron										●
S	Superalloy										
H	Hard material	●	●ⓒ	●	●ⓒ	●	●ⓒ	●	●	●ⓒ	
	Sintered metal										

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
Finishing	3QP-TPGW090202	0.2	2.3	3		○					●	●		●	●	●				
	3QP-TPMW090202		2.3	3		○												●	●	●
	Q-TPMW090202		2.4	1		○												●		
	3QP-TPGW090204	0.4	2.2	3		○					●	●	●	●	●	●				
	3QP-TPMW090204		2.2	3		○											●	●	●	●
	Q-TPMW090204		2.3	1		○												●		
	3QP-TPGW090208	0.8	1.9	3		○					●	●								

● : Line up

TP

Triangular Positive 11° with hole



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

		BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX930
K	Cast iron											●
S	Superalloy											
H	Hard material	●	●ⓒ	●	●ⓒ	●	●ⓒ	●	●	●ⓒ		
	Sintered metal										●ⓒ	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX930
Finishing	3QP-TPGW110202	0.2	2.3	3		○					●	●		●	●	●					
	3QP-TPMW110202		2.3	3		○											●	●	●		●
	Q-TPMW110202		2.4	1		○												●			
	3QP-TPGW110204	0.4	2.2	3		○					●	●	●	●	●	●				●	
	3QP-TPMW110204		2,2	3		○											●	●	●		●
	Q-TPMW110204		2,2	1		○												●			
	3QP-TPGW110208	0.8	1.9	3		○					●	●								●	

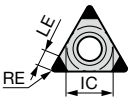
● : Line up

Reference pages: Internal toolholder → D046 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203

CBN Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TP



IC : 6.35 mm
D1 : 3.4 mm
S : 3.18 mm

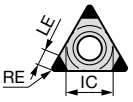
Triangular Positive 11° with hole

		BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX910	BX930
K	Cast iron												◐	●	●
S	Superalloy												◐		
H	Hard material	●	◐	✠	●	◐	●	◐	●	●	◐				
	Sintered metal											◐	✠		

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX910	BX930
Precision finishing	3QP-TPGW110302-LF	0.2	2.3	3			○				●	●												
	3QP-TPGW110302-L		2.3	3				○			●	●												
	3QP-TPGW110304F	0.4	2,2	3			○														●			
	3QP-TPGW110304-LF		2.2	3			○				●	●												
	3QP-TPGW110304-L		2.2	3				○			●	●												
	3QP-TPGW110308F	0.8	1.9	3			○														●			
	3QP-TPGW110308-LF		1.9	3			○				●	●												
	3QP-TPGW110308-L		1.9	3				○			●	●												
Finishing	3QP-TPGW110302	0.2	2.3	3		○					●	●			●	●	●					●		
	3QP-TPMW110302		2.3	3		○												●	●	●				●
	3QP-TPGW110302-LC		2.3	3					○		●	●												
	3QP-TPGW110304	0.4	2.2	3		○					●	●		●	●	●	●				●	●		
	3QP-TPGW110304SR		2.2	3		○							●											
	3QP-TPMW110304		2.2	3		○												●	●	●				●
	Q-TPMW110304		2.2	1		○													●					
	3QP-TPGW110304-LC		2.2	3					○		●	●												
	3QP-TPGW110308	0.8	1.9	3		○					●	●		●	●	●	●				●	●	●	
	3QP-TPGW110308SR		1.9	3		○							●											
	3QP-TPMW110308		1.9	3		○												●	●	●				●
	Q-TPMW110308		1.9	1		○													●					
	3QP-TPGW110308-LC		1.9	3					○		●	●												
Medium cutting	3QP-TPGW110302-H	0.2	2.3	3						○		●												
	3QP-TPGW110304-H	0.4	2.2	3						○		●												
	3QP-TPGW110304HC		2.2	3						○			●											
	3QP-TPGW110308-H	0.8	1.9	3						○		●												
	3QP-TPGW110308HC		1.9	3						○			●											

● : Line up

TP with chipbreaker



IC : 6.35 mm
D1 : 3.4 mm
S : 3.18 mm

Triangular Positive 11° with hole

		BXA10	BXA20	BR35F	BXM10
K	Cast iron				
S	Superalloy				
H	Hard material	●	◐	✠	●
	Sintered metal				

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	3QP-TPGT110304-HP	0.4	2.2	3		○					●	●	●	●
	3QP-TPGT110304-HS		2.1	3		○					●	●	●	
	3QP-TPGT110308-HP	0.8	1.9	3		○					●	●	●	●
	3QP-TPGT110308-HS		1.8	3		○					●	●	●	

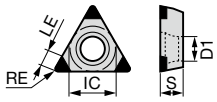
● : Line up

Reference pages: Internal toolholder → D046 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular Positive 11° with hole



IC : 7.94 mm
D1 : 3.4 mm
S : 3.18 mm

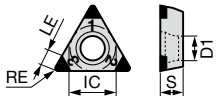
		BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX480	BX930
K	Cast iron										●ⓒ	●
S	Superalloy										●ⓒ	
H	Hard material	●	●ⓒ	●	●ⓒ	●	●ⓒ	●	●	●ⓒ		
	Sintered metal										ⓒ✣	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX480	BX930
Finishing	3QP-TPGW130302	0.2	2.3	3		○					●	●		●	●	●				●	
	3QP-TPMW130302		2.3	3		○											●	●	●		●
	Q-TPMW130302		2.4	1		○												●			
	3QP-TPGW130304	0.4	2.2	3		○					●	●	●	●	●	●				●	
	3QP-TPMW130304		2.2	3		○											●	●	●		●
	Q-TPMW130304		2.3	1		○												●			
	3QP-TPGW130308	0.8	1.9	3		○					●	●									

● : Line up

TP

Triangular Positive 11° with hole



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

		BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX480	BX930
K	Cast iron										●ⓒ	●
S	Superalloy										●ⓒ	
H	Hard material	●	●ⓒ	●	●ⓒ	●	●ⓒ	●	●	●ⓒ		
	Sintered metal										ⓒ✣	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX480	BX930
Finishing	3QP-TPGW16T302	0.2	2.3	3		○					●	●									
	3QP-TPGW16T304	0.4	2.2	3		○					●	●	●	●	●	●				●	
	3QP-TPMW16T304		2.2	3		○											●	●	●		●
	Q-TPGW16T304		2.3	1		○												●			
	3QP-TPGW16T308	0.8	1.9	3		○					●	●	●	●	●	●					
	3QP-TPMW16T308		1.9	3		○											●				

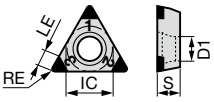
● : Line up

Reference pages: Internal toolholder → D046 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203

CBN Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP



IC : 9.525 mm
D1 : 4.4 mm
S : 4.76 mm

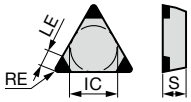
Triangular Positive 11° with hole

		BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
K	Cast iron										●
S	Superalloy										
H	Hard material	●	●◐	●	●◐	●	●◐	●	●	●◐	
	Sintered metal										

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
Finishing	3QP-TPGW160402	0.2	2.3	3		○					●	●								
	3QP-TPGW160404	0.4	2.2	3		○					●	●	●	●	●	●				
	3QP-TPMW160404		2.2	3		○											●	●	●	●
	Q-TPMW160404		2.3	1		○												●		
	3QP-TPGW160408	0.8	1.9	3		○					●	●		●	●	●				
	3QP-TPMW160408		1.9	3		○											●	●	●	●
	Q-TPMW160408		2	1		○												●		
Medium cutting	3QP-TPGW160402-H	0.2	2.3	3						○	●	●								
	3QP-TPGW160404-H	0.4	2.2	3						○	●	●								
	3QP-TPGW160408-H	0.8	1.9	3						○	●	●								

● : Line up

TP



IC : 6.35 mm
S : 3.18 mm

Triangular Positive 11° without hole

		BX330	BX360	BX480	BX910	BX930
K	Cast iron			●◐	●	●
S	Superalloy			●◐		
H	Hard material	●	●◐			
	Sintered metal			◐✣		

