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.

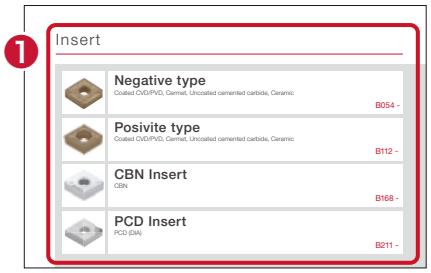
How to use the page

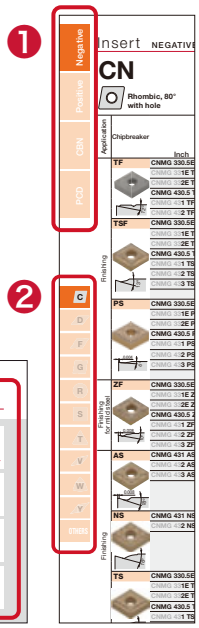
Method ①

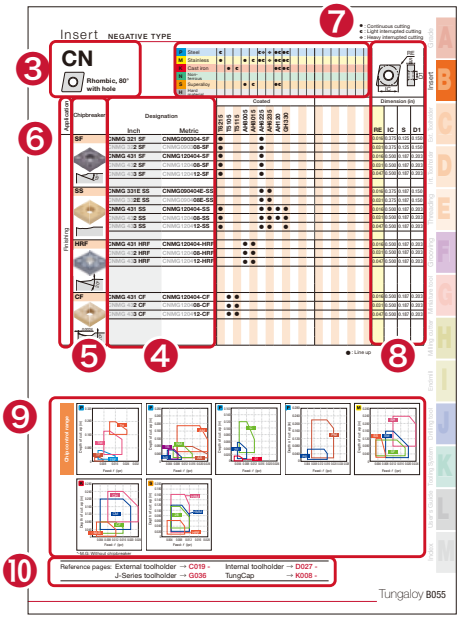
Select an insert at the right end, and choose the information page by the insert type (❶) and the outer shape of the insert (❷) at the left end.

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).

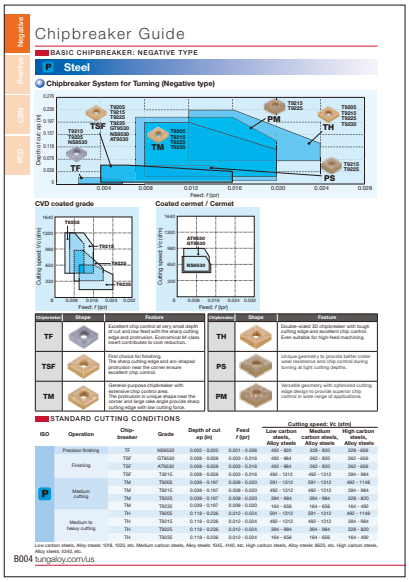


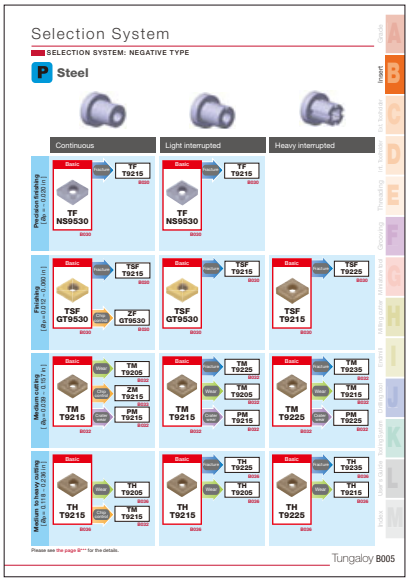




Method ③

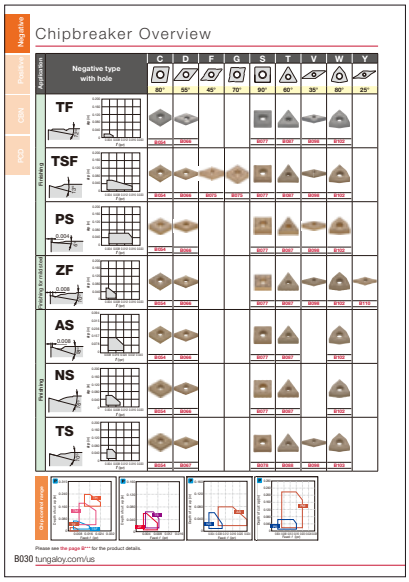
Select an insert at the chipbreaker introduction and the selection guide on B004 - B029 and check the details on the product page.





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. **CNMG 432 TM T9215** (**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)

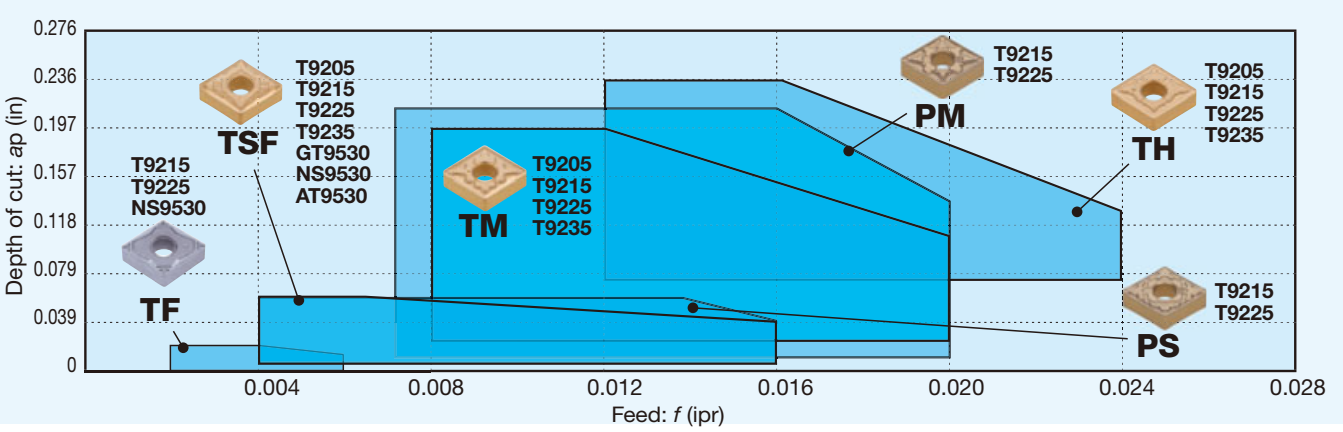
B211 -

Chipbreaker Guide

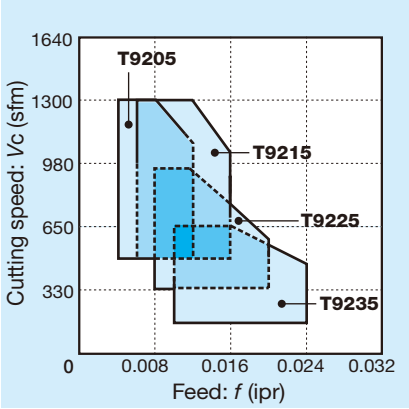
BASIC CHIPBREAKER: NEGATIVE TYPE

P Steel

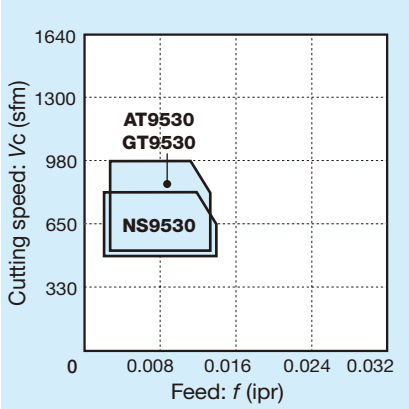
Chipbreaker System for Turning (Negative type)

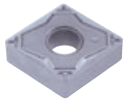


CVD coated grade



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

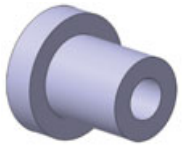
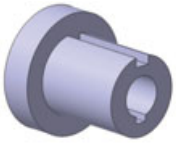
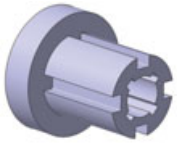
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm) Low carbon steels, Alloy steels	Medium carbon steels, Alloy steels	High carbon steels, Alloy steels
P	Precision finishing	TF	NS9530	0.002 - 0.020	0.001 - 0.006	492 - 820	328 - 820	328 - 656
	Finishing	TSF	GT9530	0.008 - 0.059	0.003 - 0.016	492 - 984	262 - 820	262 - 656
		TSF	AT9530	0.008 - 0.059	0.003 - 0.016	492 - 984	262 - 820	262 - 656
		TSF	T9215	0.008 - 0.059	0.003 - 0.016	492 - 1312	492 - 1312	394 - 984
	Medium cutting	TM	T9205	0.039 - 0.197	0.008 - 0.020	591 - 1312	591 - 1312	492 - 1148
		TM	T9215	0.039 - 0.197	0.008 - 0.020	492 - 1312	492 - 1312	394 - 984
		TM	T9225	0.039 - 0.197	0.008 - 0.020	394 - 984	394 - 984	328 - 820
		TM	T9235	0.039 - 0.197	0.008 - 0.020	164 - 656	164 - 656	164 - 492
	Medium to heavy cutting	TH	T9205	0.118 - 0.236	0.012 - 0.024	591 - 1312	591 - 1312	492 - 1148
		TH	T9215	0.118 - 0.236	0.012 - 0.024	492 - 1312	492 - 1312	394 - 984
		TH	T9225	0.118 - 0.236	0.012 - 0.024	394 - 984	394 - 984	328 - 820
		TH	T9235	0.118 - 0.236	0.012 - 0.024	164 - 656	164 - 656	164 - 492

Low carbon steels, Alloy steels: 1018, 1020, etc. Medium carbon steels, Alloy steels: 1045, 4140, etc. High carbon steels, Alloy steels: 8620, etc. High carbon steels, Alloy steels: 4340, etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

P Steel

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.020 in]	Basic: TF NS9530 (B030) → Fracture: TF T9215 (B030)	Basic: TF NS9530 (B030) → Fracture: TF T9215 (B030)	
Finishing [a_p = 0.012 ~ 0.060 in]	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 = 0.039 ~ 0.157 in]	Basic: TM T9215 (B032) → Wear: TM T9205 (B032); Chip control: ZM T9215 (B033); 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 = 0.118 ~ 0.236 in]	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)

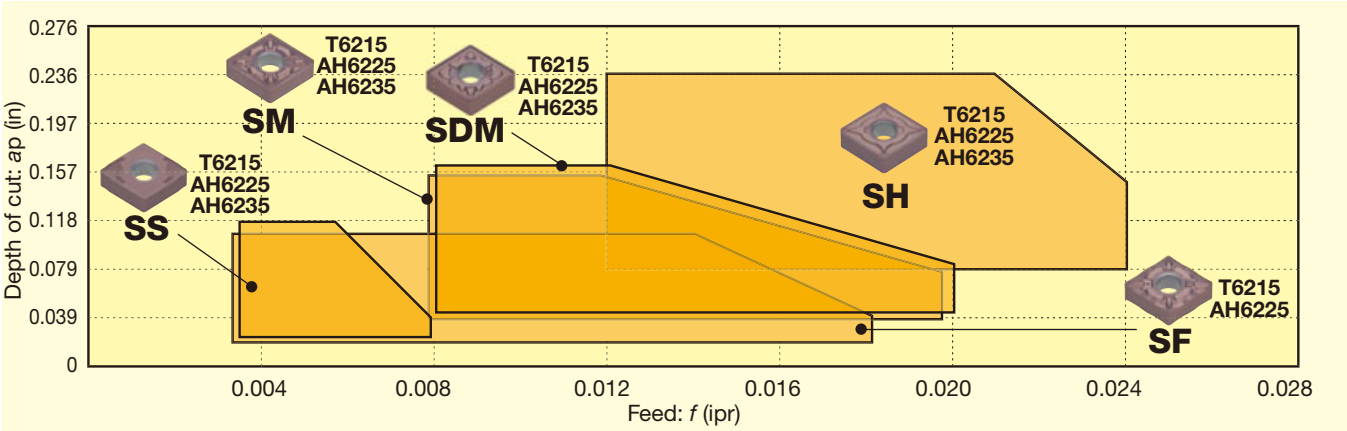
Please see the page B*** for the details.

Chipbreaker Guide

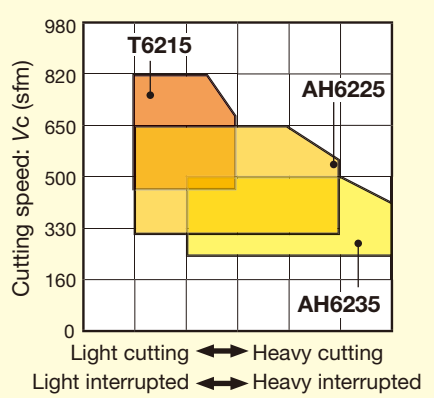
BASIC CHIPBREAKER: NEGATIVE TYPE

M Stainless Steel

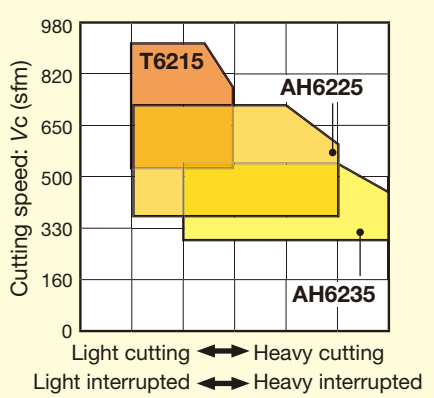
Chipbreaker System for Turning (Negative type)



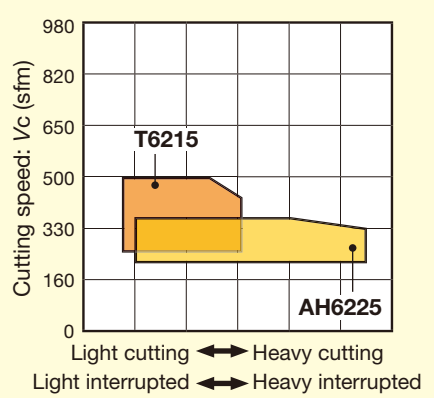
Austenitic stainless steel

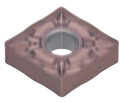
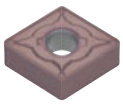


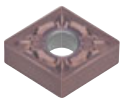
Ferritic / martensite stainless steel



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

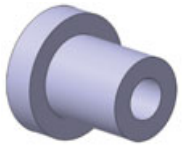
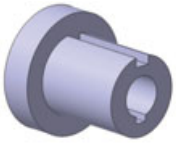
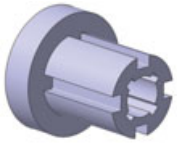
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm)		
						Austenitic stainless steel	Ferritic / martensite stainless steel	Precipitation hardened stainless steel
M	Finishing	SF	T6215	0.020 - 0.098	0.003 - 0.018	459 - 787	525 - 919	262 - 492
			AH6225	0.020 - 0.098	0.003 - 0.018	295 - 656	361 - 787	197 - 361
			AH6235	0.020 - 0.098	0.003 - 0.018	164 - 492	230 - 558	-
	Medium cutting	SM	T6215	0.040 - 0.160	0.008 - 0.020	459 - 787	525 - 919	262 - 492
			AH6225	0.040 - 0.160	0.008 - 0.020	295 - 656	361 - 787	197 - 361
			AH6235	0.040 - 0.160	0.008 - 0.020	164 - 492	230 - 558	-
		SDM	T6215	0.040 - 0.160	0.008 - 0.020	459 - 787	525 - 919	262 - 492
			AH6225	0.040 - 0.160	0.008 - 0.020	295 - 656	361 - 787	197 - 361
			AH6235	0.040 - 0.160	0.008 - 0.020	164 - 492	230 - 558	-
	Heavy cutting	SH	T6215	0.080 - 0.240	0.012 - 0.024	459 - 787	525 - 919	262 - 492
			AH6225	0.080 - 0.240	0.012 - 0.024	295 - 656	361 - 787	197 - 361
			AH6235	0.080 - 0.240	0.012 - 0.024	164 - 492	230 - 558	-

Stainless steels: 304SS, 316SS etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

M Stainless Steel

	Continuous	Light interrupted	Heavy interrupted
Finishing [a_p = 0.020 ~ 0.060 in]	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 = 0.039 ~ 0.157 in]	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 = 0.079 ~ 0.236 in]	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)

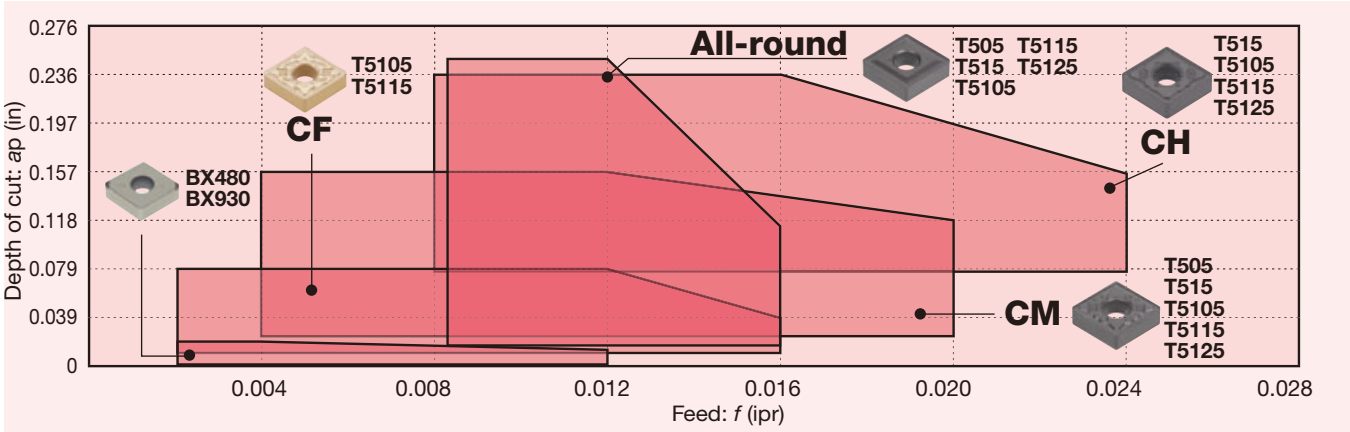
Please see the page B*** for the details.