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX330	BX360	BX480	BX910	BX930
Finishing	3QP-TPGN110302	0.2	2.3	3		○							●		
	3QP-TPMN110302		2.3	3		○					●	●			●
	3QP-TPGN110304	0.4	2.2	3		○							●		
	3QP-TPMN110304		2.2	3		○					●	●			●
	Q-TPGN110304		2.2	1		○					●				
	3QP-TPGN110308	0.8	1.9	3		○							●	●	
	3QP-TPMN110308		1.9	3		○					●	●			●
	Q-TPGN110308		2.2	1		○					●				
	3QP-TPGN110312	1.2	2.4	3		○								●	

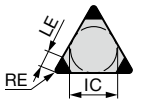
● : Line up

Reference pages: Internal toolholder → D046 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TP

Triangular Positive 11° without hole



IC : 9.525 mm
S : 3.18 mm

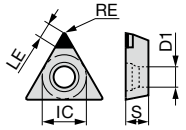
K	Cast iron	●◐ ●
S	Superalloy	●◐
H	Hard material	● ●◐
	Sintered metal	◐✠

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BX330	BX360	BX480	BX930
Finishing	3QP-TPGN160304	0.4	2.2	3		○							●	
	3QP-TPMN160304		2.2	3		○					●	●		●
	Q-TPGN160304		2.3	1		○					●			
	3QP-TPGN160308	0.8	1.9	3		○							●	
	3QP-TPMN160308		1.9	3		○					●	●		●
	Q-TPGN160308		1.9	1		○					●			

● : Line up

TP

Triangular Positive 11° with hole



IC : 5.56 mm
D1 : 2.5 mm
S : 2.38 mm

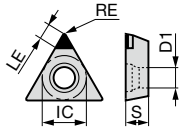
K	Cast iron	
S	Superalloy	
H	Hard material	●◐
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGW090202-QBN	0.2	3.3	1		○					●
	TPGW090204-QBN	0.4	3.2	1		○					●

● : Line up

TP

Triangular Positive 11° with hole



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

K	Cast iron	
S	Superalloy	
H	Hard material	●◐
	Sintered metal	

Application	Designation	Dimension (mm) RE	LE	No. of corners	Wiper	Standard	Problem: Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGW110202-QBN	0.2	3.9	1		○					●
	TPGW110204-QBN	0.4	3.7	1		○					●

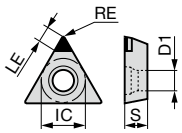
● : Line up

Reference pages: Internal toolholder → D046 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203

CBN Insert POSITIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

TP



IC : 7.94 mm
D1 : 3.4 mm
S : 3.18 mm

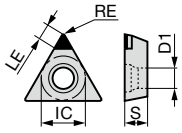
Triangular Positive 11° with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	TPGW130302-QBN	0.2	3.9	1		○					●
Finishing	TPGW130304-QBN	0.4	3.7	1		○					●

● : Line up

TP



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

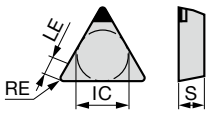
Triangular Positive 11° with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●ⓒ
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	TPGW16T302-QBN	0.2	4.4	1		○					●
Finishing	TPGW16T304-QBN	0.4	4.2	1		○					●
Finishing	TPGW16T308-QBN	0.8	4	1		○					●

● : Line up

TP



IC : 6.35 mm
S : 3.18 mm

Triangular Positive 11° without hole

K	Cast iron	
S	Superalloy	
H	Hard material	●ⓒ
	Sintered metal	

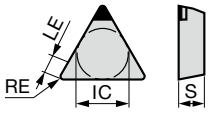
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	TPGN110304-QBN	0.4	3.7	1		○					●
Finishing	TPGN110308-QBN	0.8	3.5	1		○					●

● : Line up

Reference pages: Internal toolholder → D046 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TP



IC : 9.525 mm
S : 3.18 mm

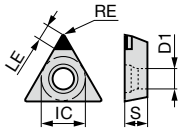
Triangular Positive 11° without hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	**TPGN160304-QBN**	0.4	4.2	1		○					●
Finishing	TPGN1603**08-QBN**	0.8	4	1		○					●

● : Line up

TP



IC : 5.56 mm
D1 : 3.2 mm
S : 2.38 mm

Triangular Positive 11° with hole

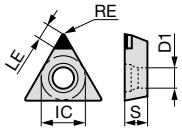
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	**TPGA090202-QBN**	0.2	3.1	1		○					●
Finishing	TPGA0902**04-QBN**	0.4	2.9	1		○					●

Tungaloy's standard hole specifi cation (ISO non-compliant)

● : Line up

TP



IC : 6.35 mm
D1 : 3 mm
S : 2.38 mm

Triangular Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	**TPGA110202-QBN**	0.2	3.9	1		○					●
Finishing	TPGA110204-QBN	0.4	3.7	1		○					●

Tungaloy's standard hole specifi cation (ISO non-compliant)

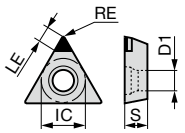
● : Line up

Reference pages: Mounting hole specification → B146
Internal toolholder → D046 -
Boring bar tool → K199 -
Cartridge → K181 -
Top-borer tool → K203

CBN Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP



IC : 6.35 mm
D1 : 3.18 mm
S : 3 mm

Triangular Positive 11° with hole

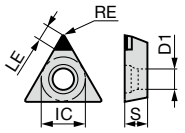
K	Cast iron	
S	Superalloy	
H	Hard material	●◐
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	**TPGA110302-QBN**	0.2	3.9	1		○					●
Finishing	TPGA1103**04-QBN**	0.4	3.7	1		○					●

Tungaloy's standard hole specifi cation (ISO non-compliant)

● : Line up

TP



IC : 9.525 mm
D1 : 4 mm
S : 3.18 mm

Triangular Positive 11° with hole

K	Cast iron	
S	Superalloy	
H	Hard material	●◐
	Sintered metal	

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BX360
Finishing	**TPGA160302-QBN**	0.2	4.4	1		○					●
Finishing	TPGA1603**04-QBN**	0.4	4.2	1		○					●
Finishing	TPGA1603**08-QBN**	0.8	4	1		○					●

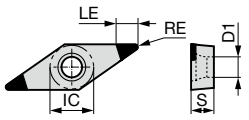
Tungaloy's standard hole specifi cation (ISO non-compliant)

● : Line up

Reference pages: Mounting hole specification → B146
Internal toolholder → D046 -
Boring bar tool → K199 -
Cartridge → K181 -
Top-borer tool → K203

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

VB



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

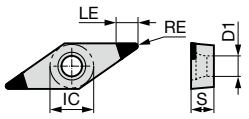
35° Rhombic Positive 5° with hole

		BXA10	BXA20
K	Cast iron		
S	Superalloy		
H	Hard material	●	◐
	Sintered metal		

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20
Finishing	2QP-VBGW110202	0.2	3.5	2		○					●	●
	2QP-VBGW110204	0.4	3.1	2		○					●	●
	2QP-VBGW110208	0.8	2.2	2		○					●	●

● : Line up

VB



IC : 6.35 mm
D1 : 2.8 mm
S : 3.18 mm

35° Rhombic Positive 5° with hole

		BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
K	Cast iron											●
S	Superalloy											
H	Hard material	●	◐	✣	●	◐	●	◐	●	●	◐	
	Sintered metal											

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
Precision finishing	2QP-VBGW110302-LF	0.2	3.5	2			○				●	●									
	2QP-VBGW110302-L		3.5	2				○			●	●									
	2QP-VBGW110304-LF	0.4	3.1	2			○				●	●									
	2QP-VBGW110304-L		3.1	2				○			●	●									
	2QP-VBGW110308-LF	0.8	2.2	2			○				●	●									
	2QP-VBGW110308-L		2.2	2				○			●	●									
Finishing	2QP-VBGW110301	0.1	3.7	2		○					●	●									
	2QP-VBGW110302	0.2	3.5	2		○					●	●									
	2QP-VBGW110302-LC		3.5	2					○		●	●									
	2QP-VBGW110304	0.4	3.1	2		○					●	●		●	●	●	●				
	2QP-VBGW110304SR		3.1	2		○							●								
	2QP-VBMW110304		3.1	2		○												●	●	●	●
	2QP-VBGW110304-LC		3.1	2					○		●	●									
	2QP-VBGW110308	0.8	2.2	2		○					●	●		●	●	●	●				
	2QP-VBGW110308SR		2.2	2		○							●								
	2QP-VBMW110308		2.2	2		○												●	●	●	●
	2QP-VBGW110308-LC		2.2	2					○		●	●									