Chipbreaker Guide

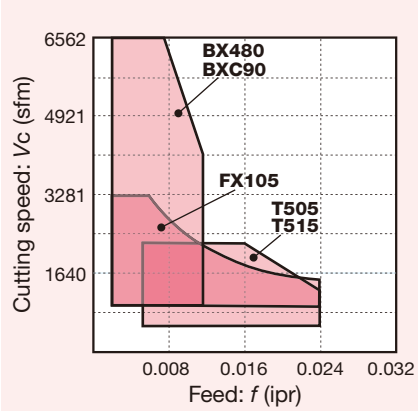
BASIC CHIPBREAKER: NEGATIVE TYPE

K Cast Iron

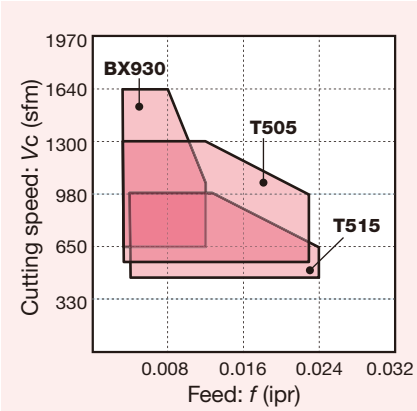
Chipbreaker System for Turning (Negative type)

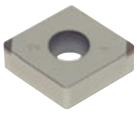
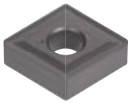


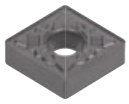
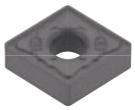
Gray cast iron



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

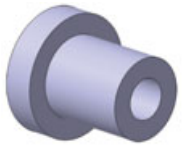
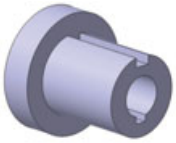
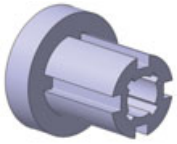
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm)	
						Gray cast iron	Ductile cast iron
K	High speed cutting	-	BX930	0.002 - 0.020	0.002 - 0.008	984 - 3937	656 - 1640
		-	BX480	0.002 - 0.020	0.002 - 0.012	984 - 6562	656 - 984
		-	BXC90	0.003 - 0.118	0.002 - 0.016	984 - 6562	656 - 984
	Finishing	All-round	T505	0.039 - 0.197	0.004 - 0.020	591 - 2297	591 - 1312
		All-round	T515	0.039 - 0.197	0.004 - 0.020	492 - 2297	492 - 984
	Medium cutting	All-round	T505	0.039 - 0.197	0.004 - 0.020	591 - 2297	591 - 1312
		All-round	T515	0.039 - 0.197	0.004 - 0.020	492 - 2297	492 - 984
		CH	T515	0.118 - 0.236	0.008 - 0.024	492 - 2297	492 - 984
	Medium to heavy cutting	All-round	T515	0.039 - 0.197	0.004 - 0.020	492 - 2297	492 - 984
		CH	T515	0.118 - 0.236	0.008 - 0.024	492 - 2297	492 - 984

Gray cast iron: Class 25, etc. Ductile cast iron: 65-45-12, etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

K Cast Iron

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.020 in]	Basic: BX480 (B168 - B188)	Basic: BX480 (B168 - B188) → Fracture: All-round T515 (B033)	Basic: BXC90 (B168 - B188)
Finishing [a_p = 0.020 ~ 0.079 in]	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 = 0.039 ~ 0.197 in]	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 = 0.118 ~ 0.236 in]	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)

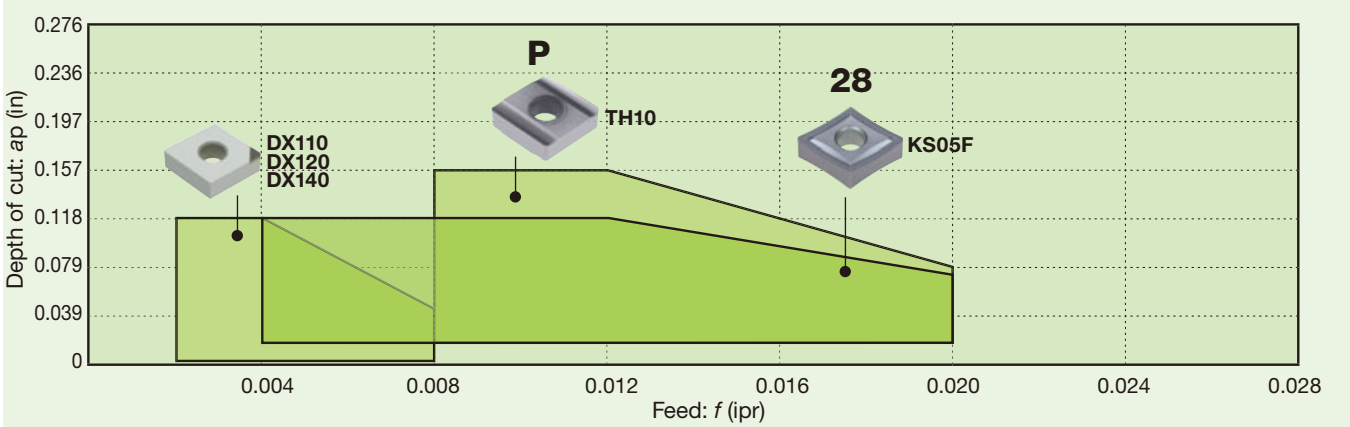
Please see the page B*** for the details.

Chipbreaker Guide

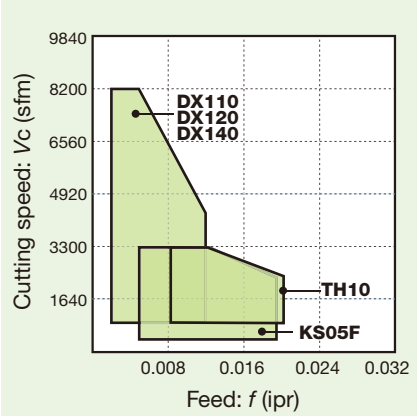
BASIC CHIPBREAKER: NEGATIVE TYPE

N Non-ferrous Metal

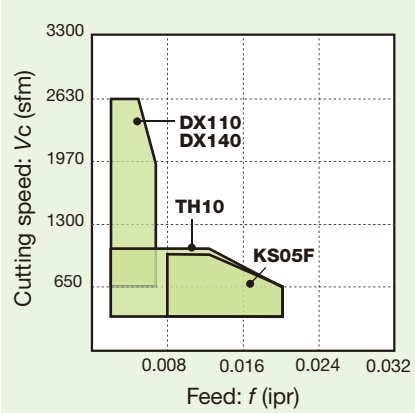
Chipbreaker System for Turning (Negative type)



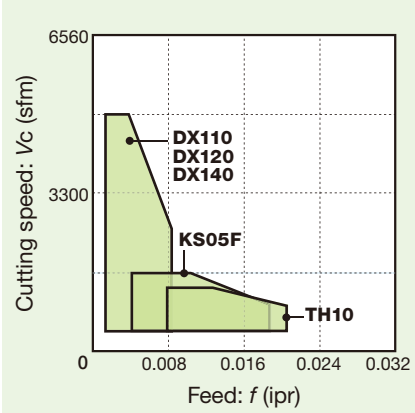
Aluminum alloy (Si < 12%)

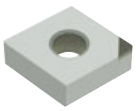
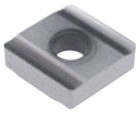


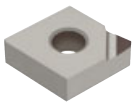
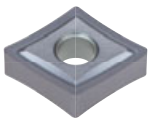
Aluminum alloy (Si ≥ 12%)



Copper alloy



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

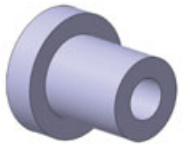
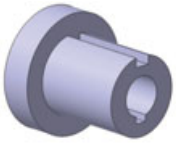
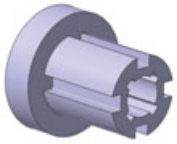
STANDARD CUTTING CONDITIONS

ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm) Aluminum alloy (Si < 12%)	Aluminum alloy (Si ≥ 12%)	Copper alloy
N	Precision finishing	With	DX110	0.002 - 0.020	0.002 - 0.006	1640 - 8202	1312 - 2625	1640 - 4921
		-	DX140	0.002 - 0.020	0.002 - 0.008	984 - 8202	1312 - 2625	1640 - 4921
	Finishing	With	DX110	0.002 - 0.079	0.002 - 0.006	1640 - 8202	1312 - 2625	1640 - 4921
		-	DX140	0.002 - 0.079	0.002 - 0.006	984 - 5906	1312 - 1969	1312 - 3937
		P	TH10	0.02 - 0.157	0.008 - 0.020	328 - 3281	328 - 984	328 - 984
	Medium cutting	P	KS05F	0.02 - 0.118	0.004 - 0.020	328 - 3937	328 - 984	328 - 984
		P	KS05F	0.02 - 0.118	0.004 - 0.020	328 - 3937	328 - 984	328 - 984
		P	TH10	0.02 - 0.157	0.008 - 0.020	328 - 3281	328 - 984	328 - 984

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

N Non-ferrous Metal

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.020 in]	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 = 0.020 ~0.079 in]	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 = 0.039 ~ 0.157 in]	Basic: **28 KS05F** (B035) → Wear → **DX140** (B211 - B212)	Basic: **28 KS05F** (B035) → Wear → **DX140** (B211 - B212)	Basic: **P TH10** (B035)

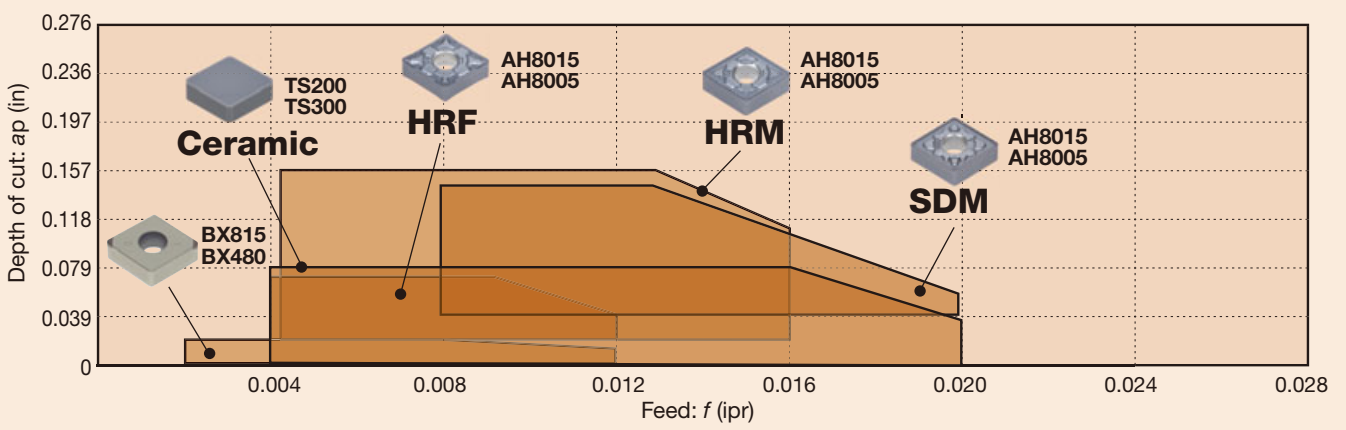
Please see the page B*** for the details.

Chipbreaker Guide

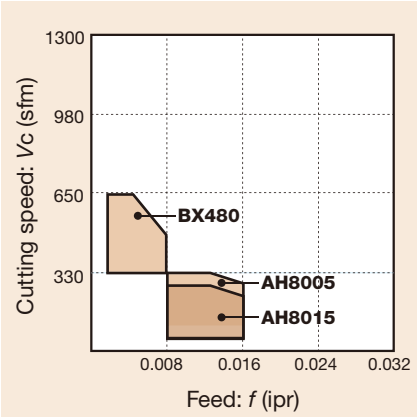
BASIC CHIPBREAKER: NEGATIVE TYPE

S Heat resistant superalloys

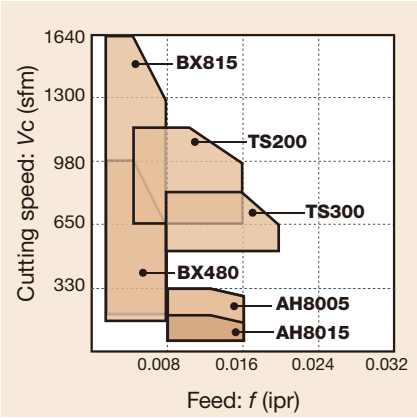
Chipbreaker System for Turning (Negative type)



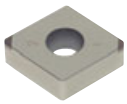
Titanium alloy



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

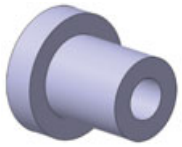
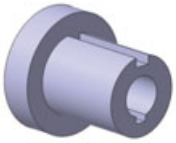
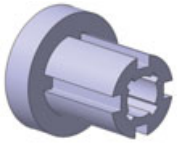
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm)	
						Titanium alloy	Ni-base alloy
S	Precision finishing	-	BX480	0.004 - 0.020	0.002 - 0.008	330 - 660	230 - 984
		-	BX815	0.004 - 0.020	0.002 - 0.008	-	230 - 1640
	Finishing to medium cutting	-	TS200	0.004 - 0.079	0.004 - 0.016	-	656 - 1148
		-	TS300	0.004 - 0.079	0.008 - 0.020	-	492 - 820
		HRF	AH8005	0.020 - 0.059	0.002 - 0.010	66 - 328	66 - 328
		HRF	AH8015	0.020 - 0.059	0.002 - 0.010	66 - 262	66 - 164
		HRF	AH8015	0.020 - 0.059	0.002 - 0.010	33 - 197	33 - 131
	Medium cutting	HRM	AH8005	0.020 - 0.157	0.004 - 0.016	66 - 328	66 - 328
		HRM	AH8015	0.020 - 0.157	0.004 - 0.016	66 - 262	66 - 164
		HRM	AH8015	0.020 - 0.157	0.004 - 0.016	33 - 197	33 - 131

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 = ~ 0.020 in]	Basic: BX815 (B168 - B188) — Fracture: HRF AH8005 (B031)	Basic: BX480 (B168 - B188) — Fracture: HRF AH8005 (B031)	
Finishing [a_p = 0.020 ~ 0.060 in]	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 (B034); 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 = 0.020 ~ 0.157 in]	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 (B034) — Fracture: SM AH6225 (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)

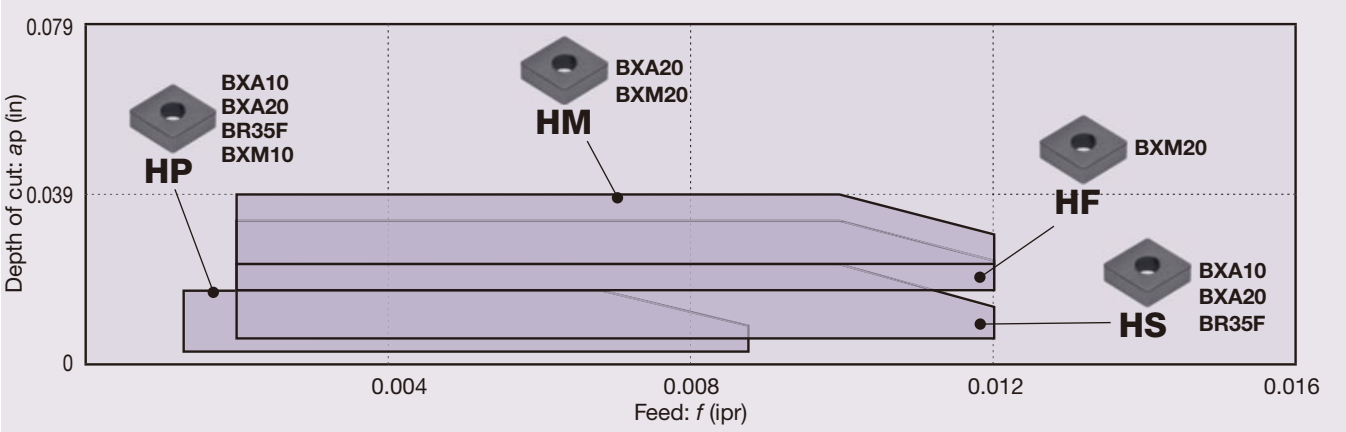
Please see the page B*** for the details.

Chipbreaker Guide

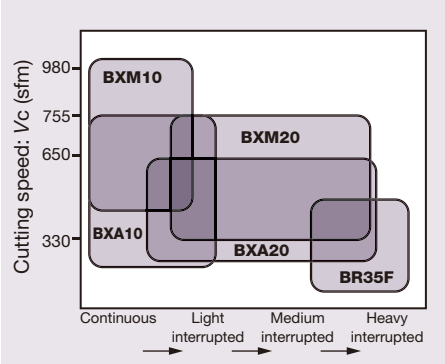
BASIC CHIPBREAKER: NEGATIVE TYPE

H Hard Materials

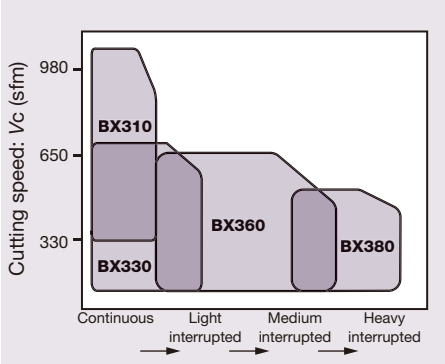
Chipbreaker System for Turning (Negative type)



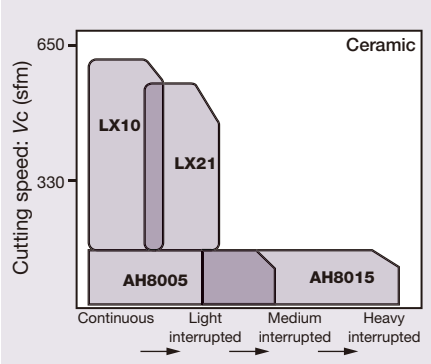
Coated CBN

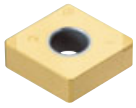
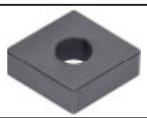


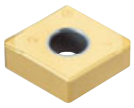
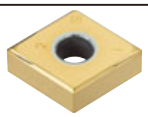
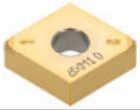
T-CBN



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

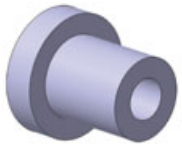
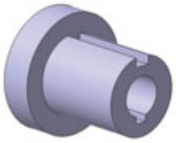
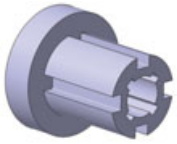
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed *Vc* (sfm)
H	Precision finishing	HP	BXA10 BXA20 BR35F	0.001 - 0.01	0.001 - 0.009	230 - 1148
		HS	BXA10 BXA20 BR35F	0.004 - 0.014	0.002 - 0.012	230 - 1148
	Finishing	-	BXM10 BXM20 BXA20	0.002 - 0.020	0.002 - 0.010	230 - 1148
		-	LX10 LX21	0.002 - 0.020	0.002 - 0.010	197 - 591
	Removing of carburized layer	HF	BXM20	0.012 - 0.030	0.002 - 0.012	230 - 656
		HM	BXA20 BXM20	0.020 - 0.039	0.002 - 0.012	230 - 656
	Medium cutting	HRF	AH8005 AH8015	0.002 - 0.079	0.002 - 0.010	33 - 164

Hardened steels, Pre-hardened steels: D2, H13, etc.

Selection System

SELECTION SYSTEM: NEGATIVE TYPE

H Hard Materials

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.014 in]	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 = ~ 0.020 in]	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 = ~ 0.039 in]	Basic: HF BXM20 (B168 - B188)	Basic: HM BXA20 (B168 - B188)	
Medium cutting [a_p = ~ 0.079 in]	Basic: HRF AH8005 (B031) → Fracture: HRF AH8015 (B031)	Basic: HRF AH8015 (B031) → Fracture: HRM AH8015 (B034)	Basic: HRF AH8015 (B031) → Fracture: HRM AH8015 (B034)

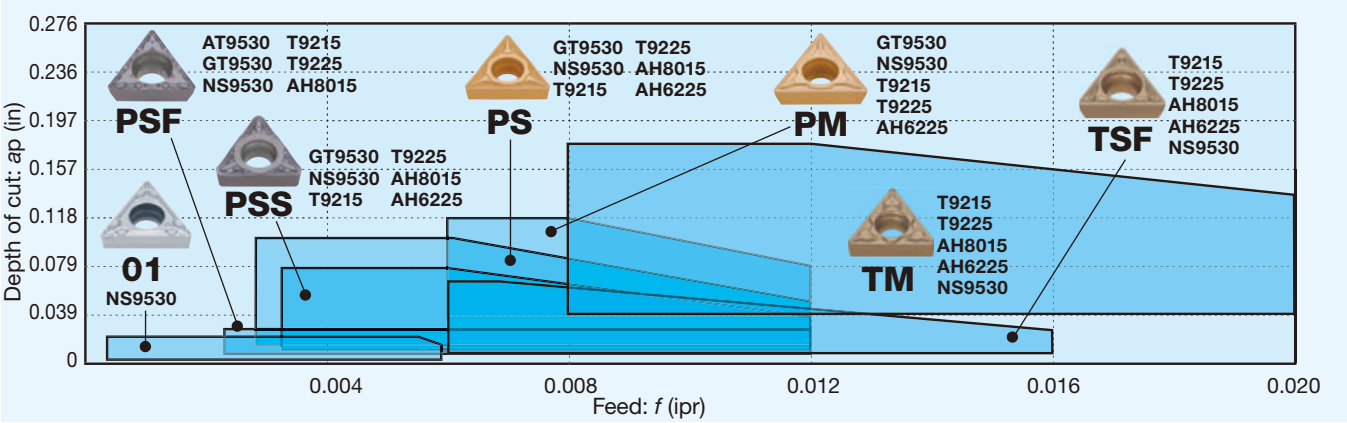
Please see the page B*** for the details.

Chipbreaker Guide

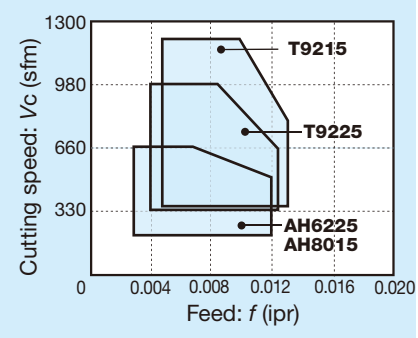
BASIC CHIPBREAKER: POSITIVE TYPE

P Steel

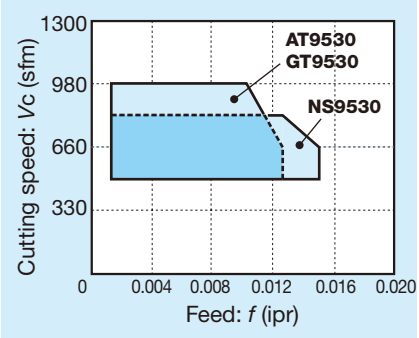
Chipbreaker System for Turning (Positive Type)

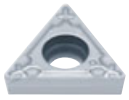
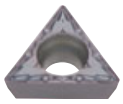
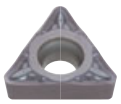


CVD / PVD coated grade



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

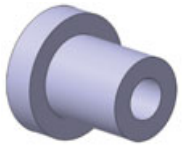
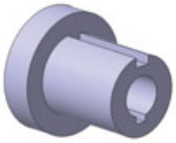
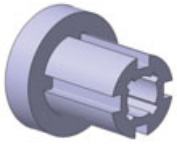
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm) Low carbon steels, Alloy steels	Medium carbon steels, Alloy steels	High carbon steels, Alloy steels
P	Precision finishing	01	NS9530	0.002 - 0.020	0.001 - 0.006	492 - 820	262 - 722	262 - 591
		01	NS9530	0.002 - 0.020	0.001 - 0.006	492 - 820	262 - 722	262 - 591
	Finishing	PSS	NS9530	0.004 - 0.020	0.002 - 0.012	492 - 820	262 - 722	262 - 591
		PSS	NS9530	0.004 - 0.020	0.002 - 0.012	492 - 820	262 - 722	262 - 591
		PSS	NS9530	0.004 - 0.020	0.002 - 0.012	492 - 820	262 - 722	262 - 591
	Finishing to light cutting	PS	T9215	0.012 - 0.079	0.003 - 0.012	394 - 1148	328 - 1148	262 - 820
		PS	T9215	0.012 - 0.079	0.003 - 0.012	394 - 1148	328 - 1148	262 - 820
		PS	T9215	0.012 - 0.079	0.003 - 0.012	394 - 1148	328 - 1148	262 - 820
	Finishing to Medium cutting	PS	T9215	0.020 - 0.098	0.003 - 0.012	394 - 1148	328 - 1148	262 - 820
		PS	T9225	0.020 - 0.098	0.003 - 0.012	328 - 984	262 - 984	262 - 820
	Medium cutting	PM	T9215	0.040 - 0.120	0.006 - 0.012	492	328 - 656	262 - 591
		PM	T9225	0.040 - 0.120	0.006 - 0.012	394	262 - 591	262 - 394

Low carbon steels, Alloy steels: 1018, 1020, etc. Medium carbon steels, Alloy steels: 1045, 4140, etc. Hi carbon steels, Alloy steels: 8620, etc.
Hi carbon steels, Alloy steels: 4340, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

P Steel

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.020 in]	Basic: 01 NS9530 (B040, B045)	Basic: 01 NS9530 (B040, B045) → Fracture: PSF NS9530 (B040, B045, B049)	
Finishing [a_p = 0.004 ~ 0.020 in]	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)	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 = 0.020 ~ 0.098 in]	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, B046, 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, B046, B049)	Basic: PS T9215 (B042, B046, B049) → Fracture: PS T9225 (B042, B046); Chip control: TSF, TM T9215 (B040, B042, B045, B046, B049)
Medium cutting [a_p = 0.039 ~ 0.118 in]	Basic: PM T9215 (B044, B048) → Fracture: PM T9225 (B044, B048); Wear: PM NS9530 (B044, B048); Chip control: TSF, TM T9215 (B040, B042, B045, B046, B049)	Basic: PM T9215 (B044, B048) → Fracture: PM T9225 (B044, B048); Chip control: TSF, TM T9215 (B040, B042, B045, B046, B049)	Basic: PM T9215 (B044, B048) → Fracture: PM T9225 (B044, B048); Chip control: TSF, TM T9215 (B040, B042, B045, B046, B049)

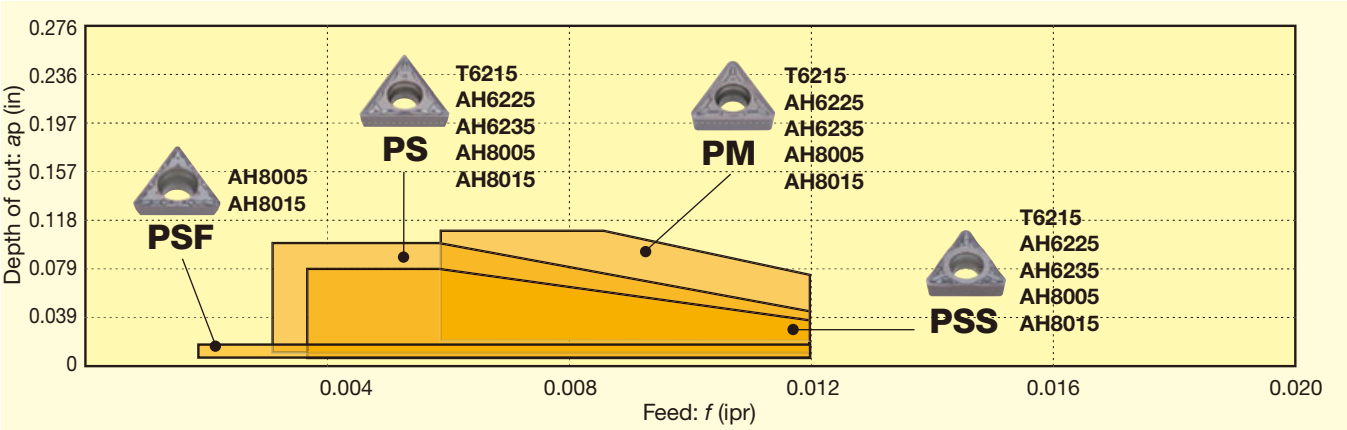
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle.

Chipbreaker Guide

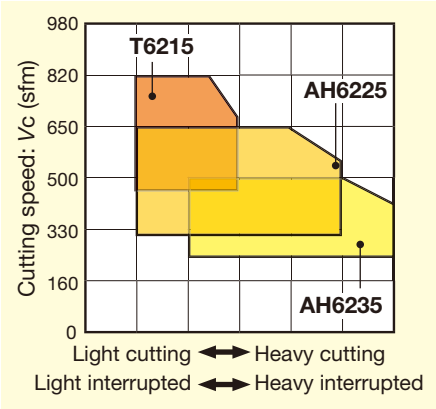
BASIC CHIPBREAKER: POSITIVE TYPE

M Stainless Steel

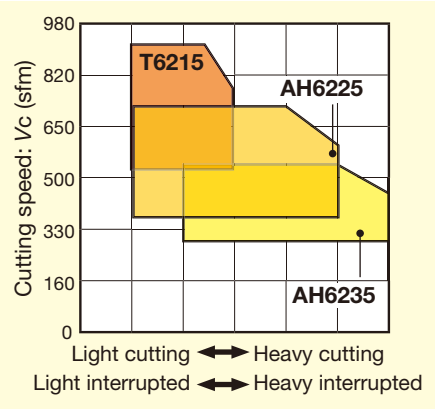
Chipbreaker System for Turning (Positive Type)



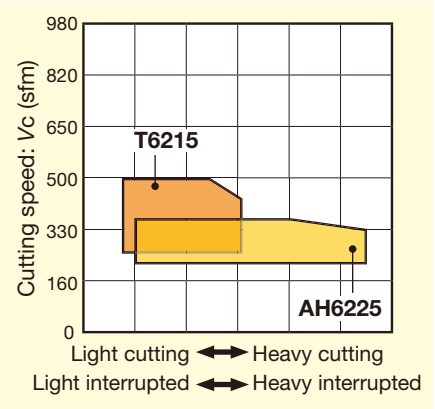
Austenitic stainless steel

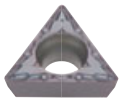
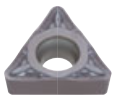


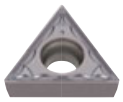
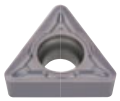
Ferritic / martensite stainless steel



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

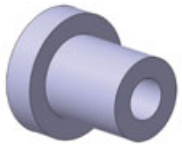
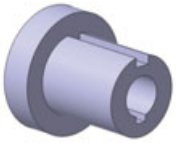
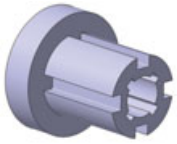
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm)		
						Austenitic stainless steel	Ferritic / martensite stainless steel	Precipitation hardened stainless steel
M	Finishing	PSS	T6215	0.012 - 0.079	0.003 - 0.012	459 - 787	525 - 919	262 - 492
			AH6225	0.012 - 0.079	0.003 - 0.012	295 - 656	361 - 787	197 - 361
			AH6235	0.012 - 0.079	0.003 - 0.012	164 - 492	230 - 558	-
	Finishing to medium cutting	PS	T6215	0.020 - 0.098*	0.003 - 0.012	459 - 787	525 - 919	262 - 492
			AH6225	0.020 - 0.098*	0.003 - 0.012	295 - 656	361 - 787	197 - 361
			AH6235	0.020 - 0.098*	0.003 - 0.012	164 - 492	230 - 558	-
	Medium cutting	PM	T6215	0.039 - 0.118	0.006 - 0.012	459 - 787	525 - 919	262 - 492
			AH6225	0.039 - 0.118	0.006 - 0.012	295 - 656	361 - 787	197 - 361
			AH6235	0.039 - 0.118	0.006 - 0.012	164 - 492	230 - 558	-

* For CCMT0602 and DCMT0702 type inserts, *ap* = 0.020 - 0.098, Stainless steels: 304SS, 316SS, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

M Stainless Steel

	Continuous	Light interrupted	Heavy interrupted
Finishing [a_p = 0.012 ~ 0.060 in]	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 = 0.020 ~ 0.098 in]	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 = 0.039 ~ 0.118 in]	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)

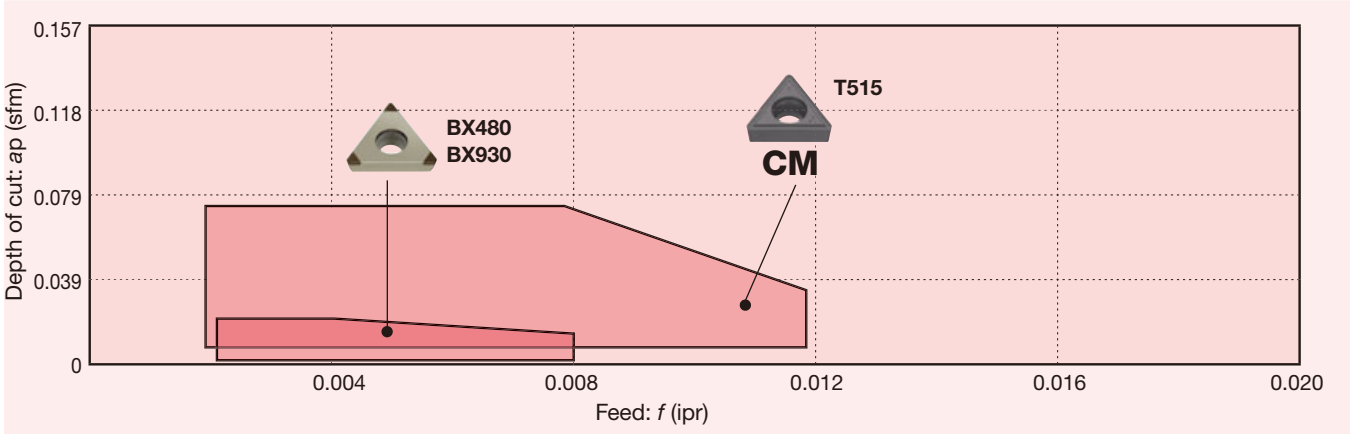
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle.

Chipbreaker Guide

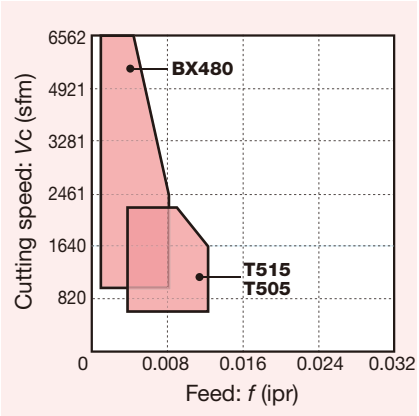
BASIC CHIPBREAKER: POSITIVE TYPE

K Cast Iron

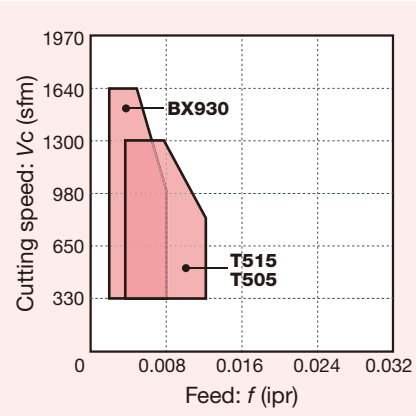
Chipbreaker System for Turning (Positive Type)



Gray 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

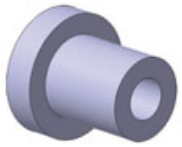
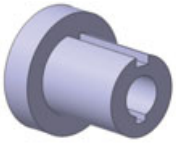
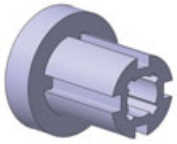
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm)	
						Gray cast iron	Ductile cast iron
K	Precision finishing	-	BX930	0.002 - 0.020	0.002 - 0.008	980 - 3940	330 - 1640
		-	BX480	0.002 - 0.020	0.002 - 0.008	980 - 6560	-
	Finishing	CM	T515	0.002 - 0.079	0.002 - 0.012	500 - 2300	500 - 980
		CM	T515	0.002 - 0.079	0.002 - 0.012	330 - 660	330 - 660
	Medium cutting	CM	T515	0.002 - 0.079	0.002 - 0.012	330 - 980	330 - 820

Gray cast iron: Class 25, etc.
Ductile cast iron: 65-45-12, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

K Cast Iron

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.020 in]	Basic - BX480 B189 - B210	Basic - BX480 B189 - B210	
Finishing to Medium cutting [a_p = 0.020 ~ 0.118 in]	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

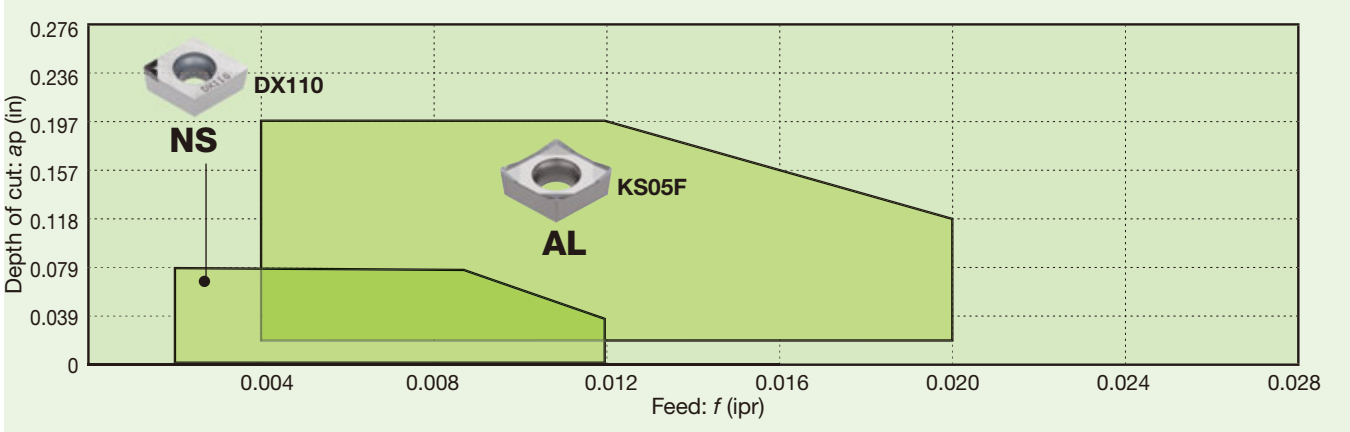
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle.