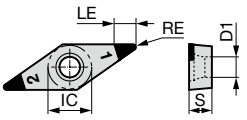
● : Line up

Reference pages: Internal toolholder → D059 - J-Series toolholder → G062 -

CBN Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

VB with chipbreaker



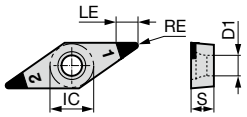
IC : 6.35 mm
D1 : 2.8 mm
S : 3.18 mm

35° Rhombic Positive 5° with hole

| | | |

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

VB with chipbreaker



IC : 9.525 mm
D1 : 4.4 mm
S : 4.76 mm

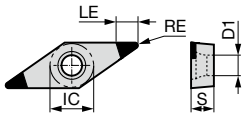
35° Rhombic Positive 5° with hole

	K Cast iron	S Superalloy	H Hard material	Sintered metal
BXA10	●			
BXA20	●	◐		
BXM10	●			

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BXM10
Precision finishing	2QP-VBGT160404-HP	0.4	3	2		○					●	●	●
	2QP-VBGT160404-HS		3	2		○					●	●	
	2QP-VBGT160408-HP	0.8	2.2	2		○					●	●	●
	2QP-VBGT160408-HS		2.2	2		○					●	●	

● : Line up

VC



IC : 4.76 mm
D1 : 2.3 mm
S : 2.38 mm

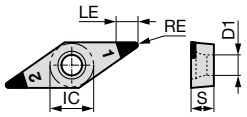
35° Rhombic Positive 7° with hole

	K Cast iron	S Superalloy	H Hard material	Sintered metal
BXA10	●			
BXA20	●	◐		

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20
Finishing	2QP-VCGW080202	0.2	3.5	2		○					●	●
	2QP-VCGW080204	0.4	3.1	2		○					●	●
	2QP-VCGW080208	0.8	2.2	2		○					●	●

● : Line up

VC



IC : 9.525 mm
D1 : 4.4 mm
S : 4.76 mm

35° Rhombic Positive 7° with hole

	K Cast iron	S Superalloy	H Hard material	Sintered metal
BXA10	●		●	
BXA20	◐		◐	
BXM10	●		●	
BXM20	◐		◐	
BXA40	●		●	
BX330	●		●	
BX360	◐		◐	
BX815		●		
BX930	●			

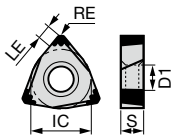
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flank wear	Problem: Crater wear	Problem: Chipping	BXA10	BXA20	BXM10	BXM20	BXA40	BX330	BX360	BX815	BX930
Precision finishing	2QP-VCGW160408-E	0.8	2.2	2		○												●	
	2QP-VCGW160408-LT		2.2	2						○								●	
	2QP-VCGW160412-E	1.2	3	2		○												●	
	2QP-VCGW160412-LT		3	2						○								●	
Finishing	2QP-VCGW160402	0.2	3.5	2		○					●	●							
	2QP-VCGW160404	0.4	3.1	2		○					●	●	●	●	●				
	2QP-VCMW160404		3.1	2		○										●	●		●
	2QP-VCGW160408	0.8	2.2	2		○					●	●							
Medium cutting	2QP-VCGW160402-H	0.2	3.5	2						○	●	●							
	2QP-VCGW160404-H	0.4	3.1	2						○	●	●							
	2QP-VCGW160408-H	0.8	2.2	2						○	●	●							

● : Line up

CBN Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

WX



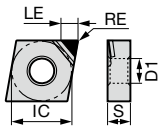
IC : 6.35 mm
D1 : 2.7 mm
S : 3.18 mm

80° Trigon with hole

| | | |

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

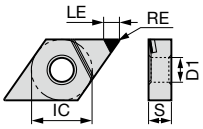
80°Rhombic with hole

N Non-ferrous ●ⓒ ●ⓒ ●ⓒ

Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX110	DX120	DX140
Finishing	1QP-CNMM120402	0.2	2.8	1	○	●		
	CNMM120402-DIA		3.5	1	○		●	
	1QP-CNMM120404	0.4	2.8	1	○	●		
	CNMM120404-DIA		3.5	1	○		●	
	CNGA120404-DIA		3.5	1				●
	CNGA120408-DIA	0.8	2.8	1				●

● : Line up

DN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

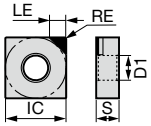
55° Rhombic with hole

N Non-ferrous ●ⓒ ●ⓒ ●ⓒ

Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX120	DX140	DX160
Finishing	DNMM150402-DIA	0.2	3.3	1	○	●		
	DNMM150404-DIA	0.4	3.1	1	○	●		
	DNGA150404-DIA		3.1	1			●	●
	DNGA150408-DIA	0.8	2.8	1			●	

● : Line up

SN



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

Square with hole

N Non-ferrous ●ⓒ

Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX140
Finishing	SNGA120404-DIA	0.4	3.6	1		●
	SNGA120408-DIA	0.8	3.6	1		●

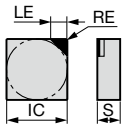
● : Line up

Reference pages: CN: External toolholder → C015 -, Internal toolholder → D025 -
J-Series toolholder → G050, TungCap → K008 -
PINZBOHR® → K178 -, Cartridge → K181 -
DN: External toolholder → C034 -, Internal toolholder → D069 -
J-Series toolholder → G068, TungCap → C034 -, K012 -
SN: External toolholder → C101 -, Internal toolholder → D043 -
Cartridge → K181 -

PCD Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

SN



IC : 12.7 mm
S : 4.76 mm

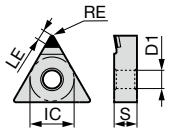
Square without hole

N Non-ferrous ●ⓒ

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX140
Finishing	SNGN120408-DIA	0.8	3.6	1		●

● : Line up

TN



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

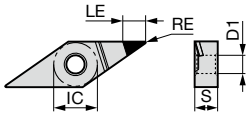
Triangular with hole

N Non-ferrous ●ⓒ ●ⓒ ●ⓒ ●ⓒ

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX110	DX120	DX140	DX160
Finishing	1QP-TNMM160402	0.2	2.7	1	○	●			
	TNMM160402-DIA		3.3	1	○		●		
	1QP-TNMM160404	0.4	2.6	1	○	●			
	TNMM160404-DIA		3.2	1	○		●		
	TNGA160404-DIA		3.2	1				●	●
	TNGA160408-DIA	0.8	2.9	1				●	●

● : Line up

VN



IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm

35° Rhombic with hole

N Non-ferrous ●ⓒ

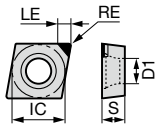
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX120
Finishing	VNMM160402-DIA	0.2	4.8	1	○	●
	VNMM160404-DIA	0.4	4.4	1	○	●
	VNMM160408-DIA	0.8	3.6	1	○	●

● : Line up

Reference pages: SN: External toolholder → C101 -, Internal toolholder → D043 -, Cartridge → K181 -
TN: External toolholder → C032 -, Internal toolholder → D049 -, Cartridge → K181 -
VN: External toolholder → C041 -, Internal toolholder → D074 -, TungCap → C042 -, K014 -

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

CC



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

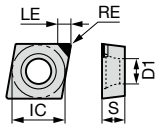
80°Rhombic Positive 7° with hole

N Non-ferrous

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX110 ●◐	DX120 ●◐	DX140 ●◐
Finishing	CCGW060200-DIA	0.05	2.4	1				●
	CCMT060202-DIA	0.2	2.4	1	○		●	
	CCGW060202-DIA		2.4	1				●
	1QP-CCGT060204-NS	0.4	3.1	1	○	●		
	1QP-CCMT060204		2.4	1	○	●		
	CCMT060204-DIA		2.4	1	○		●	
	CCGW060204-DIA		2.4	1				●