Chipbreaker Guide

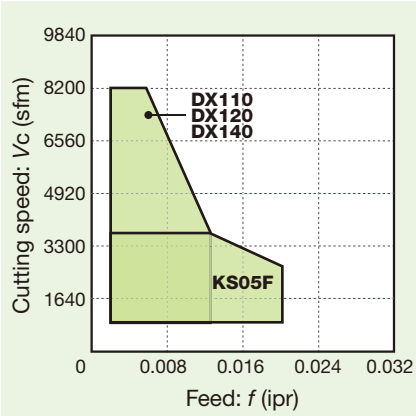
BASIC CHIPBREAKER: POSITIVE TYPE

N Non-ferrous Metal

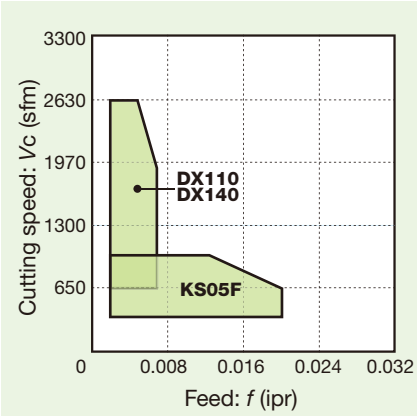
Chipbreaker System for Turning (Positive Type)



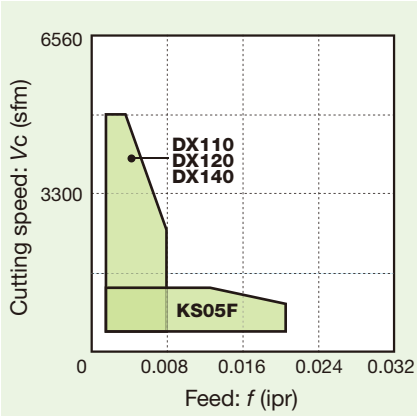
Aluminum alloy (Si < 12%)

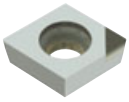
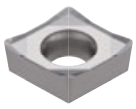


Aluminum alloy (Si ≥ 12%)



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.

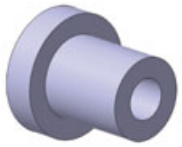
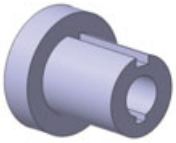
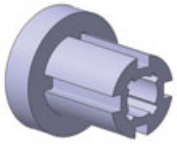
Chipbreaker	Shape	Feature
NS		A unique three-dimensional chipbreaker. Covers a wide range of condition from roughing to finishing.

STANDARD CUTTING CONDITIONS

ISO	Operation	Work condition	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm) Aluminum alloy (Si < 12%)	Aluminum alloy (Si ≥ 12%)	Copper alloy
N	Precision finishing	Continuous	NS	DX110	0.002 - 0.079	0.002 - 0.006	1640 - 8200	1310 - 2630	1640 - 4920
		Light interrupted	-	DX140	0.002 - 0.039	0.002 - 0.008	980 - 8200	-	1640 - 4920
	Finishing	Continuous	NS	DX110	0.002 - 0.079	0.002 - 0.012	1640 - 8200	1310 - 2630	1640 - 4920
		Light interrupted	-	DX140	0.002 - 0.039	0.002 - 0.006	980 - 5900	1310 - 1970	1310 - 3940
		Heavy interrupted	AL	KS05F	0.020 - 0.197	0.004 - 0.020	330 - 1970	330 - 660	-
	Medium cutting	Continuous	AL	KS05F	0.020 - 0.197	0.004 - 0.020	330 - 3940	330 - 980	330 - 980
		Light interrupted	AL	KS05F	0.020 - 0.197	0.004 - 0.020	330 - 2950	330 - 660	330 - 660
		Heavy interrupted	AL	KS05F	0.020 - 0.197	0.004 - 0.020	330 - 1970	330 - 660	-

SELECTION SYSTEM: POSITIVE TYPE

N Non-ferrous Metal

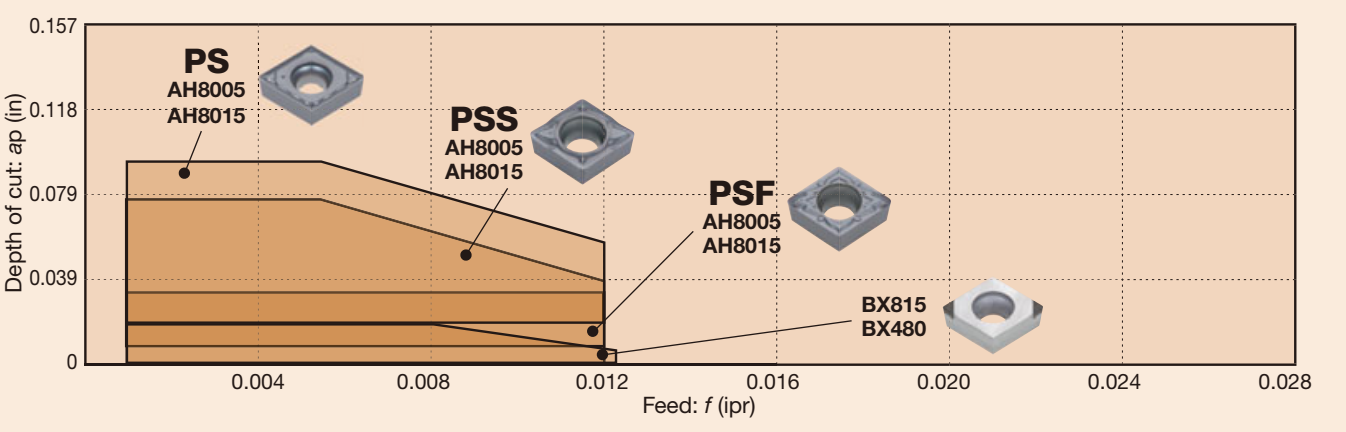
	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.020 in]	Basic: NS DX110 (B213 -) → Wear → DX140 (B213 -)	Basic: With chipbreaker DX110 (B213 -) → Wear → DX140 (B213 -)	
Finishing [a_p = 0.020 ~ 0.079 in]	Basic: NS DX110 (B213 -) → Wear → DX160 (B213 -)	Basic: DX140 (B213 -) → Fracture → AL KS05F (B043); → Wear → DX160 (B213 -)	Basic: AL KS05F (B043)
Medium cutting [a_p = 0.039 ~ 0.197 in]	Basic: AL KS05F (B043) → Wear → With chipbreaker DX120 (B213 -)	Basic: AL KS05F (B043) → Wear → DX140 (B213 -)	Basic: AL KS05F (B043)

Chipbreaker Guide

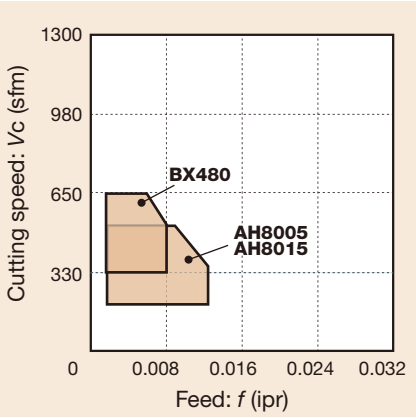
BASIC CHIPBREAKER: POSITIVE TYPE

S Heat resistant superalloys

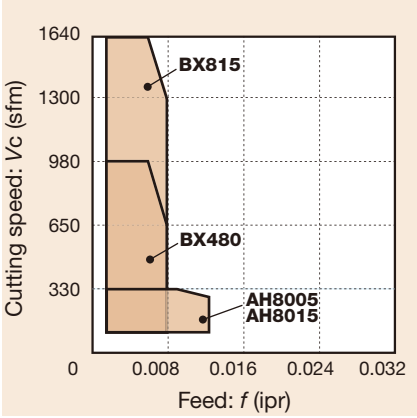
Chipbreaker System for Turning (Positive Type)

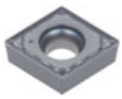
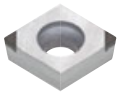


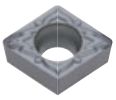
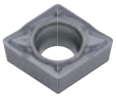
Titanium alloy



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

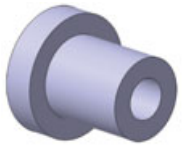
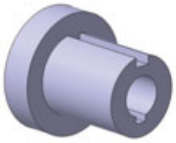
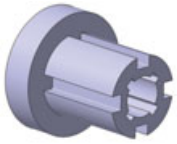
ISO	Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm)	
						Titanium alloy	Ni-base alloy
S	Precision finishing	-	BX480	0.004 - 0.020	0.002 - 0.008	328 - 656	230 - 984
		-	BX815	0.004 - 0.020	0.002 - 0.008	-	230 - 1640
	Finishing	PSS	AH8015	0.012 - 0.079	0.001 - 0.012	66 - 492	66 - 328
		PSS	AH8015	0.012 - 0.079	0.001 - 0.012	66 - 492	66 - 328
	Finishing to medium cutting	PS	AH8015	0.020 - 0.098	0.001 - 0.012	66 - 492	66 - 328
		PS	AH8015	0.020 - 0.098	0.001 - 0.012	66 - 492	66 - 328

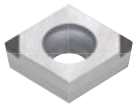
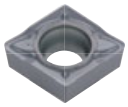
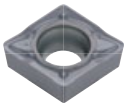
Ni-base alloy: INCONEL718, etc. Titanium alloy: Ti-6Al-4V, etc.

Selection System

SELECTION SYSTEM: POSITIVE TYPE

S Heat resistant superalloys

	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.020 in]	Basic: **BX815** B189 - B210	Basic:  **BX480** B189 - B210	
Finishing [a_p = 0.012 ~ 0.079 in]	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 = 0.020 ~ 0.098 in]	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

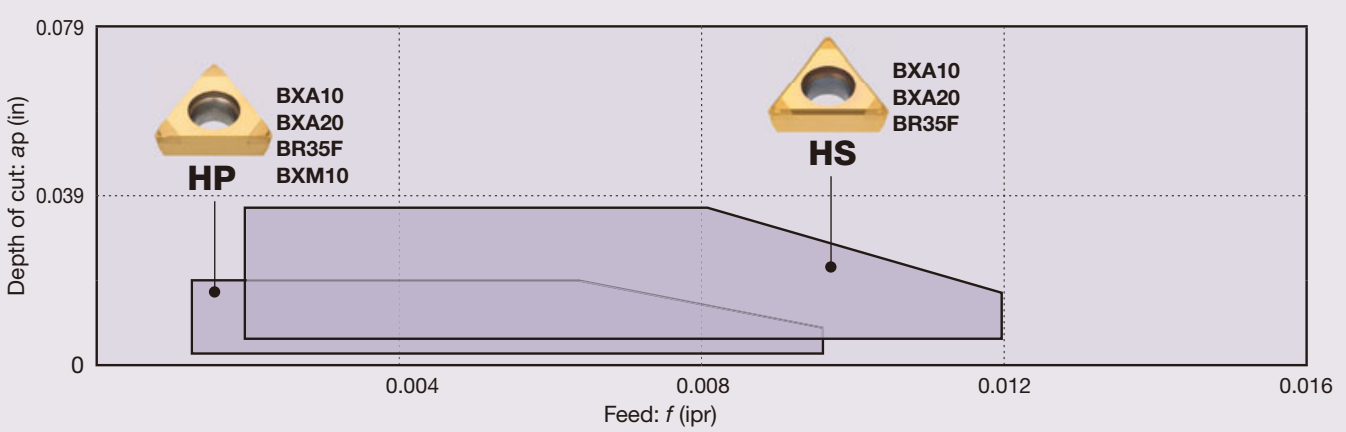
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle.

Chipbreaker Guide

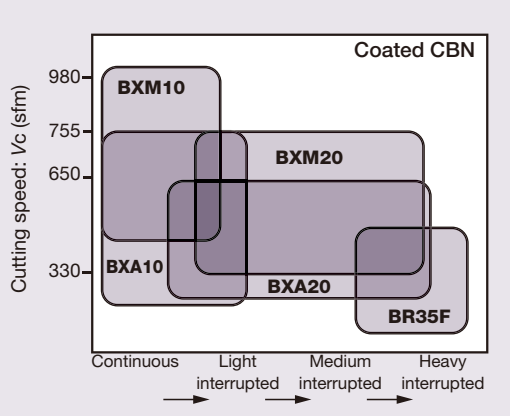
BASIC CHIPBREAKER: POSITIVE TYPE

H Hard Materials

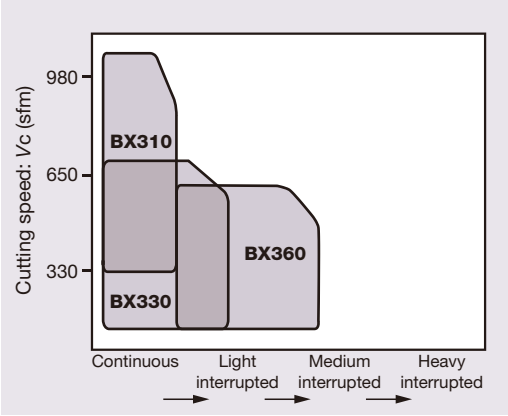
Chipbreaker System for Turning (Positive Type)



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

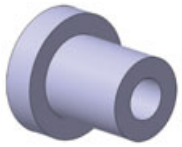
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed *Vc* (sfm)
H	Precision finishing	HP	BXM10 BXA20 BR35F	0.001 - 0.010	0.001 - 0.009	230 - 1148
		HS	BXM10 BXA20 BR35F	0.004 - 0.014	0.002 - 0.012	230 - 1148
	Finishing	-	BXM10 BXA20 BR35F	0.002 - 0.020	0.002 - 0.010	230 - 1148

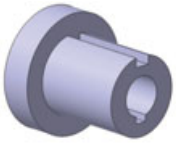
Hardened steels, Pre-hardened steels: D2, H13, etc.

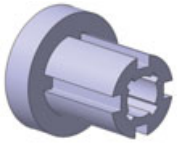
Selection System

SELECTION SYSTEM: POSITIVE TYPE

H Hard Materials





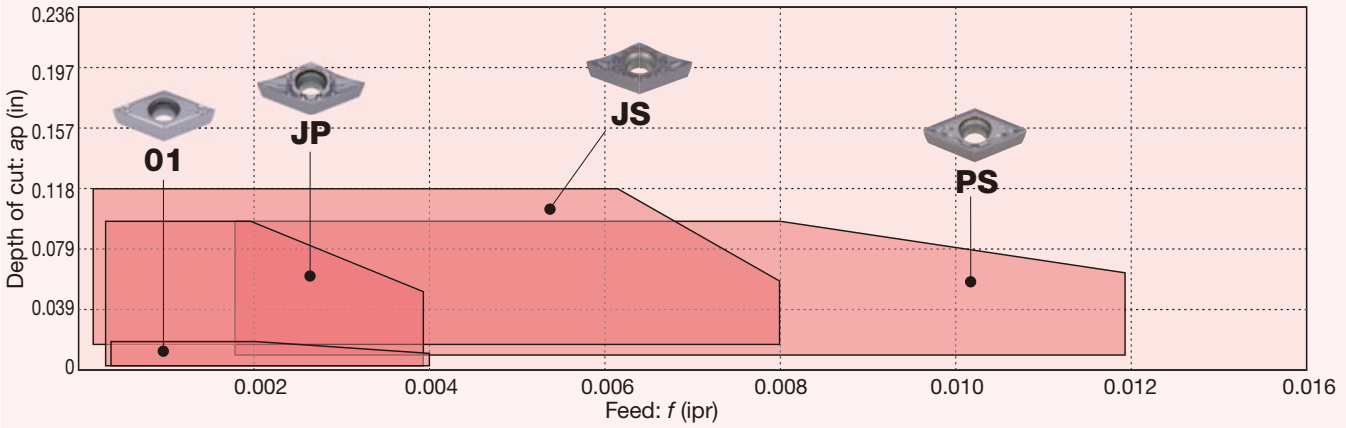


	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.014 in]	Basic: HP BXA10 (B189 -) → High-feed → HS BXA10 (B189 -)	Basic: BXA20 (B189 -) → Fracture → -H BXA20 (B189 -)	
Finishing [a_p = ~ 0.020 in]	Basic: BXA10 (B189 -)	Basic: BXA20 (B189 -) → Fracture → -H BXA20 (B189 -); BXA20 (B189 -) → High-speed wear → BXA10 (B189 -)	Basic: SR BR35F (B189 -) → Fracture → HC BR35F (B189 -)

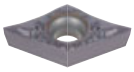
Chipbreaker Guide

For Miniature machining

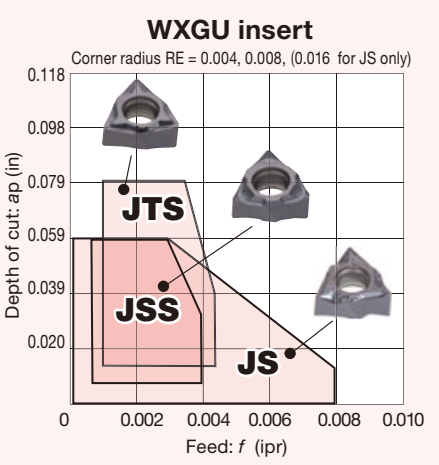
BASIC CHIPBREAKER: POSITIVE TYPE

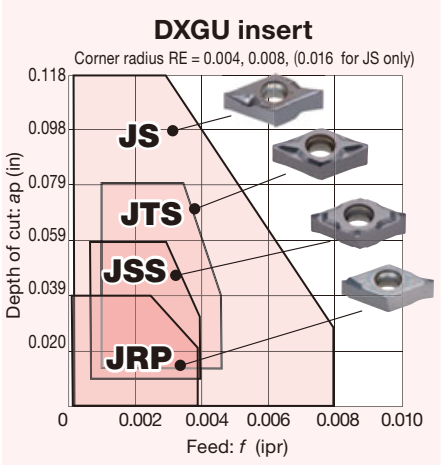


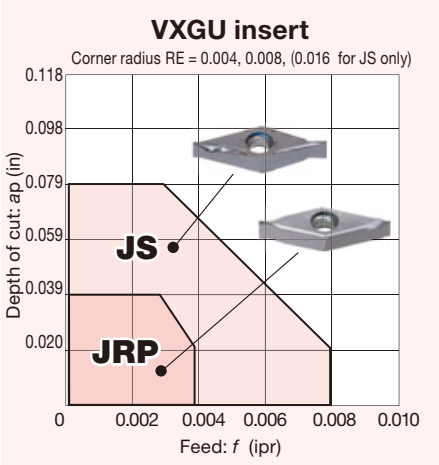
Chipbreaker	Shape	Feature
JP		Excellent performance in finishing of hard material with CBN sintered body on the cutting edge.