● : Line up

CC



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

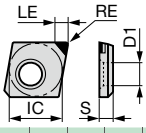
80°Rhombic Positive 7° with hole

N Non-ferrous

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX110 ●◐	DX120 ●◐	DX140 ●◐	DX160 ●◐
Finishing	CCMT09T302-DIA	0.2	2.4	1	○		●		
	CCGW09T302-DIA		3.5	1				●	
	1QP-CCGT09T304-NS	0.4	3.1	1	○	●			
	1QP-CCMT09T304		2.4	1	○	●			
	CCMT09T304-DIA		2.4	1	○		●		
	CCGW09T304-DIA		3.5	1				●	●
	1QP-CCGT09T308-NS	0.8	3	1	○	●			
	CCGW09T308-DIA		3.4	1				●	

● : Line up

CP



IC : 9.525 mm
D1 : 4 mm
S : 2.38 mm

80° Rhombic Positive 11° with hole

N Non-ferrous

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX140 ●◐
Finishing	CPGA090202-DIA	0.2	2.4	1		●
	CPGA090204-DIA	0.4	2.4	1		●

Tungaloy's standard hole specifi cation (ISO non-compliant)

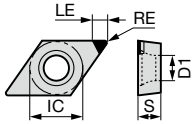
● : Line up

Reference pages: CC: External toolholder → C030 -, Internal toolholder → D014 -
J-Series toolholder → G040 -, PINZBOHR® → K178 -

PCD Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

DC



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

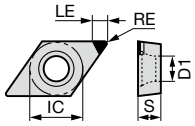
55° Rhombic Positive 7° with hole

N Non-ferrous ●◐ ●◐ ●◐

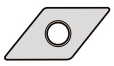
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX110	DX120	DX140
Finishing	DCGW070200-DIA	0.05	2.4	1				●
	DCMT070202-DIA	0.2	2.3	1	○		●	
	DCGW070202-DIA		2.3	1			●	●
	1QP-DCGT070204-NS	0.4	3	1	○	●		
	DCMT070204-DIA		2.1	1	○		●	
	DCGW070204-DIA		2.1	1				●

● : Line up

DC



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm



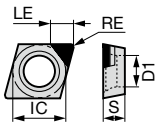
55° Rhombic Positive 7° with hole

N Non-ferrous ●◐ ●◐ ●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX110	DX120	DX140
Finishing	DCMT11T302-DIA	0.2	3.2	1	○		●	
	DCGW11T302-DIA		3.2	1				●
	1QP-DCGT11T304-NS	0.4	3	1	○	●		
	DCMT11T304-DIA		3	1	○		●	
	DCGW11T304-DIA		3	1				●
	1QP-DCGT11T308-NS	0.8	3	1	○	●		
	DCGW11T308-DIA		2.7	1				●

● : Line up

EP



IC : 3.97 mm
D1 : 2.3 mm
S : 1.59 mm

75° Rhombic Positive 11° with hole

N Non-ferrous ●◐

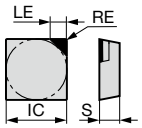
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX140
Finishing	EPGW040102-DIA	0.2	2	1		●
	EPGW040104-DIA	0.4	1.9	1		●

● : Line up

Reference pages: DC: External toolholder → C046 -, Internal toolholder → D056 -, J-Series toolholder → G052 -
EP : Internal toolholder → D034 -, Boring bar tool → K201 -, Top-borer tool → K202

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

SP



IC : 9.525 mm
S : 3.18 mm

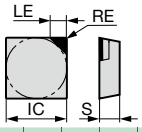
Square Positive 11° without hole

N Non-ferrous ●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX140
Finishing	**SPGN090308-DIA**	0.8	3.6	1		●

● : Line up

SP



IC : 12.7 mm
S : 3.18 mm

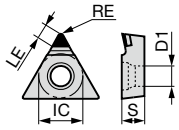
Square Positive 11° without hole

N Non-ferrous ●◐ ●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX140	DX160
Finishing	**SPGN120302-DIA**	0.2	3.6	1		●	
	SPGN12030**4-DIA**	0.4	3.6	1		●	
	SPGN12030**8-DIA**	0.8	3.6	1		●	●

● : Line up

TC



IC : 4.76 mm
D1 : 2.7 mm
S : 2.38 mm

Triangular Positive 7° with hole

N Non-ferrous ●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX120
Finishing	**TCMT080202-DIA**	0.2	2.2	1	○	●
	TCMT0802**04-DIA**	0.4	2	1	○	●

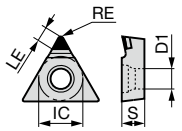
● : Line up

Reference pages: SP: Internal toolholder → D041 -, Cartridge → K181 -
TC: External toolholder → C054, Internal toolholder → D045
J-Series toolholder → G074 -, PINZBOHR® → K178 -

PCD Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TC



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

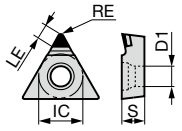
Triangular Positive 7° with hole

N Non-ferrous ●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX120
Finishing	TCMT110202-DIA	0.2	2.4	1	○	●
Finishing	TCMT110204-DIA	0.4	2.2	1	○	●

● : Line up

TC



IC : 6.35 mm
D1 : 2.8 mm
S : 3.18 mm

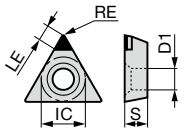
Triangular Positive 7° with hole

N Non-ferrous ●◐ ●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX110	DX120
Finishing	TCMT110302-DIA	0.2	2.4	1	○		●
Finishing	1QP-TCMT110304	0.4	2.2	1	○	●	
Finishing	TCMT110304-DIA		2.2	1	○		●

● : Line up

TP



IC : 5.56 mm
D1 : 2.5 mm
S : 2.38 mm

Triangular Positive 11° with hole

N Non-ferrous ●◐

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX140
Finishing	TPGA090202-DIA	0.2	2.4	1		●
Finishing	TPGA090204-DIA	0.4	2.2	1		●

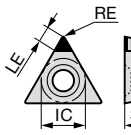
Tungaloy's standard hole specifi cation (ISO non-compliant)

● : Line up

Reference pages: TC: External toolholder → C054, Internal toolholder → D045
J-Series toolholder → G074 -, PINZBOHR® → K178 -
TP: Mounting hole specification → B146, Internal toolholder → D046 -, Cartridge → K181 -
Boring bar tool → K199 -, Top-borer tool → K203

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TP



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

Triangular Positive 11° with hole

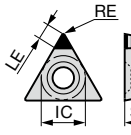
N Non-ferrous ●◐

Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX140
Finishing	**TPGA110202-DIA**	0.2	2.4	1		●
	TPGA1102**04-DIA**	0.4	2.2	1		●

Tungaloy's standard hole specifi cation (ISO non-compliant)

● : Line up

TP



IC : 6.35 mm
D1 : 3 mm
S : 3.18 mm

Triangular Positive 11° with hole

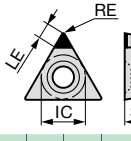
N Non-ferrous ●◐

Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX140
Finishing	**TPGA110302-DIA**	0.2	2.4	1		●
	TPGA1103**04-DIA**	0.4	2.2	1		●
	TPGA1103**08-DIA**	0.8	2.9	1		●

Tungaloy's standard hole specifi cation (ISO non-compliant)

● : Line up

TP



IC : 9.525 mm
D1 : 4 mm
S : 3.18 mm

Triangular Positive 11° with hole

N Non-ferrous ●◐

Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX140
Finishing	**TPGA160302-DIA**	0.2	3.3	1		●
	TPGA1603**04-DIA**	0.4	3.2	1		●
	TPGA1603**08-DIA**	0.8	2.9	1		●

Tungaloy's standard hole specifi cation (ISO non-compliant)