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

BASIC CHIPBREAKER: DOUBLE-SIDED POSITIVE TYPE







STANDARD CUTTING CONDITIONS POSITIVE TYPE

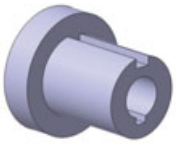
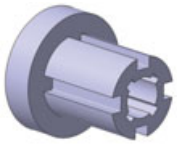
Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed *Vc* (sfm)
Precision finishing	JP	SH725	0.002 - 0.098	0.001 - 0.004	33 - 656
Finishing	JP	SH725	0.002 - 0.098	0.001 - 0.004	164 - 820
	JS	SH725	0.008 - 0.118	0.001 - 0.008	33 - 656
Finishing to light cutting	JP	SH725	0.002 - 0.098	0.001 - 0.004	164 - 820
	JS	SH725	0.020 - 0.079	0.001 - 0.008	33 - 656
Medium cutting	JS	SH725	0.020 - 0.118	0.001 - 0.006	33 - 656
	PS	AH8015	0.020 - 0.098	0.001 - 0.008	66 - 656
	PS	AH6225	0.020 - 0.098	0.001 - 0.008	197 - 787

STANDARD CUTTING CONDITIONS DOUBLE-SIDED POSITIVE TYPE

Operation	Chip-breaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed *Vc* (sfm)
Precision finishing	JRP	SH725	0.002 - 0.020	0.001 - 0.003	164 - 820
Finishing	JSS	SH725	0.008 - 0.059	0.001 - 0.004	164 - 820
	JS	SH725	0.008 - 0.118	0.001 - 0.008	164 - 820
Finishing to light cutting	JS	SH725	0.020 - 0.118	0.001 - 0.008	164 - 820
	JTS	SH725	0.020 - 0.079	0.001 - 0.004	164 - 820
Medium cutting	JS	SH725	0.020 - 0.118	0.001 - 0.008	164 - 820

Selection System

SELECTION SYSTEM: POSITIVE TYPE/DOUBLE-SIDED POSITIVE TYPE

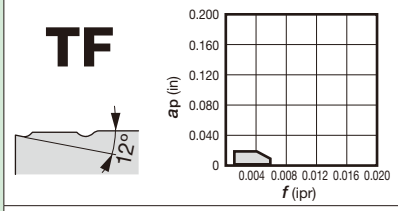



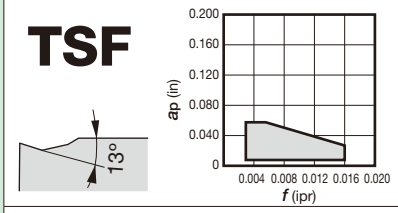
	Continuous	Light interrupted	Heavy interrupted
Precision finishing [a_p = ~ 0.020 in]	Basic Positive JP SH725 Double-sided positive JRP SH725 B040, B048, B052	Basic Positive JP SH725 Double-sided positive JRP SH725 B040, B048, B052	
Finishing [a_p = 0.004 ~ 0.020 in]	Basic Positive JS SH725 Double-sided positive JSS SH725 Chip control → JP SH725 B040, B048 Fracture → JSS AH725 B052 B040, B045, B049, B052	Basic Positive JS SH725 Double-sided positive JSS AH725 Chip control → JP SH725 B040, B048 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 = 0.020 ~ 0.118 in]	Basic Positive JS SH725 Double-sided positive JTS SH725 Chip control → JP SH725 B040, B048 Fracture → JSS AH725 B052 B040, B045, B049, B052	Basic Positive JS SH725 Double-sided positive JTS SH725 Chip control → JP SH725 B040, B048 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 = 0.039 ~ 0.157 (0.118) in]	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

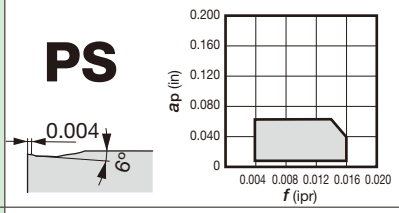
Please find the details on the pages: B***/7° relief angle, B***/11° relief angle, B***/5° relief angle, B***/Double-sided.

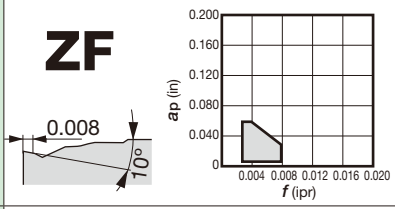
Chipbreaker Overview

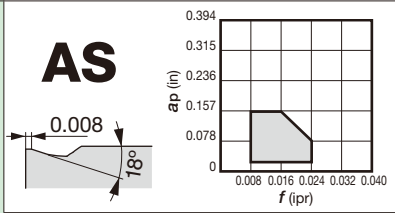
Application	Negative type with hole	C 80°	D 55°	F 45°	G 70°	S 90°	T 60°	V 35°	W 80°	Y 25°
Finishing	**TF** (12°)	B054	B066			B077	B087	B098	B102	
Finishing	**TSF** (13°)	B054	B066	B075	B075	B077	B087	B098	B102	
Finishing	**PS** (0.004, 6°)	B054	B066			B077	B087	B098	B102	
Finishing for mild steel	**ZF** (0.008, 10°)	B054	B066			B077	B087	B098	B102	B110
Finishing	**AS** (0.008, 18°)	B054	B066			B077	B087		B102	
Finishing	**NS** (16°)	B054	B066			B077	B087		B102	
Finishing	**TS** (10°)	B054	B067			B078	B088	B098	B103	

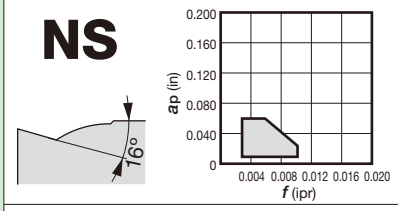


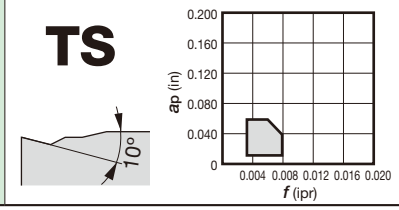




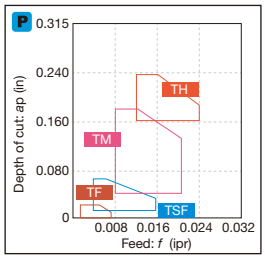


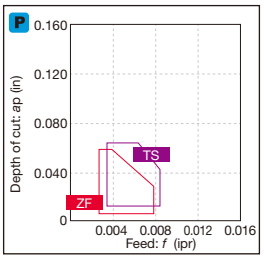


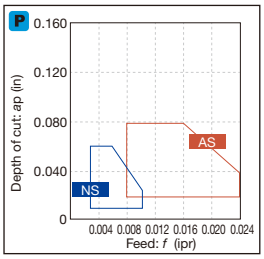


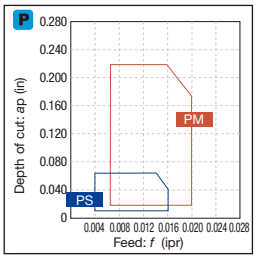


Chip control range

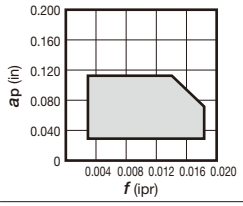
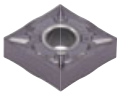
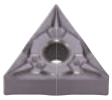
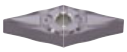
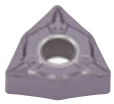
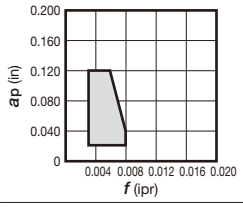
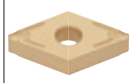
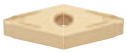
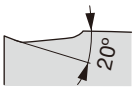
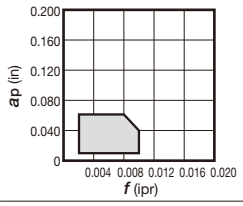
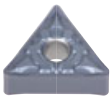
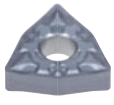
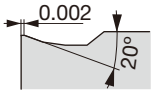
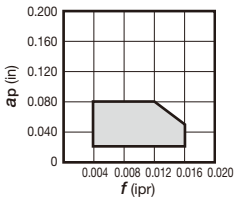
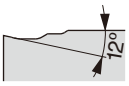
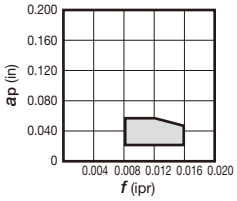
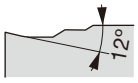
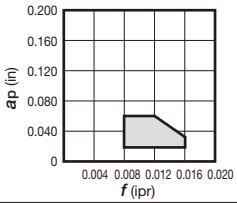
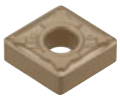
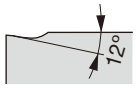
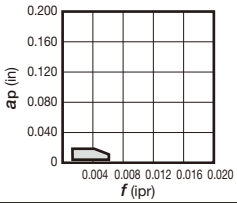
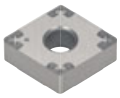
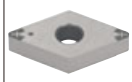




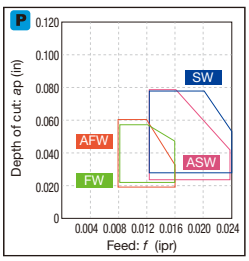


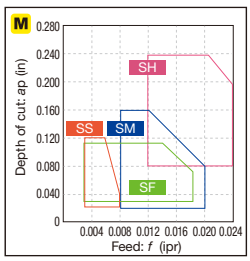


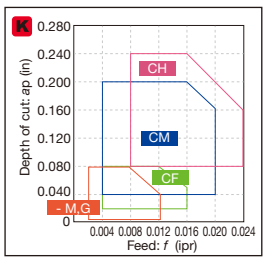
Please see the page B*** for the product details.

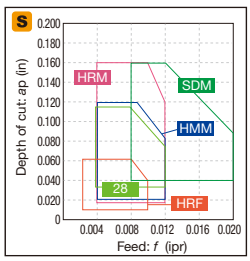
Application	Negative type with hole	C 80°	D 55°	S 90°	T 60°	V 35°	W 80°	Y 25°
Finishing	**SF** 	 B055	B067	B078	 B088	 B098	 B103	
	SS 	B055	 B067	B078	B088	 B098	B103	
	HRF  	B055	B067	B078	 B088	B098	 B103	
	CF  	B055	B068	B078	B088	B099	B104	
Finishing (wiper)	**FW**  	B056	B068		B088		B104	
	AFW  	 B056					B104	
Finishing	**01**  	 B056	 B068	B078	B089	B099	B104	

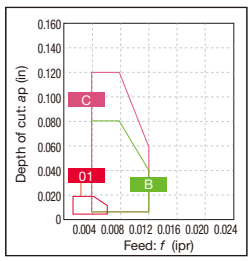
Chip control range







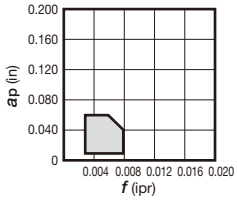
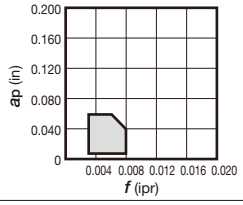
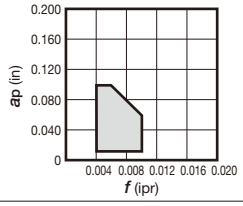
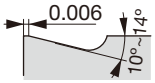
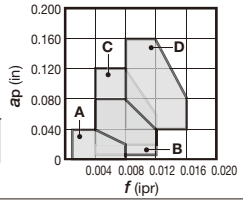
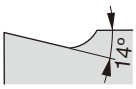
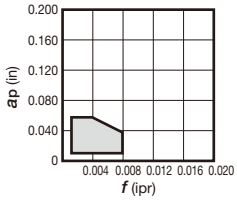
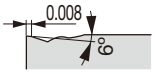
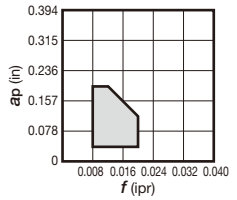
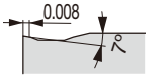
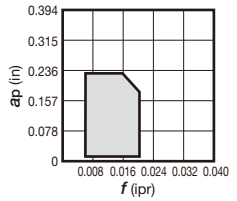




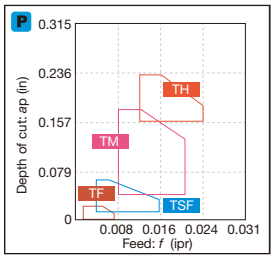
*-M,G: Without chipbreaker

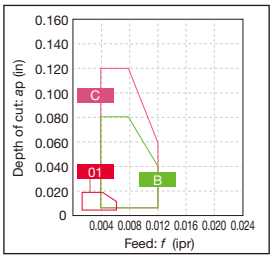
Please see the page B*** for the product details.

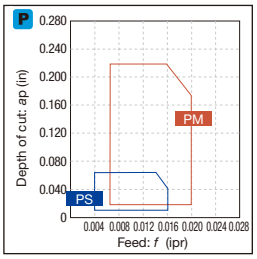
Chipbreaker Overview

Application	Negative type with hole	C 80°	D 55°	F 45°	G 70°	S 90°	T 60°	V 35°	W 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
	PM  	B057	B069			B079	B091	B099	B105

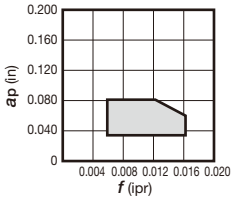
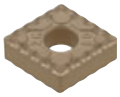
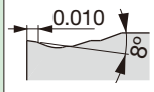
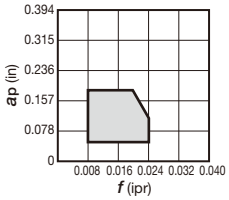
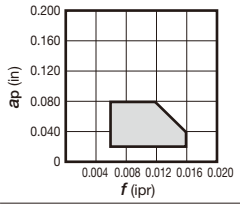
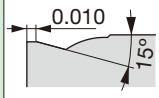
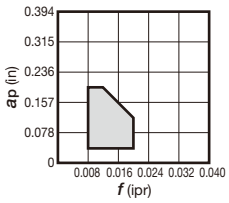
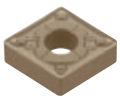
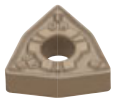
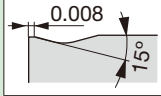
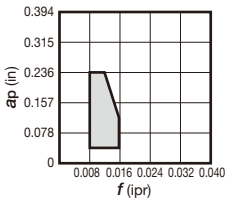
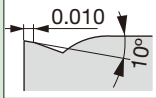
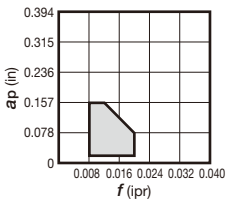
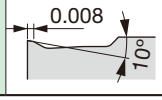
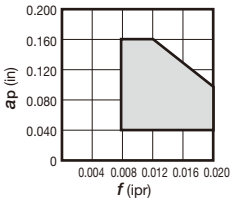
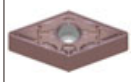
Chip control range



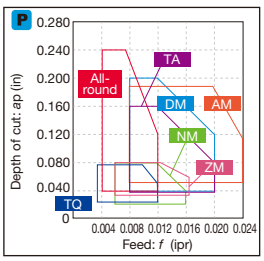


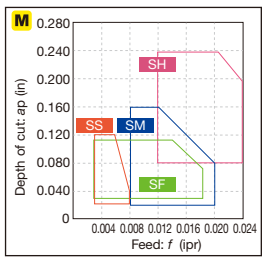


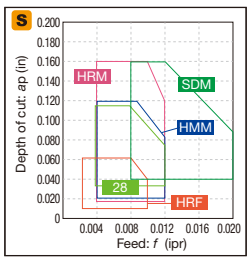
Please see the page B*** for the product details.