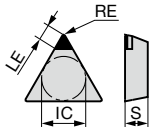
● : Line up

Reference pages: Mounting hole specification → B146
Internal toolholder → D046 -
Boring bar tool → K199 -
Cartridge → K181 -
Top-borer tool → K203

PCD Insert POSITIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP



IC : 5.56 mm
S : 2.38 mm

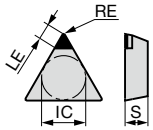
Triangular Positive 11° without hole

N Non-ferrous

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	●ⓒ DX140
Finishing	**TPGN090204-DIA**	0.4	2.2	1		●

● : Line up

TP



IC : 6.35 mm
S : 3.18 mm

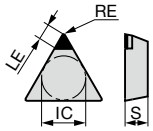
Triangular Positive 11° without hole

N Non-ferrous

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	●ⓒ DX120	●ⓒ DX140
Finishing	**TPGN110304-DIA**	0.4	3.2	1		●	●
	TPGN1103**08-DIA**	0.8	2.9	1			●

● : Line up

TP



IC : 9.525 mm
S : 3.18 mm

Triangular Positive 11° without hole

N Non-ferrous

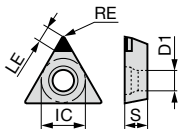
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	●ⓒ DX120	●ⓒ DX140
Finishing	**TPGN160302-DIA**	0.2	3.3	1			●
	TPGN1603**04-DIA**	0.4	3.2	1		●	●
	TPGN1603**08-DIA**	0.8	2.9	1			●

● : Line up

Reference pages: Internal toolholder → D047 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TP



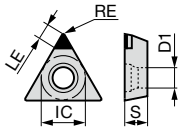
IC : 4.76 mm
D1 : 2.3 mm
S : 2.38 mm

Triangular Positive 11° with hole

		N Non-ferrous	●◐
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX140
Finishing	TPGW080202-DIA	0.2	2.4	1		●
Finishing	TPGW080204-DIA	0.4	2.3	1		●

● : Line up

TP



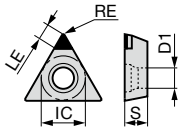
IC : 5.56 mm
D1 : 2.5 mm
S : 2.38 mm

Triangular Positive 11° with hole

		N Non-ferrous	●◐	●◐
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX120	DX140
Finishing	TPGW090202-DIA	0.2	2.4	1		●	●
Finishing	TPGW090204-DIA	0.4	2.2	1			●

● : Line up

TP



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

Triangular Positive 11° with hole

		N Non-ferrous	●◐	●◐
Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX120	DX140
Finishing	TPGW110202-DIA	0.2	2.4	1		●	●
Finishing	TPGW110204-DIA	0.4	2.2	1			●

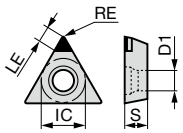
● : Line up

Reference pages: Internal toolholder → D046 - Cartridge → K181 -
Boring bar tool → K199 - Top-borer tool → K203

PCD Insert POSITIVE TYPE

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

TP



IC : 7.94 mm
D1 : 3.4 mm
S : 3.18 mm

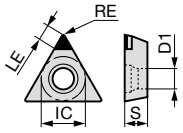
Triangular Positive 11° with hole

N Non-ferrous

Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX120	DX140
Finishing	**TPGW130302-DIA**	0.2	3.3	1		●	●
	TPGW1303**04-DIA**	0.4	3.2	1			●

● : Line up

TP



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

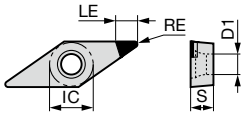
Triangular Positive 11° with hole

N Non-ferrous

Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX140
Finishing	**TPGW16T302-DIA**	0.2	3.3	1		●
	TPGW16T3**04-DIA**	0.4	3.2	1		●
	TPGW16T3**08-DIA**	0.8	2.9	1		●

● : Line up

VC



IC : 9.525 mm
D1 : 4.4 mm
S : 4.76 mm

35° Rhombic Positive 7° with hole

N Non-ferrous

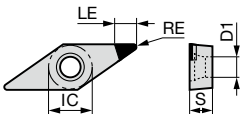
Application	Designation	Dimension (mm) RE	LE	No. of corners	Chipbreaker	DX110	DX120	DX140
Finishing	**VCMT160402-DIA**	0.2	4.8	1	○		●	
	VCGW160402-DIA		4.8	1				●
	1QP-VCGT160404-NS	0.4	3	1	○	●		
	VCMT160404-DIA		4.4	1	○		●	
	VCGW160404-DIA		4.4	1				●
	1QP-VCGT160408-NS	0.8	3	1	○	●		

● : Line up

Reference pages: TP: Internal toolholder → D046 -, Cartridge → K181 -
Boring bar tool → K199 -, Top-borer tool → K203
VC: External toolholder → C048 -, Internal toolholder → D039 -, TungCap → K015 -

● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

VB



IC : 9.525 mm
D1 : 4.4 mm
S : 4.76 mm

35° Rhombic Positive 5° with hole

N Non-ferrous ●ᑕ

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX110
Finishing	**1QP-VBGT160404-NS**	0.4	3	1	○	●
Finishing	1QP-VBGT1604**08-NS**	0.8	3	1	○	●

● : Line up

Reference pages: Internal toolholder → D059 - J-Series toolholder → G062 -

●CVD Coated Grades for Turning

ISO		Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	NTK	Kennametal	Seco Tools	Walter	Iscar	TaeguTec	Ceratizit
Classification	Symbol													
P	P01	**T9205**	UE6105		GC4305	CA510	HG8010		KCP05B KCP05 KCPK05	TP0501	WPP05S	IC8150 IC9150	TT8105 TT8105B	CTCK110
	P10	**T9205** **T9215**	UE6105 UE6110 MC6015 MC6115	AC8015P AC8020P	GC4305 GC4315 GC4415	CA515	HG8010 GM8020	CP7	KCP10B KCP10	TP0501 TP1501	WPP10S WPP10G WPV10	IC8150 IC9150	TT8115 TT8115B	CTC3110 CTCK120 CTCP115-P
	P20	**T9215** **T9225**	MC6015 MC6025 MC6115 MC6125	AC8015P AC8020P AC8025P	GC4315 GC4325 GC4415 GC4425	CA515 CA525 CA025P	HG8025 GM8020 GM25	CP7	KCP25B KCP25	TP1501 TP2501	WPP20S WPP20G WPV20	IC8150 IC9150 IC8250 IC9250	TT8125 TT8125B TT5100	CTCP115 CTCP115-P CTCP125 CTCP125-P
	P30	**T9225** **T9235**	MC6025 MC6035 MC6125	AC8025P AC8035P AC6030M	GC4325 GC4335 GC4425	CA530 CA025P	HG8025 GM8035 GM25		KCP30B KCP30	TP2501 TP3501	WPP30S WPP30G	IC8350 IC9350	TT8125 TT8125B TT5100 TT8135 TT8135B	CTCP125 CTCP125-P CTCP135-P
	P40	**T9235** **T6215**	MC6035	AC8035P AC6030M	GC4335	CA530	GM8035 GX30		KCP40B KCP40	TP3501		IC8350 IC9350	TT8135 TT8135B TT7100	
M	M10	**T6215**	MC7015	AC6020M	GC2015	CA6515			KCM15B KCM15	TM1501		IC9250	TT9215	CTCM120
	M20	**T6215**	MC7015 MC7025	AC6020M	GC2015 GC2025 GC2220	CA6525	HG8025 GM25		KCM25B KCM25	TM1501 TM2501		IC9350	TT9215 TT9225	CTCM120 CTCM130
	M30	**T6215**	MC7025 US735	AC6030M	GC2025 GC2035	CA6525	GM8035 GM25 GX30		KCM35B KCM35	TM2501 TM3501		IC9350	TT9225 TT9235	CTCM130
	M40		US735		GC2035		GX30			TM4000			TT9235	
K	K01	**T505** **T5105**	MC5005 MC5105 UC5105	AC405K	GC3005 GC3205	CA4505 CA310	HX3505	CP1	KCK05B KCK05	TK0501		IC5005	TT7005	
	K10	**T505** **T515** **T5105** **T5115**	MC5015 MC5115 MH515 UC5115	AC4010K AC415K	GC3210 GC3215	CA4515 CA315	HX3515 HG8010	CP1	KCK15B KCK15	TK0501	WKK10S WKV10 WAK10	IC9150 IC5005 IC5010	TT7005 TT7015	CTC3110 CTCK110
	K20	**T515** **T5115** **T5125**	MC5015 MC5125 UC5115	AC4015K AC420K	GC3225	CA320	HX3515 GM8020	CP1	KCK20B KCK20	TK1501	WKK20S WKV20 WAK20	IC9150 IC5010	TT7015 TT7025 TT7310	CTCK120 CTCP115
	K30	**T5125**		AC8025P			HG8025				WAK30	IC4050 IC8150	TT7025	CTCP125

Note: The above table is selected from a publication. We have not obtained approval from each company.