Application	Negative type with hole	C 80°	D 55°	S 90°	T 60°	V 35°	W 80°	Y 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

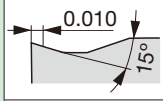
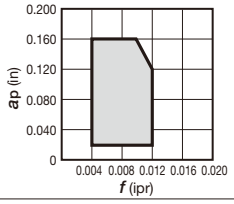
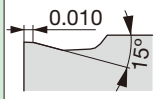
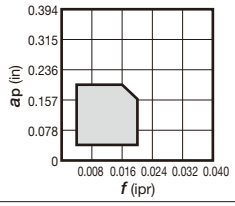
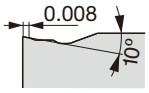
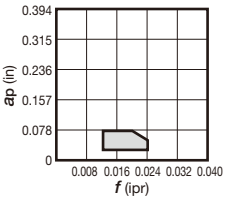
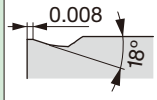
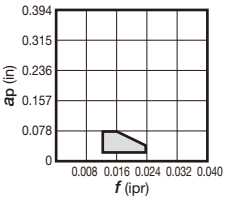
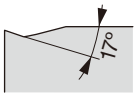
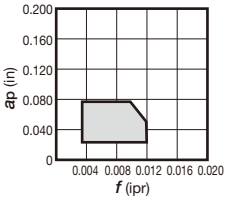
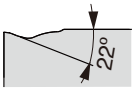
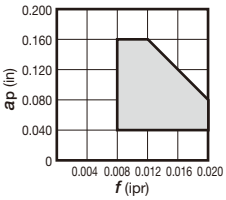
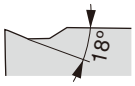
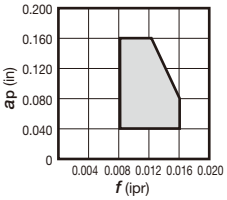




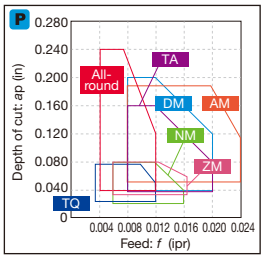


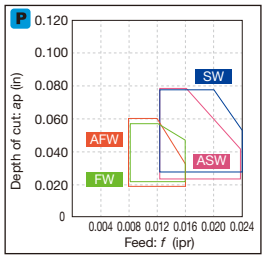
Please see the page B*** for the product details.

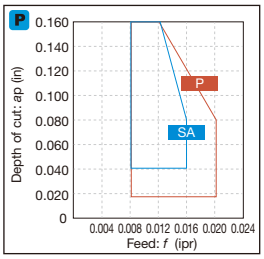
Chipbreaker Overview

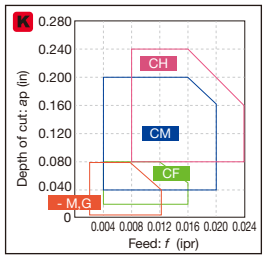
Application	Negative type with hole	C 80°	D 55°	S 90°	T 60°	V 35°	W 80°	Y 25°
Medium cutting	**HRM**  	B059	B070	B081	B092	B100	B106	
Medium cutting	**CM**  	B059	B071	B080	B092	B100	B107	
Medium cutting (wiper)	**SW**  	B059	B071		B093		B107	
Medium cutting (wiper)	**ASW**  	B060					B107	
Medium cutting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

Chip control range

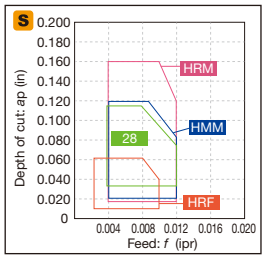




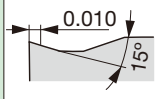
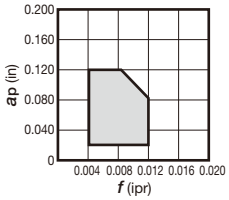
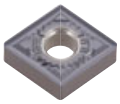
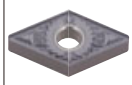
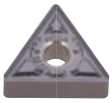
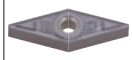
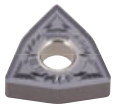
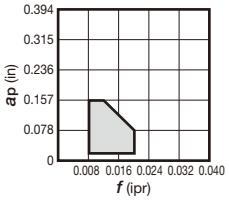
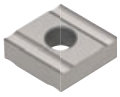
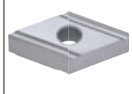
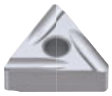
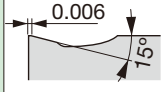
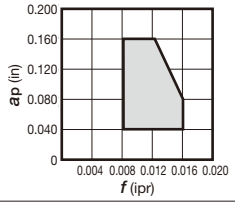
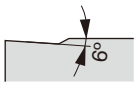
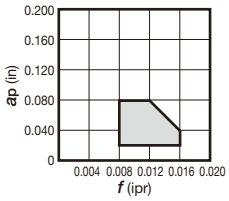
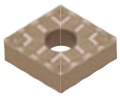
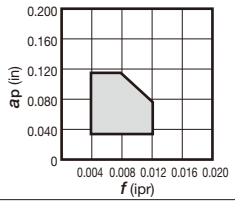
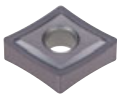
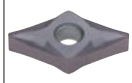
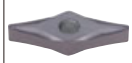
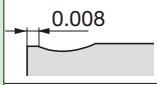
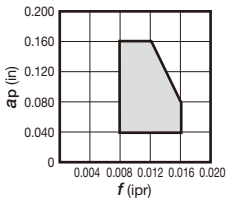
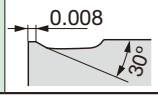
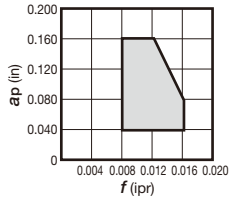
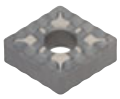
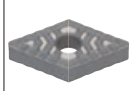
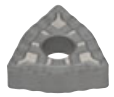




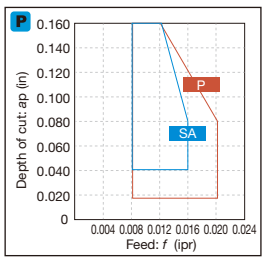
*-M,G: Without chipbreaker

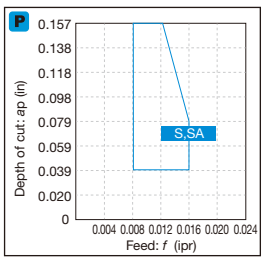


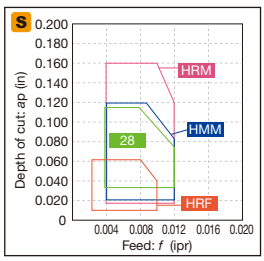
Please see the page B*** for the product details.

Application	Negative type with hole	C 80°	D 55°	S 90°	T 60°	V 35°	W 80°	Y 25°
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

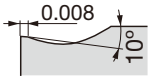
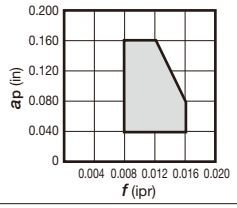
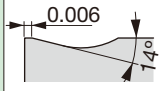
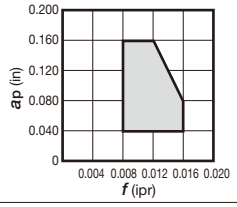
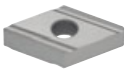
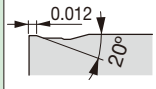
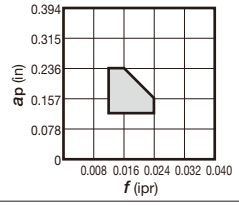
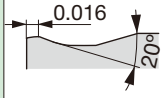
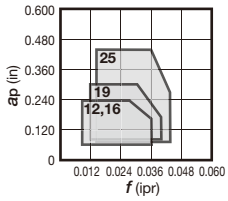
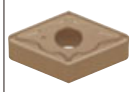
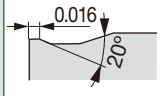
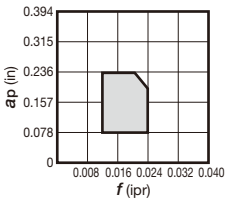
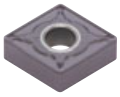
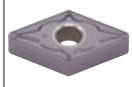
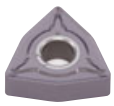
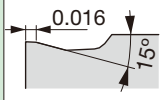
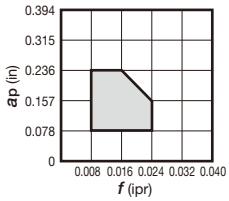
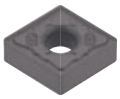
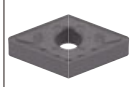
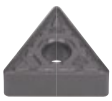
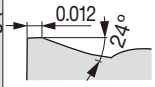
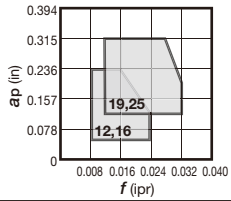




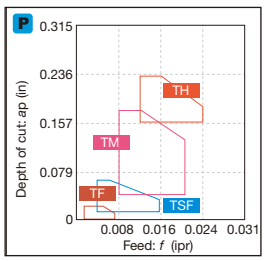


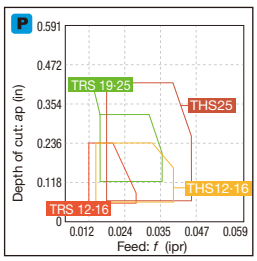
Please see the page B*** for the product details.

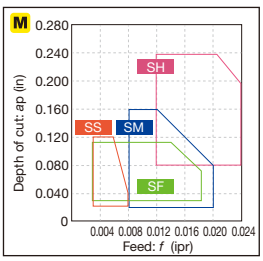
Chipbreaker Overview

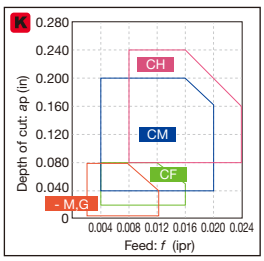
Application	Negative type with hole	C 80°	D 55°	S 90°	T 60°	V 35°	W 80°	Y 25°
Medium cutting	**38**  	B061	B072		B095			
Medium cutting	**Parallel**  		 B072					
Medium to heavy cutting	**TH**  	B061	B073	B082	B095		B108	
Medium to heavy cutting	**THS**  	B062	 B073	B082	B095		B108	
Medium to heavy 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



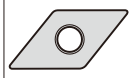
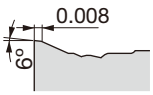
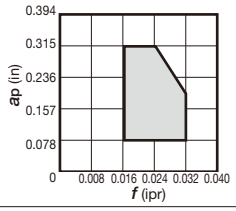
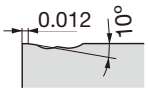
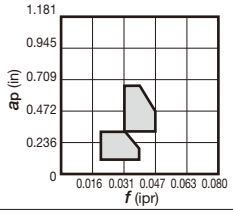
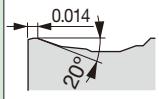
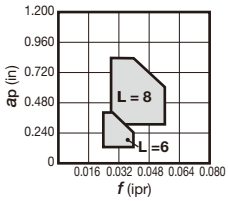
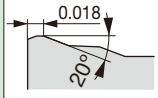
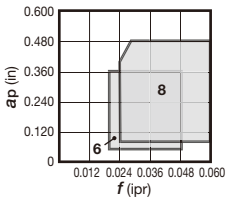
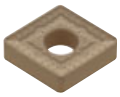
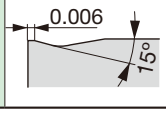
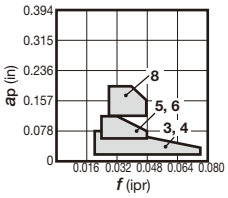




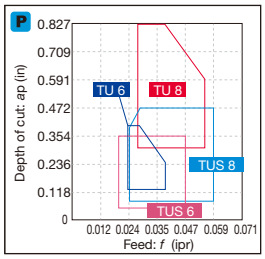


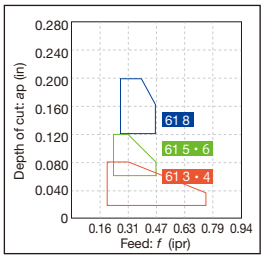
*-M,G: Without chipbreaker

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

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				

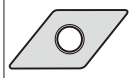
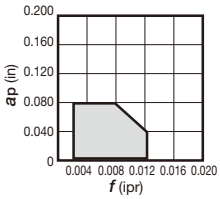
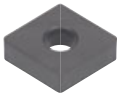
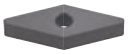
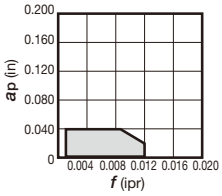
Chip control range

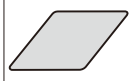
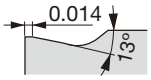
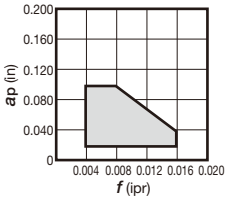




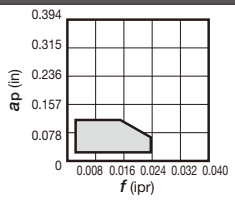
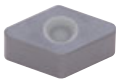
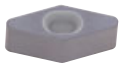
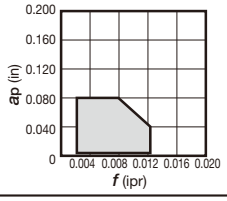
Please see the page B*** for the product details.

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
Finishing to medium cutting	Wiper M-class 	B064						

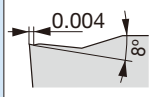
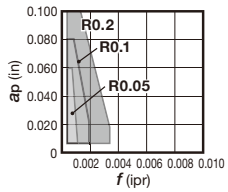
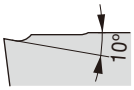
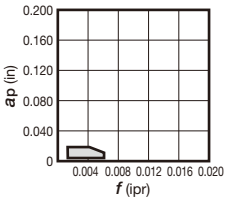
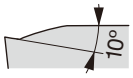
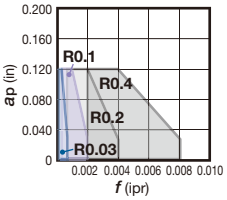
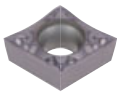
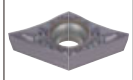
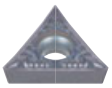
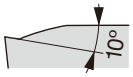
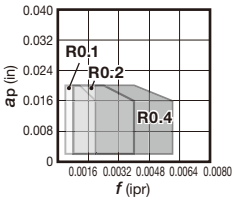
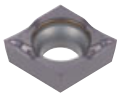
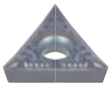
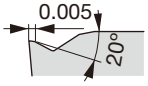
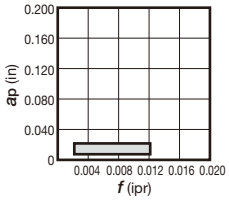
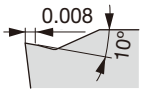
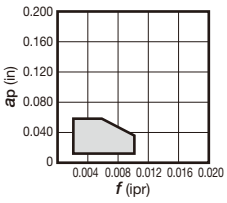
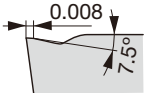
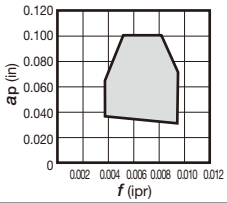
Application	Negative type without hole	C	D	KNMX	LNGN	R	S	T
								
		80°	55°	55°	90°		90°	60°
Finishing	S1  			B110				

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

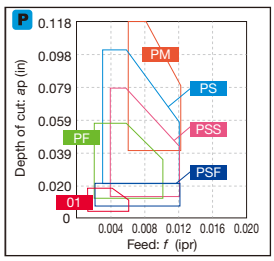
Application	Negative type without hole	C	D	H	R	S	T	V
		80°	55°	120°		90°	60°	35°
Finishing to medium cutting	— G-class 	B065	 B074	B111		B085		 B101
	— M,G-class 	B065	B074		B076	B085	B097	

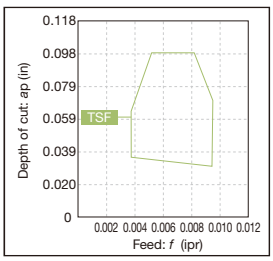
Please see the page B*** for the product details.

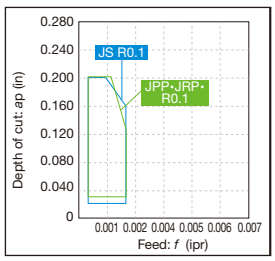
Chipbreaker Overview

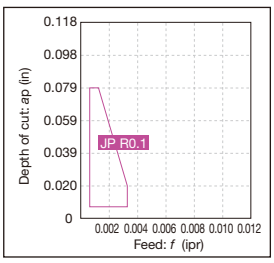
Application	Positive 7° with hole	C 80°	D 55°	R	S 90°	T 60°	V 35°	Y 25°
Precision finishing (sharp edge)	**JP**  	B112	B121			B138		
	01  	B112	B121			B138		
Finishing (sharp edge)	**JS**  	 B112	 B121			 B138		
Finishing	**JS**  	 B112	B121			 B138		
	PSF  	B113	B121			B138	B152	
	PF  	B113	B122			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

Chip control range

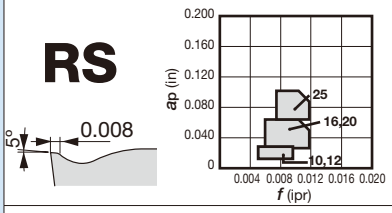
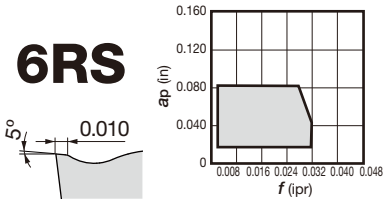
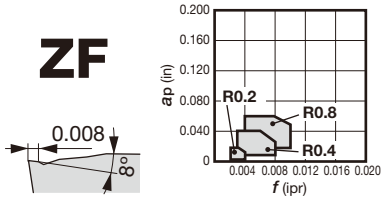
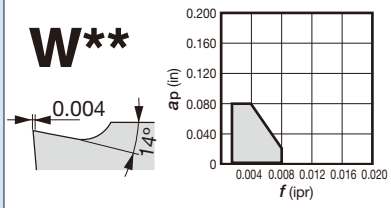
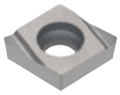
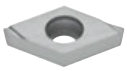
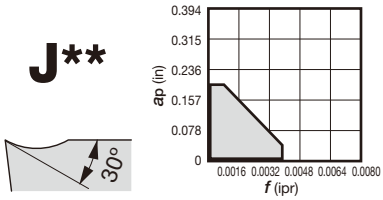
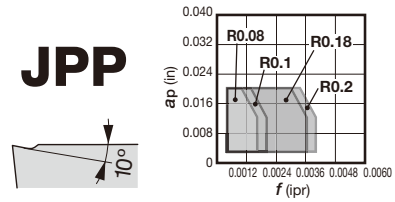
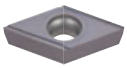
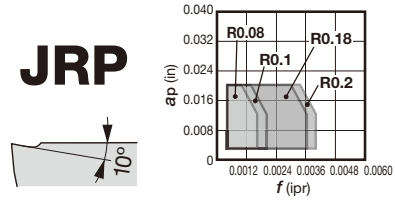
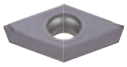




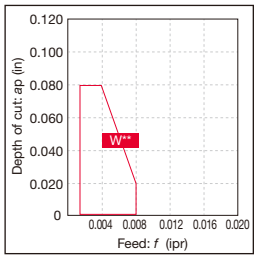


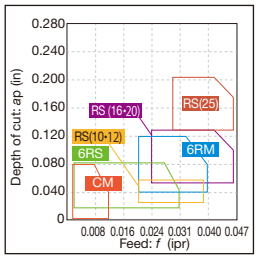


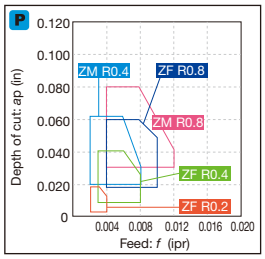
Please see the page B*** for the product details.

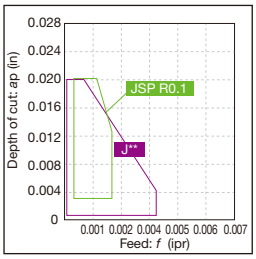
Application	Positive 7° with hole	C 80°	D 55°	R	S 90°	T 60°	V 35°	Y 25°
Finishing	**RS** 			B130				
Finishing	**6RS** 			B130				
Finishing	**ZF** 							B159
Finishing	**W**** 	 B114, B115	 B122			B139		
Finishing	**J**** 	B113	B122			B139		
Finishing (sharp edge)	**JPP** 		 B123					
Finishing (sharp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

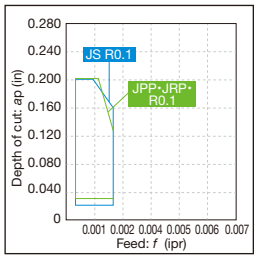
Chip control range





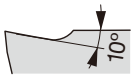
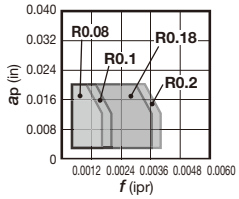
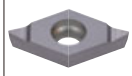
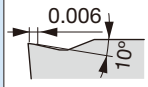
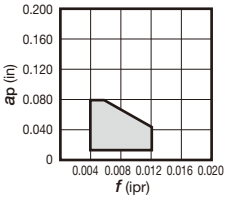
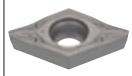
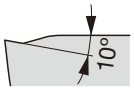
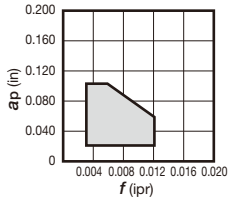
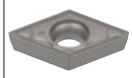
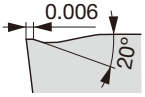
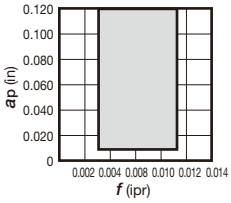
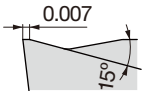
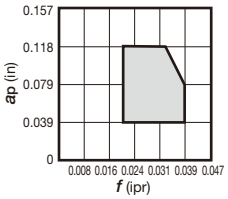
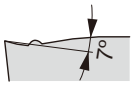
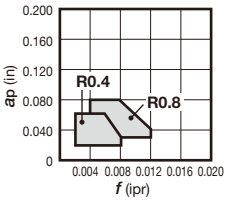
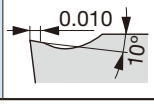
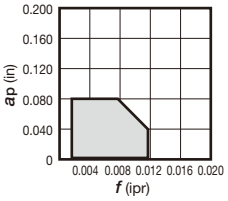




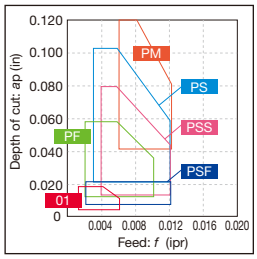


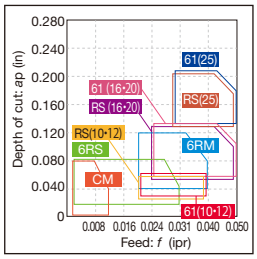
Please see the page B*** for the product details.

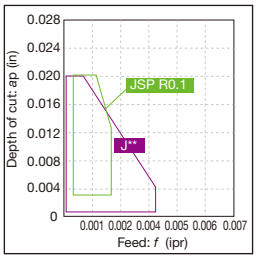
Chipbreaker Overview

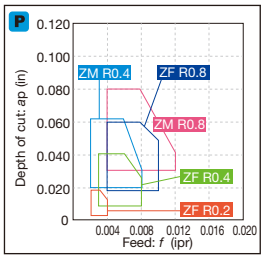
Application	Positive 7° with hole	C 80°	D 55°	R	S 90°	T 60°	V 35°	Y 25°
Finishing (sharp edge)	**JSP**  		 B123					
Finishing to medium cutting	**PSS**  	B115	 B124			B140	B152	
	PS  	B115	 B124		B134	B140	B152	
	TM  	B115	B124			B140	B152	
	6RM  			B130				
	ZM  							B159
	CM  	B115	B124	B130	B134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

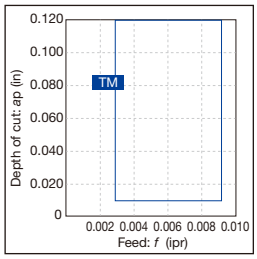
Chip control range



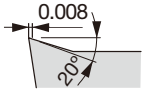
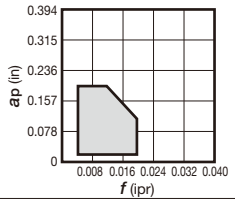
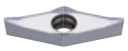
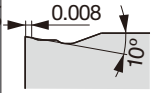
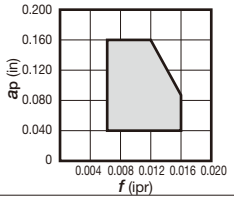
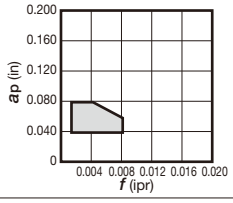
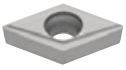
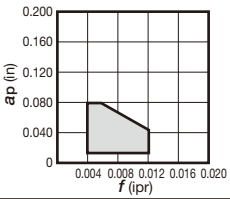
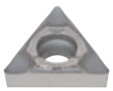
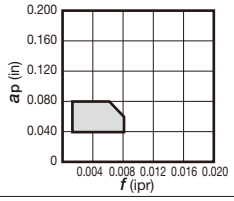
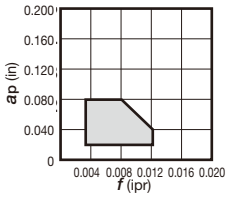
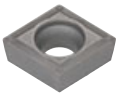
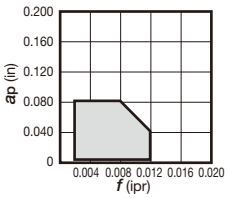
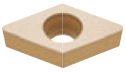




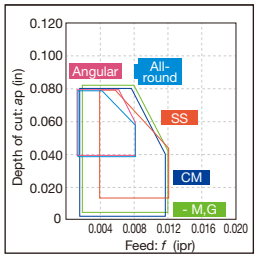


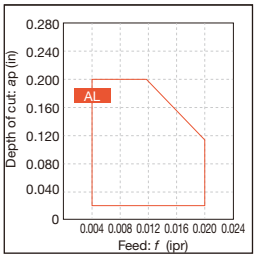


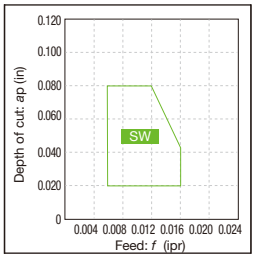
Please see the page B*** for the product details.

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 					 B141		
	Angular 	B116	B124					
	23 	 B116	B125		B134	B141		
	— **M,G-class** 	B116, B117	 B125					

Chip control range



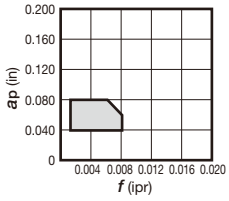
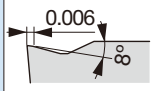
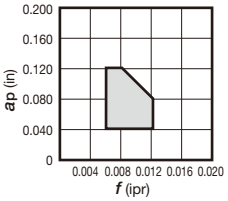
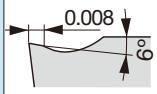
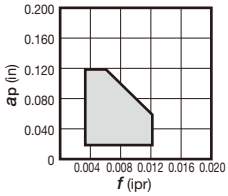
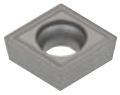
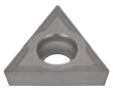
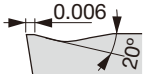
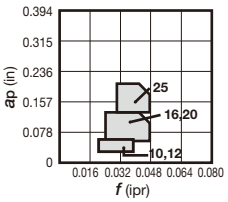




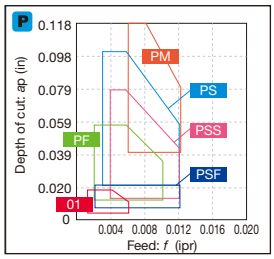
*-M,G: Without chipbreaker

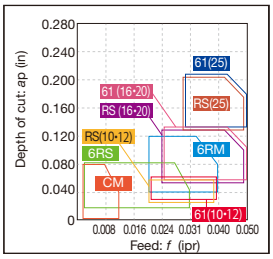
Please see the page B*** for the product details.

Chipbreaker Overview

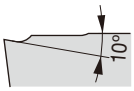
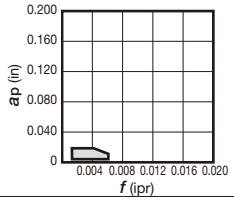
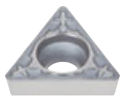
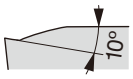
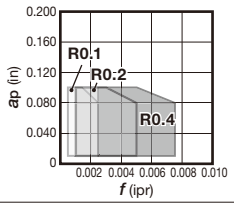
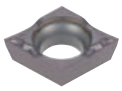
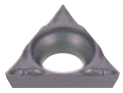
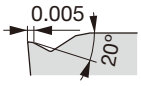
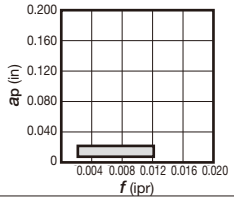
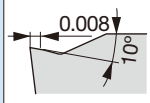
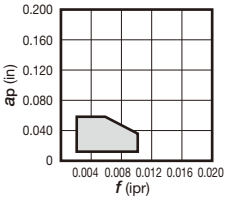
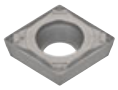
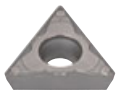
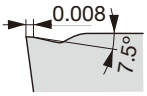
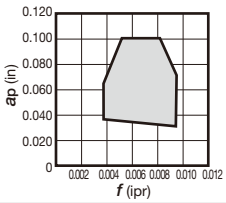
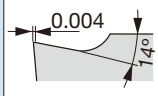
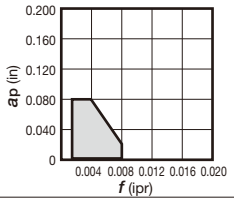
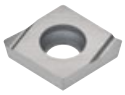
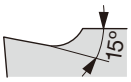
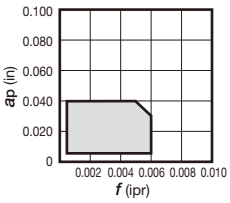
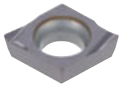
Application	Positive 7° with hole	C	D	R	S	T	V	Y
		80°	55°		90°	60°	35°	25°
Finishing to medium cutting	— (with hand) 					B141		
	PM  	B117	B125		B134	B141		
	24  	 B117	B125		B134	 B141	B153	
Heavy cutting	61  			B131				

Chip control range

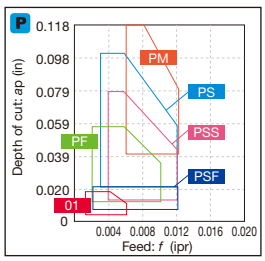


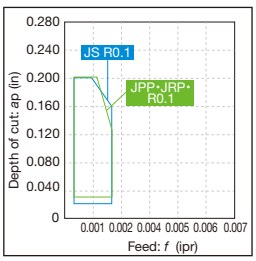


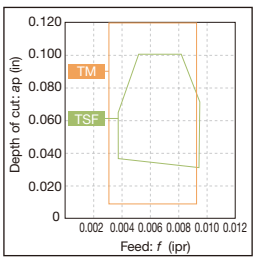
Please see the page B*** for the product details.

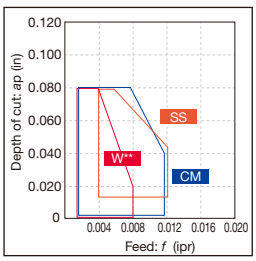
Application	Positive 11° with hole	C 80°	D 55°	E 75°	S 90°	T 60°
Precision finishing	**01**  					 B142
	JS  			 B128		 B142
Finishing	**PSF**  	B118				B142
	PF  	 B118				 B142
	TSF  	B118	B126			B143
	W**  	 B118		B129	B135	B143, B144
	J08  			 B128		

Chip control range



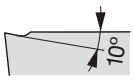
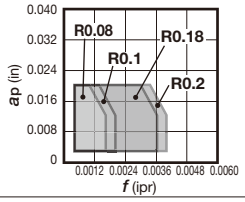
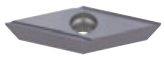
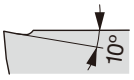
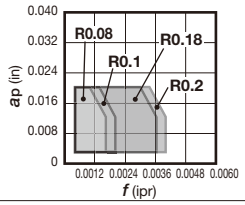
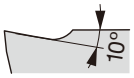
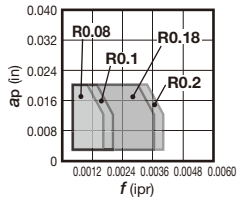
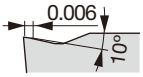
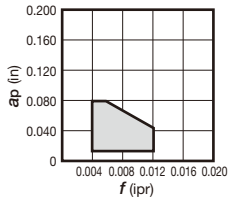
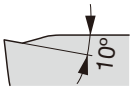
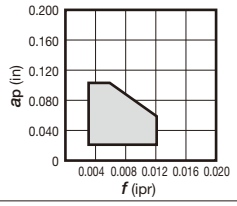
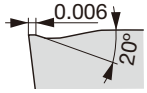
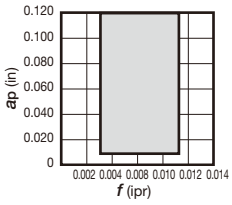
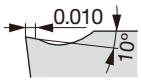
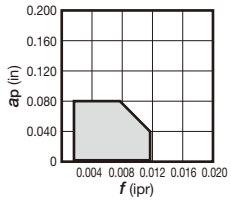




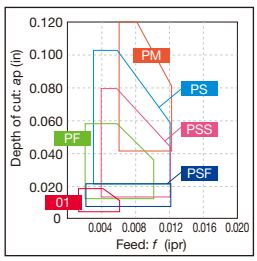


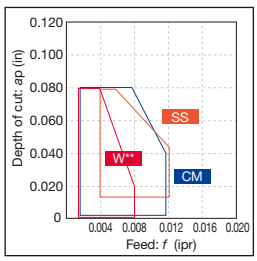
Please see the page B*** for the product details.

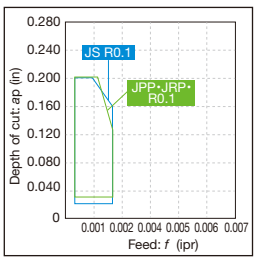
Chipbreaker Overview

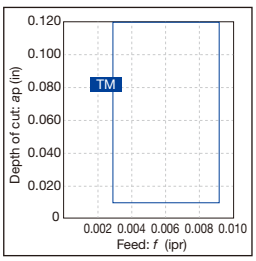
Application	Positive 11° with hole	C 80°	D 55°	S 90°	T 60°	V 35°
Finishing (sharp edge)	**JPP**  					 B154
	JRP  					B154
	JSP  					B154
Finishing to medium cutting	**PSS**  	B118			B145	
	PS  	B119	B126	B135	B145	
	TM  	B119	B126		B145	
	CM  	B119		B135	B146	

Chip control range



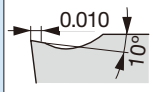
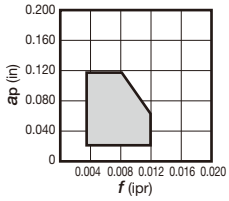
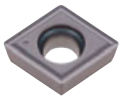
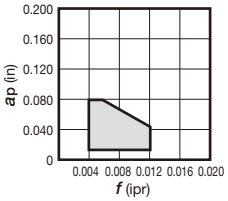
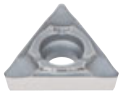
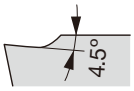
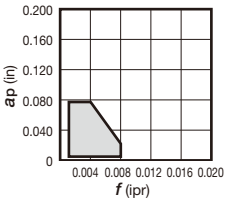
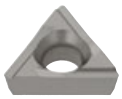
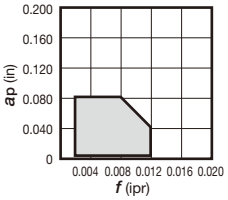
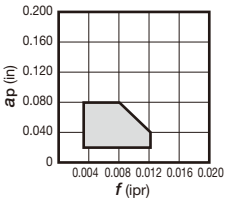
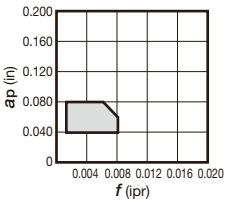
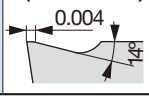
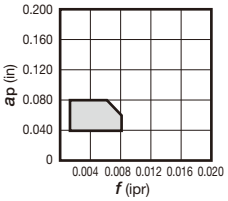
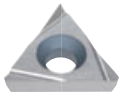




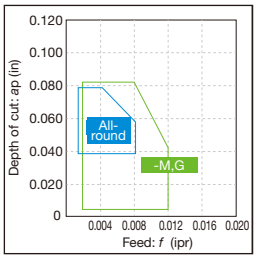


*Chip control range with typical R0.1

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	B136	B147	
	23 		B135	B146	
	— **(with hand)** 		(Tungaloy standard hole specification) ISO non-compliant B136		
	— **(with hand)**  			 (Tungaloy standard hole specification) ISO non-compliant B146	

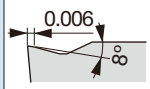
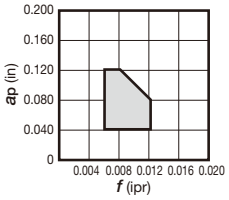
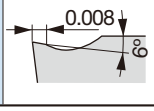
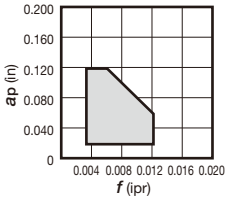
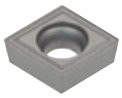
Chip control range