●PVD Coated Grade for Turning

ISO		Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	NTK	Kennametal	Seco Tools	Walter	Iscar	TaeguTec	Ceratizit
Classification	Symbol													
P	P01					PR1705								
	P10	**AH8005**	VP10RT MS6015	AC1030U AC530U ACZ150	GC1105	PR1705 PR930 PR1725	IP2000	VM1 DT4 DM4	KC5010 KCU10	TS2000 CP200		IC807 IC907 IC808 IC908 IC1007	TT4410 TT7010	CTPX710 CTPX715
	P20	**AH120 AH725 SH725 AH730 J740 AH8015 AH6225**	VP15TF VP20MF VP10RT VP20RT UP20M MS6015	AC1030U AC530U	GC1125	PR1725 PR930 PR1225 PR1025	IP2000	VM1 DT4 DM4 TM4 QM3	KC5025 KCU25 KCS10 KCU10 KC5010	TS2500 CP200		IC807 IC907 IC808 IC908 IC830 IC1010	TT9030 TT4410	CTPX710 CTPX715 CTPM125
	P30	**AH120 AH725 AH7025 SH725 SH730 J740 AH8015 AH6225**	VP15TF VP20MF VP20RT UP20M MS7025	AC1030U	GC1125	PR1725 PR1225 PR1535 PR1025	IP3000	QM3 TM4	KC5025 KCU25 KCU25	CP500 CP600		IC928 IC528 IC228 IC830 IC1010 IC1030	TT9030 TT8020 TT8010 TT9080 TT7220	CTPM125
	P40	**AH120 AH725 AH6225**	MS7025			PR1535	IP3000	QM3		CP500 CP600		IC228 IC528 IC1030	TT8020 TT8010 TT4430 TT9020	CTPM125
M	M01										WSM01	IC806 IC1007		
	M10	**AH8005 AH6225**	VP10RT	AC5005S ACZ150	GC1105 GC1115	PR930 PR1725	IP100S IP050S	VM1 DT4 DM4 ZM3	KC5010 KCU10 KCS10B KCS10	TS2000 TS2500 CP200	WSM10 WSM10S WSM01	IC807 IC907 IC808 IC908 IC1010	"TT4410 TT5080"	CTPM125 CTPX710 CTPX715
	M20	**AH8015 AH120 AH7025 AH725 SH725 SH730 AH6225**	VP10RT VP15TF VP20MF VP20RT UP20M MS7025 MS9025	AC5015S	GC1115 GC1125	PR930 PR1225 PR1725 PR1025	IP100S IP050S	VM1 DT4 DM4 ST4 TM4 ZM3 QM3	KC5025 KCU25 KCS10 KCU10 KC5010	TS2500 CP200 CP500 CP600	WSM20S	IC808 IC908 IC830 IC1030	TT9030 TT8010 TT4410 TT5080 TT9080	CTPM125 CWN15
	M30	**AH120 AH725 SH725 SH730 J740 AH6235**	VP15TF VP20MF VP20RT UP20M MP7035 MS7025 MS9025	AC6040M AC1030U AC5025S AC530U	"GC1125 GC2035"	PR1225 PR1535 PR1725 PR1025	IP100S	DT4 DM4 QM3 ST4 TM4 ZM3	KC5025 KCU25	CP500 CP600	WSM30S	IC528 IC228 IC830 IC1030	TT8020 TT4430 TT8010 TT8080 TT7220	CTPM125
	M40	**AH6235**	MP7035	AC6040M	GC2035	PR1535		ST4 QM3 TM4		CP600		IC228 IC528	TT8010 TT8020	
K	K01	**AH110**												
	K10	**GH110 AH110**	VP10RT	ACZ150					KC5010 KCU10 KCS10B KCS10	TS2000 CP200		IC807 IC907	TT9030 TT7010 TT6080	CTPX715
	K20	**AH120 AH7025 AH8015 AH6225**	VP10RT VP20RT VP15TF	AC1030U					KC5025 KCU25	TS2500 CP200 TS2000		IC807 IC907 IC808 IC908 IC1007 IC1010	"TT9030 TT7010 TT6080 TT9080	CTPX715
	K30	**AH120 GH130**	VP15TF VP20RT							CP500		IC807 IC907 IC808 IC908	TT9030	CTPX715
S	S01	**AH8005**	VP05RT MP9005	AC5005S AC5015S ACZ150		PR005S	JP9105		KCS10B		WSM10S	IC804 IC806	TT3010	
	S10	**AH8005 AH8015 AH6225**	VP10RT MP9015	AC5005S AC5015S	GC1105	PR015S PR005S	JP9105 JP9115	QM3 ZM3	KC5025 KCU25 KCS10B KCS10 KC5010 KCU10	TS2000 TS2500 CP200 CP500	WSM10S WSM01 WNN10	IC806 IC1007 IC1010	TT3010 TT3020 TT5080	CTPX710 CTPX715
	S20	**AH8015 AH7025 AH6225**	MP9015 VP20RT MP9025 MS9025	AC5015S AC5025S	GC1115 GC1125	PR015S PR1535	JP9115		KC5025 KCU25 KCS10B	TS2000 TS2500 CP200 CP500 CP600	WSM20S	IC807 IC907 IC808 IC908 IC806 IC1010	TT3020 TT4430 TT9030 TT9080	CTPX710 CTPX715
	S30	**AH7025 AH6235**	VP20RT MP9025 MS9025	AC5025S	GC1125	PR1535				CP600	WSM30S	IC830 IC928	TT4430 TT8020 TT9030	

Note: The above table is selected from a publication. We have not obtained approval from each company.

●Cermet for Turning

ISO		Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	NTK	Kennametal	Seco Tools	Walter	Iscar	TaeguTec	Ceratizit
Classification	Symbol													
P	P01	**NS520**	AP25N VP25N	T1000A		TN610 PV710						IC20N IC520N	PV3010	CTEP10 TCM407
	P10	**AT9530** **GT9530** **J9530**	AP25N VP25N NX2525	T1500Z T1500A	CT5015 GC1525	TN610 TN620 PV710 PV720 CCX			KT315 KTP10	TP1020	WCE10	IC20N IC30N IC520N IC530N	PV3010 CT3000	CTEP10 TCM10 TCM407
	P20	**AT9530** **GT9530** **NS9530** **J9530**	AP25N VP25N VP45N NX2525 NX3035 MP3025	T1500A T1500Z T2500A T2500Z	GC1525	TN620 PV720	CZ25			TP1020 TP1030	WCE10	IC20N IC30N IC520N IC530N	PV3010 CT3000	TCM10
	P30	**NS9530**	VP45N NX3035 MP3025	T2500Z T3000Z		PV730	CZ25					IC530N		
M	M10	**NS520**	AP25N VP25N NX2525	T1000A	GC1525	TN620 TN610 PV720 PV710			KT315 KTP10	TP1030		IC20N IC30N IC520N IC530N	PV3010 CT3000	CTEP10 TCM10 TCM407
	M20	**AT9530** **GT9530** **NS9530** **J9530**	AP25N VP25N NX2525	T1500A		TN620 PV720 PV730	CZ25					IC30N IC530N	PV3010 CT3000	
	M30	**NS9530**		T3000Z			CZ25							
K	K01	**NS520**	AP25N VP25N	T1000A		PV7005							PV3010	CTEP10 TCM10 TCM407
	K10	**AT9530** **GT9530** **NS9530** **J9530**	AP25N VP25N NX2525		CT5015	TN60 CCX	CZ25		KT315 KTP10				PV3010 CT3000	TCM10
	K20	**NS9530**	AP25N VP25N NX2525				CZ25						PV3010 CT3000	

Note: The above table is selected from a publication. We have not obtained approval from each company.

●Cemented Carbide for Turning

ISO		Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	NTK	Kennametal	Seco Tools	Walter	Iscar	TaeguTec	Ceratizit
Classifi-cation	Symbol													
P	P01													
	P10	**TH10**		ST10P										S26T
	P20	**KS20**		ST20E								IC50M	P20	S26T S40T
	P30	**KS15F** **UX30**	UTi20T	A30								IC28 IC50M	P30	S40T
	P40		UTi20T									IC28		
M	M10	**TH10**		EH510					K313 KU10 K68	890		IC20		
	M20	**KS20**	UTi20T	EH520					K313 KU10 K68	HX 883		IC20		CTW7120 H210T U17T
	M30	**UX30**	UTi20T	A30								IC28		
	M40											IC28		S40T
K	K01	**TH03**	HTi05											CTWK601
	K10	**TH10**	HTi10	G10E	H13A	KW10	WH10		K313 KU10 K68	890		IC20	K10	H210T H10T U17T
	K20	**KS15F** **KS20**	UTi20T	G10E	H13A	KW10				890 HX 883		IC20	K20	CTW7120 H210T H10T U17T
	K30		UTi20T		H13A					883				TSM30
	K40													
N	N01	**KS05F**			H10	GW05						IC04		
	N10	**TH10**	HTi10	H1	H10	GW05 KW10	WH10	KM1	K313 KU10 K68	890 HX KX	WK1	IC20 IC28	K10	H210T H10T U17T
	N20	**KS15F**		H1	H13A			KM1		890 HX KX 883	WK1	IC20 IC28	K20	CTW7120 H210T H10T U17T
	N30									883				
S	S01		MT9005 RT9005		H10A	SW05						IC20		
	S10	**KS05F** **TH10**	MT9015 RT9010	EH510	H10F	SW10 KW10	WH10	KM1	K313 KU10 K68	890 883	WK1 WS10	IC20	K10	H210T H10T
	S20	**KS15F** **KS20**	MT9015 RT9010	EH520	H13A H10F	SW25		KM1		890 883	WK1 WS10	IC20 IC28	K20	CTW7120 H210T H10T
	S30									883				
H	H01											IC20		
	H10	**TH10**			H13A		WH10					IC20	K10	
	H20									890 HX 883				

Note: The above table is selected from a publication. We have not obtained approval from each company.

●CBN and PCD for Turning

ISO		Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	Dijet	NTK	Seco Tools	Kennametal	Iscar	Ingersoll	TaeguTec	Widia	Walter	Ceratizit
Classifi-cation	Symbol																
K	K01	**BX930 BX910 BX870**	MB710 MB730 MB5015	NCB100 BN500 BNC500	CB50	KBN475 KBN60M			B52		KB1630 KB1345	IB10K		TB7015	WBH10C	WCB80	CTB S10U
	K10	**BX470 BX480**	MB730 MB5015 MB4020	BN7000 BN500	CB7525 CB50	KBN65M KBN65B		JBN795	B23 B30 B52	CBN200 CBN300 CBN400C	KB1640 KB1345	IB05S IB10S	TB730	TB730	WBK40U	WCB80 WCB50	CTB S10U
	K20	**BXC90 BX90S**	MB4020 MB4120 MBS140	BNC8115 BNS8125	CB7925	KBN900 KBN70M			B23 B30 B52	CBN300 CBN500	KB5630	IB90A IB90 IB25KD		TB7020	WBK45U	WCB80	CTB S20C
	K30	**BXC90 BX90S**	MBS140 BC5030	BNS8125		KBN900			B16	CBN500	KB9640	IB90A IB25KD	KB90A	KB90A			
S	S01	**BX815**	MB730	NCB100 BN7000				JBN795	JP2	CBN170		IB05S IB10S		KB90			CTB S10U
	S10	**BX480**	MB4020 MB4120	BN7500 BN7115	CB7050	KBN65B KBN65M			B23 B30	CBN200	KB1630	IB05S IB10S		KB90A	WBK45U	WCB80	CTB S20C
H	H01	**BXM10 BX310**	BC8105 BC8110 MBC010 MB810 MB8110	BNC2010 BNC2115 BN1000 BN2000 BNX10 BN1000	CB7105	KBN510 KBN05M KBN10M			B52 B5K	CBN010 CBN100 CBN160C CBN050C	KB1610 KB5610"	IB05H IB10HC	TB610	TB610	WBH10C	WCB30	CTB H15C CTB H15U
	H10	**BXA10 BXM10 BX330 BX530**	BC8210 MB020 MB8025 MB8110 MB825	BNC2020 BNC2115 BN2000	CB7015 CB7115 CB7025	KBN525 KBN05M KBN10M		JBN245	B36 B52 B6K	CBN150 CBN200 CBN300 CBN060K CBN160C CBN400C	KB9610 KB1610 KB5610	IB50 IB55 IB10H IB10HC IB20H IB25HA		TB2015	WBH10C WBH10P WBH10U	WCB30 WCB50	CTB H15C CTB H15U
	H20	**BXM20 BXA20 BX360**	BC8220 MBC020 MB8025 MB8120	BNC200 BNC2020 BNC2125 BNX20	CB7015 CB7125 CB50	KBN525 KBN05M KBN10M KBN25M KBN020		JBN300	B22 B36 B40 B6K	CBN200 CBN300 CBN160C CBN400C CH2540	KB5625 KB1625	IB20H IB20HC IB25HA IB25HC	TB650 TB2030	TB650	WBH25P	WCB50 WCB80	CTB H20C CTB H21U
	H30	**BR35F BXC50 BX380**	BC8130 MB8130 MB835	BNC300 BN350 BNX25		KBN30M KBN35M KBN900		JBN300	B22 B40	CH3515	KB1630 KB9640	IB25HC IB90	TB670	TB670	WBH40C		CTB H40C CTB H40U
N	N01	**DX160 DX180**	MD205	DA90	CD05	KPD230		JDA30 JDA735	PD1		KD1405	ID5					CTD PU20
	N10	**DX140**	MD205 MD220	DA150	CD10	KPD010 KPD230		JDA715	PD1	PCD05 PCD10	KD100 KD1400 KD1425	ID5	IN90D	TD810	WDN25U	WCD10	CTD PU20
	N20	**DX120**	MD220 MD230	DA2200 DA1000	CD10	KPD010		JDA715	PD2	PCD05 PCD20	KD1425		IN90D	KP300	WDN25U	WCD10	CTD PD20
	N30	**DX110**	MD2030 MD230	DA2200 DA1000		PKD001		JDA10		OVD20 PCD30 PCD30M				TD830		WCD10	

Note: The above table is selected from a publication. We have not obtained approval from each company.

●Ceramic for Turning

ISO		Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	Dijet	NTK	Seco Tools	Kennametal	Iscar	Ingersoll	TaeguTec	Widia	Walter	Ceratizit
Classifi-cation	Symbol																
K	K01	**TZ120 LX21**		NB90S	CC620	KA30 A65 KT66 PT600M			HC1 HW2		KY1310 KY1615	IN110		AW120 AB30	CW2015		CTN3105 CTS3105
	K10	**CX710 FX105**			CC6190 CC650	A65 KT66 A66N PT600M			HC2 HC5 HC6		KY1310 KY1615	IN23 IS6	IN70N	AB30 AS10	CW2015 CW5025	WSN10	CTN3105 CTM3110 CTI3105 CTN3110 CTS3105
	K20	**FX105 CX710**			CC6190	KS6000 KS6050			SP2 SP9 SX8 SX9		KY1320 KY3400 KY3500 KY4300	IS8	IN70N	SC10	CW5025	WSN10	CTM3110 CTN3110
S	S01	**TS200**							JX1	CS100	KY1525 KY2100	IS25		TC3020			
	S10	**TW43 TS300 FX510**		WX120	CC670 CC6060 CC6065	KS6030 KS6040			WA1 WA5 SX9	CW100 CS300	KY1540 KYS30 KY2100 KY4300	IW7 IS35		TC430 TC3030	CW3020	WWS20	
H	H01	**LX10 LX11**		NB100C	CC6050 CC650	PT600M			HC2 HC5 HC6		KY4300	IN420 IN22		AB2010	CW2015		CTS3105
	H10				CC6050 CC670 CC6190	A66N PT600M			HC7 WA1		KY4400	IN23		AB2010 AB20 AB30	CW2015		CTS3105

Note: The above table is selected from a publication. We have not obtained approval from each company.

●Negative insert type

ISO Classification	Cutting Mode	Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Kyocera	Sandvik	Moldino	Kennametal	Seco Tools	Iscar	TaeguTec	Walter	Ceratizit
P	Precision finishing	**01** **TF**	PK FH	FA	GP	PF	FE	FS, LF	FF1	SF, PP, TF	FA		
	Finishing and light cutting	**TS, TSF** **PS, ZF** **NS** **AS** **TQ**	FP FY LP SH SA SY	SU FL SE, SX	XP, PP XQ, HQ, CJ, XS	PF LC MF R/L-K XF	BE, BH AB, CT CE	FF, FN	MF2	F3P NF, SF	FG VF, EA FC MC ML, MP	NF3 NS6	CF, TF
	Finishing and light cutting (With Wiper)	**AFW, FW** **ASW, SW**	SW MW	LUW SEW GUW	WP WQ WF	WL, WF WMX WM, WR		FW MW RW	W-FF2 W-MF1 W-M3 W-M6	WF WG	WS WT	NF NM	TFQ TMQ
	Medium cutting	**TM, AM** **PM, DM** **ZM, NM** **All-round, TA**	MA MH , MP	GU GE , UX	HS , PT , GT CS , PS	PM , QM XM , XRM	AH AE , AY , B	MN	MF5 M3	M3P , M3M PP , TF , GN	PC , MT MC , MG	NMT , NM4	TMF , TMM M50
	Medium to heavy cutting	**TH** **THS**	RP, GH	MU, ME HG	PH All-round	HM, PR MR	RE	RN, RP MR	M5 MR7	NR MR	RT	MM5, NM6 NM9	TM TRM
	Heavy cutting	**TU** **TRS** **TUS**	HM, HX HL, HR HZ, HV	HG, HP HU, HW HF	PX	PR, MR HR, QR	TE, UE HX, HE H	RM RH	R RR	R3P NM	HT, HD RX, RH HY, HZ	NR6 NRF NRR	TRR, TR R28, R58 R88
M	Finishing and light cutting	**SF** **SS**	GM, LM	EX, EG SU, EF	GU MQ	MF, XF	MP BH, AB	FP, FF	FF1 MF1 MF3	TF, VL	EA, SF, SU FG	NF4 NMS	CF, F30, M34 F32, TF
	Medium cutting	**SM, SA** **S, TA** **SDM**	MM, MA MS	GU HM	MU	MM, QM XM	PV, SE DE	MP, P	MF4 M3	M3M, PP	EM, ET	NM4	TMF, M42 M30, M52
	Heavy cutting	**SH, TH** **TU**	GH, RM HL	EM, MU	MS TK	MR HM, PR	AH, AE	UP, RP	M5 MR3	MR, MH		NR4 NRT, NRS	TM, M60 TRM, TMR, TRR R80
K	Finishing	**CF**	LK, MA	UZ	C	KF, XF	Y, AH	FN, MT		GN	FG		CF
	Medium cutting	**CM** **All-round**	MK GK	GZ	ZS All-round	KM, QM XM, XMR	RE VA	RP, UN	M4 M5		MT MG	NM5	M50
	Heavy cutting	**CH** **Flat-top**	RK **Flat-top**	**Flat-top**	GC **Flat-top**	KR **Flat-top**	RE,V	MA **Flat-top**	MR9 **Flat-top**		RT	**Flat-top**	TMR , TR R28 R58 , R88
N	Cutting of non-ferrous metals	**P** **28**		AX	AH, A3	MF		MS GR		PP			F32
S	Finishing	**HRF**	FJ, LS MJ	EF EX	SQ, SX	SF	VI	FS MS	MF1			NFT NF4	
	Medium cutting	**HRM** **HMM** **SA, 28** **SDM**	MS RS, GJ	EG MU EM	SQ, SX	SMR	VI	UP RP	MF4 M1	PP	SM	NMS NM4, NRS, NR4	M34, M52

Note: Above charts are based on published data and not authorized by each manufacturer.

●Positive insert type

ISO Classification	Cutting Mode	Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Kyocera	Sandvik	Moldino	NTK	Kennametal	Seco Tools	Iscar	TaeguTec	Walter	Ceratizit
P	Precision finishing	**01**	FV	FC	CF, CK		JQ		GM	FF1 F1	SF		PF2	F32
	Finishing and light cutting	**PSF, PF, SS** **PS, PSS** **TS, TSF** **TSW, SW** **W08~20**	FP, FV, SV LP SVX SW, MW	FP, LU FK, SC SU LUW, SDW	GQ GP XP PP, VF WP	R/L-K PF UF WF, WK, WM	JQ JE		11, LF VF, FP FW, MW	MF2	PF SM, 14, 17 19, XL R/L RF, LF	FA FG GF	PF5 PF4 PS5 PF, PM	SF SMF SMW, 25Q
	Medium cutting	**PM** **TM** **All-round** **RS**	MP MV No sign	SU, MU SC	All-round HQ, XQ GK	PM UM, PR UR	JE		MP MF	M3 M5	DT, HQ	MT MT	PM5	SM
	High-feed, small depth of cut cutting	**61**									No sign 14	No sign		
M	Finishing	**PSF, SS**	FM, SV	FC		R/L-K UF, MF			11, VF	FF1 MF2		FG		
	Finishing to Medium cutting	**PSS** **PS**	LM SV	SI, GU LB, SU	MQ	MM UM			LF, FP	M3			PF4	SF, SMF
	Medium cutting	**PM**	MM	MU	HQ	MR UR			MF, MP	M5			PM5	F23, F43 SM
K	Cutting of cast irons	**CM** **Flat-top**	MK **Flat-top**	FC, MU **Flat-top**	KF KM UM, KR	**Flat-top**			11, VF, FP MP, MF **Flat-top**	M5 **Flat-top**	19	MT **Flat-top**	PS5, PM5 **Flat-top**	SF 25P 27, 29
N	Cutting of non-ferrous metals	**AL** **P** **Ground**	AZ R/L-F R/L	AG AY AW LD, GD	AH	AL			HP, LF	AL	AS	FL	PF2 PM2	23P 25P 27, 29
S	Finishing	**PSF**	FJ	FC	MQ	MF, UF, R/L-K			HP	F1				SF
	Finishing to Medium cutting	**PSS** **PS**	LS.MS	SU, GU		MM SM			LF, FP	MF2				F23
	Medium cutting	**All-round**		SI		UM, MR, UR						FG	PF2, PF4	SM, 25P, 29
P M N S	Turning on small lathes	**JP, 01** **W08, W15, W20** **J08** **JS, JSS** **JRP, JSR, JPP** **J10, TS, JTS** **TSW** **SS**	R/L-SR R/L-SN R/L-SS FS-P, F LS-P SW, MW SRF SMG	W, SD FX, FY LU, FP, FK, SU FC, SI, SC LUW, SDW	CF, SKS R/L-F, R/L-FSF ER/L-U FR/L-U R/L-U FR/L-U, R/L-USF MF, R/F-FSF SK, GF CK, GQ	F, M UM	No sign	AMX AZ7 YL, AM3 U CL	LF		SM F2M	GF, GW SL SA SM SH	PM5	

Note: Above charts are based on published data and not authorized by each manufacturer.

MEMO