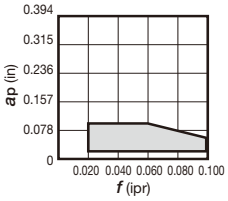


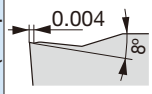
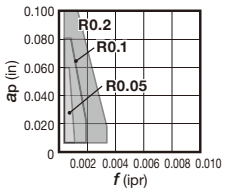
*-M,G: Without chipbreaker

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

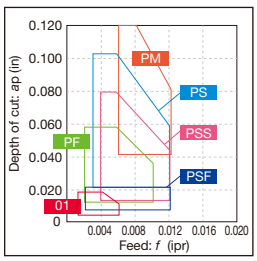
Chipbreaker Overview

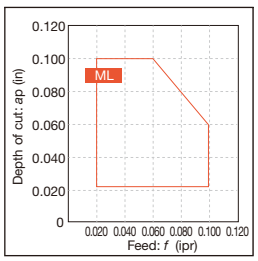
Application	Positive 11° with hole	C	S	T
		80°	90°	60°
Medium cutting	**PM**  	B120		B147
	24  	 B120	B136	B147

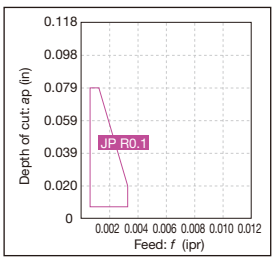
Application	Positive 11° with hole	W
		80°
Heavy cutting	**ML** 	B155

Application	Positive 5° with hole	V
		35°
Precision finishing (sharp edge)	**JP**  	B150

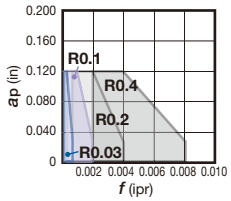
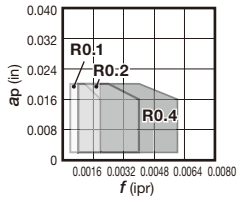
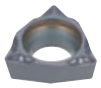
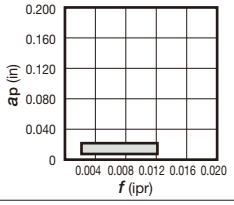
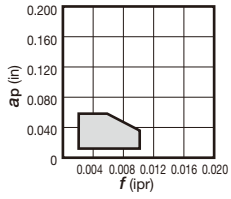
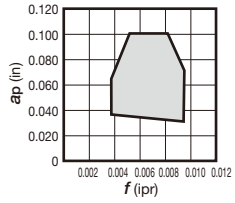
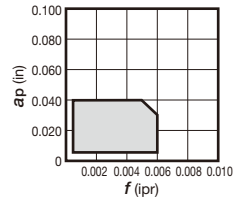
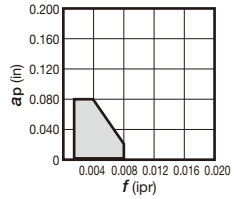
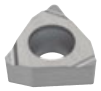
Chip control range

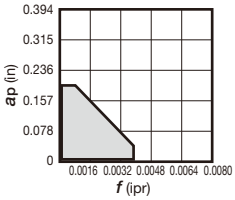
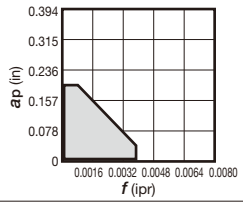
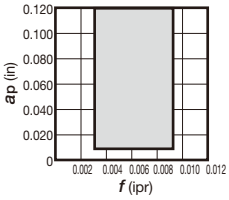
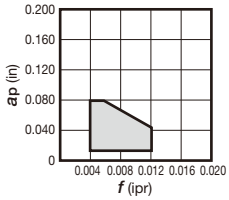
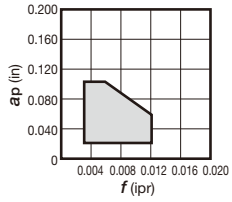
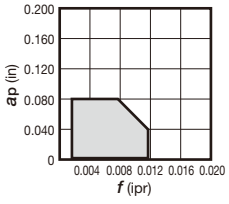
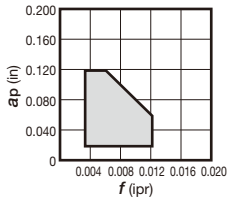




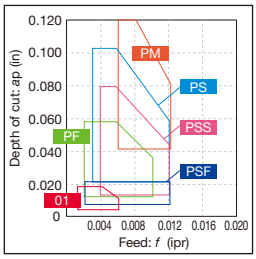


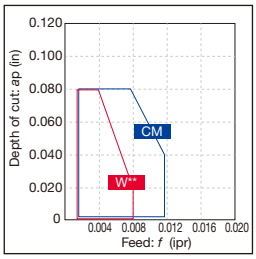
Please see the page B*** for the product details.

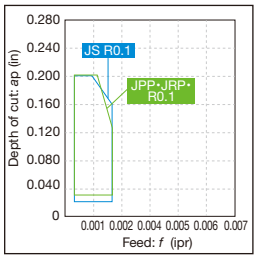
Application	Positive 5° with hole	V 35°	W 80°
Finishing (sharp edge)	**JS** 10° 	B150	
Finishing (sharp edge)	**JS** 10° 		 B156
Finishing	**PSF** 0.005 20° 	B150	
Finishing	**PF** 0.008 10° 	B150	
Finishing	**TSF** 0.008 7.5° 	B150	
Finishing	**W08** 15° 		B156
Finishing	**W11** 15° 		 B156

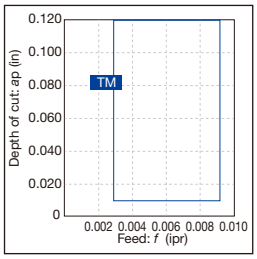
Application	Positive 5° with hole	V 35°	W 80°
Finishing (sharp edge)	**J10** 30° 	B150	
Finishing	**J10** 30° 	B150	
Finishing to medium cutting	**TM** 0.006 20° 	B151	
Finishing to medium cutting	**PSS** 0.006 10° 	B151	
Finishing to medium cutting	**PS** 10° 	B151	
Finishing to medium cutting	**CM** 0.010 10° 	B151	
Medium cutting	**24** 0.008 6° 	B151	

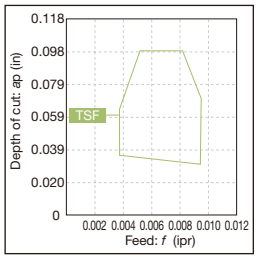
Chip control range







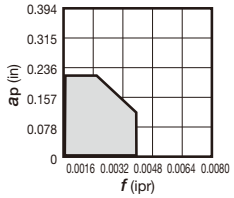


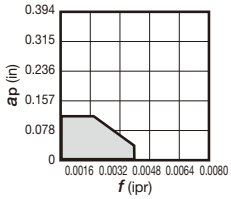


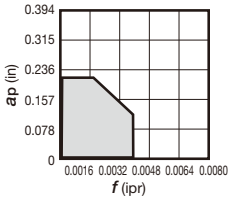
*Chip control range with typical R0.1

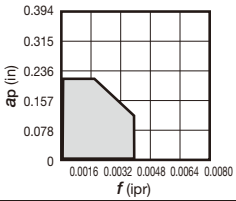
Please see the page B*** for the product details.

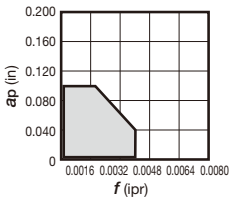
Chipbreaker Overview

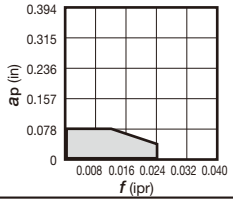
Application	Positive type with hole	JXF
Front turning	— 	B159

Application	Positive type with hole	J10E
Back turning	— 	B161

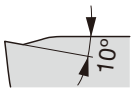
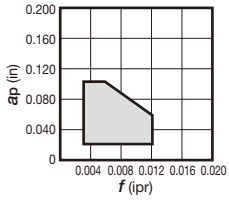
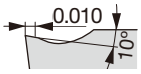
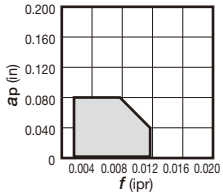
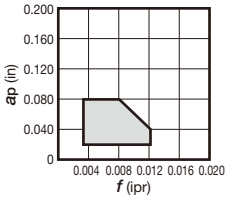
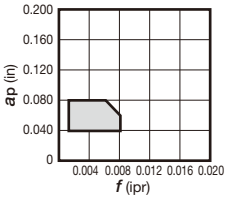
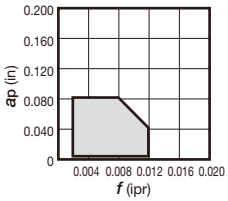
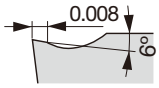
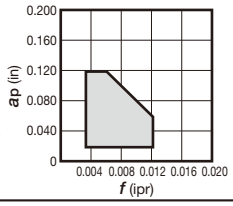
Application	Positive type with hole	JXB
Back turning	— 	B160

Application	Positive type with hole	JXR
Reverse turning	— 	B160

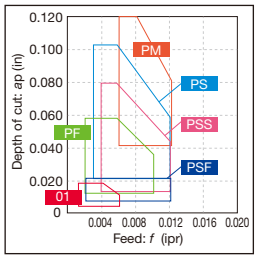
Application	Positive type with hole	JTB
Back turning	— 	B161

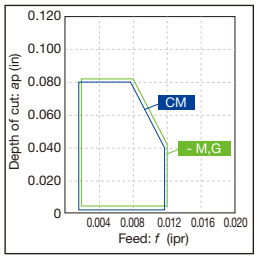
Application	Round	RT
Medium cutting	— 	Special round insert B131

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

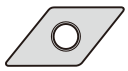
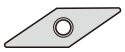
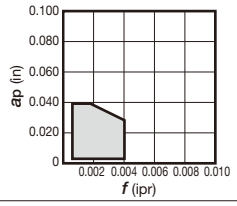
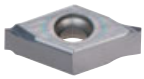
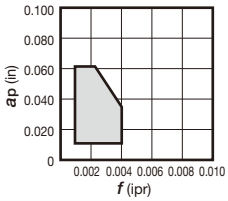
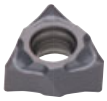
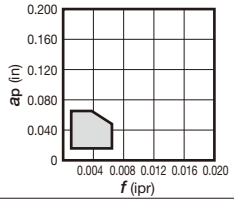
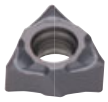
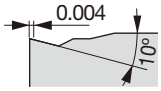
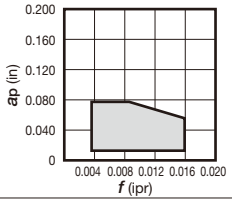
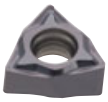
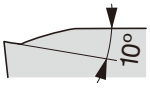
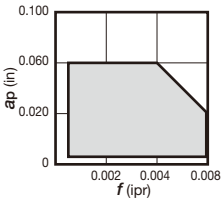
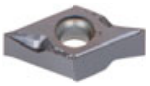
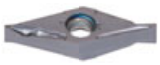
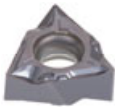
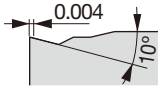
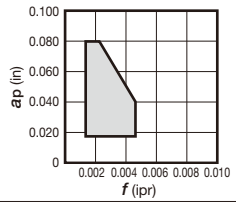
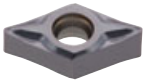
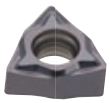
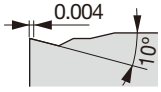
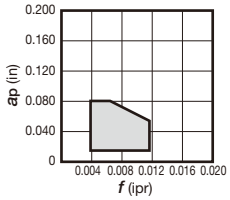
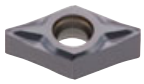
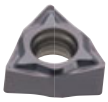




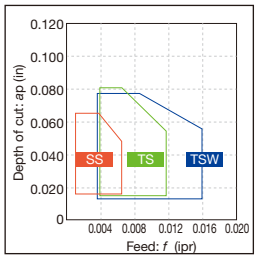
*-M,G: Without chipbreaker

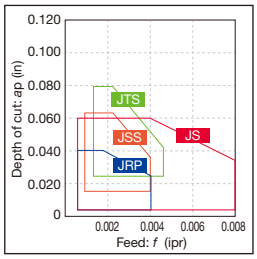
Please see the page B*** for the product details.

Chipbreaker Overview

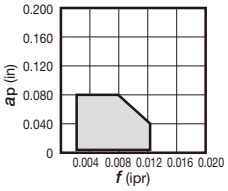
Application	Double-sided positive type with hole	C	D	V	W
					
		80°	55°	35°	80°
Finishing (sharp edge)	**JRP** 		 B126	B155	
Finishing (sharp edge)	**JSS** 		B126, B127		 B157
Finishing to medium cutting	**SS** 		B127		 B157
Finishing	**TSW**  			 B157
Finishing to medium cutting (sharp edge)	**JS**  		 B127	 B155	 B157
Finishing to medium cutting (sharp edge)	**JTS**  		 B127		 B158
Finishing to medium cutting	**TS**  	B120	 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.

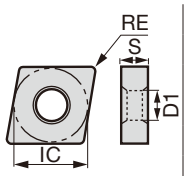
Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : 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
		Coated										Coated cermet		Cermet		Uncoated
P	Steel	●	●ⓒ	●ⓒ✠	✠	ⓒ				ⓒ✠	●ⓒ	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●			ⓒ	●ⓒ	●ⓒ						●
K	Cast iron	●ⓒ	●ⓒ				●	●ⓒ			●ⓒ	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●
N	Non-ferrous																●
S	Superalloy								ⓒ		●ⓒ						
H	Hard material																



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T505	T515	AH8015	AH6225	AH120	GT9530	AT9530	NS9530	NS520	TH10	RE	IC	S	D1
Finishing	TF	CNMG 330.5E TF	CNMG090402E-TF		●	●		●			●	●				●			0.008	0.375	0.187	0.150
		CNMG 331E TF	CNMG090404E-TF		●	●		●			●	●				●			0.016	0.375	0.187	0.150
		CNMG 332E TF	CNMG090408E-TF		●	●		●			●	●				●			0.031	0.375	0.187	0.150
		CNMG 430.5 TF	CNMG120402-TF		●	●		●			●	●				●			0.008	0.500	0.187	0.203
		CNMG 431 TF	CNMG120404-TF		●	●		●			●	●				●		●	0.016	0.500	0.187	0.203
		CNMG 432 TF	CNMG120408-TF		●	●		●			●	●				●			0.031	0.500	0.187	0.203
	TSF	CNMG 330.5E TSF	CNMG090402E-TSF		●	●		●			●	●	●	●		●			0.008	0.375	0.187	0.150
		CNMG 331E TSF	CNMG090404E-TSF		●	●		●			●	●	●	●	●	●			0.016	0.375	0.187	0.150
		CNMG 332E TSF	CNMG090408E-TSF		●	●		●			●	●	●	●	●	●			0.031	0.375	0.187	0.150
		CNMG 430.5 TSF	CNMG120402-TSF		●	●		●			●	●				●			0.008	0.500	0.187	0.203
		CNMG 431 TSF	CNMG120404-TSF	●	●	●		●		●	●	●	●	●	●	●			0.016	0.500	0.187	0.203
		CNMG 432 TSF	CNMG120408-TSF	●	●	●	●	●		●	●	●	●	●	●	●			0.031	0.500	0.187	0.203
		CNMG 433 TSF	CNMG120412-TSF		●	●		●	●	●	●	●	●						0.047	0.500	0.187	0.203
	PS	CNMG 330.5E PS	CNMG090402E-PS		●	●		●			●	●				●			0.008	0.375	0.187	0.150
		CNMG 331E PS	CNMG090404E-PS		●	●		●			●	●				●			0.016	0.375	0.187	0.150
		CNMG 332E PS	CNMG090408E-PS		●	●		●			●	●				●			0.031	0.375	0.187	0.150
		CNMG 430.5 PS	CNMG120402-PS		●	●		●			●	●				●			0.008	0.500	0.187	0.203
		CNMG 431 PS	CNMG120404-PS		●	●		●			●	●				●			0.016	0.500	0.187	0.203
		CNMG 432 PS	CNMG120408-PS		●	●		●			●	●				●			0.031	0.500	0.187	0.203
		CNMG 433 PS	CNMG120412-PS		●	●		●			●	●				●			0.047	0.500	0.187	0.203
Finishing for mild steel	ZF	CNMG 330.5E ZF	CNMG090402E-ZF		●	●		●			●	●				●			0.008	0.375	0.187	0.150
		CNMG 331E ZF	CNMG090404E-ZF		●	●		●			●	●				●			0.016	0.375	0.187	0.150
		CNMG 332E ZF	CNMG090408E-ZF		●	●		●			●	●				●			0.031	0.375	0.187	0.150
		CNMG 430.5 ZF	CNMG120402-ZF		●	●		●			●	●				●			0.008	0.500	0.187	0.203
		CNMG 431 ZF	CNMG120404-ZF		●	●		●			●	●		●	●	●			0.016	0.500	0.187	0.203
		CNMG 432 ZF	CNMG120408-ZF		●	●	●	●			●	●		●	●	●			0.031	0.500	0.187	0.203
		CNMG 433 ZF	CNMG120412-ZF		●	●		●			●	●				●			0.047	0.500	0.187	0.203
Finishing	AS	CNMG 431 AS	CNMG120404-AS	●	●	●										●			0.016	0.500	0.187	0.203
		CNMG 432 AS	CNMG120408-AS	●	●	●	●									●			0.031	0.500	0.187	0.203
		CNMG 433 AS	CNMG120412-AS		●	●	●												0.047	0.500	0.187	0.203
	NS	CNMG 431 NS	CNMG120404-NS													●			0.016	0.500	0.187	0.203
		CNMG 432 NS	CNMG120408-NS		●	●										●			0.031	0.500	0.187	0.203
	TS	CNMG 330.5E TS	CNMG090402E-TS		●	●		●			●	●		●		●			0.008	0.375	0.187	0.150
		CNMG 331E TS	CNMG090404E-TS		●	●		●			●	●		●		●			0.016	0.375	0.187	0.150
		CNMG 332E TS	CNMG090408E-TS		●	●		●			●	●		●		●			0.031	0.375	0.187	0.150
		CNMG 430.5 TS	CNMG120402-TS		●	●		●			●	●				●			0.008	0.500	0.187	0.203
		CNMG 431 TS	CNMG120404-TS		●	●	●	●			●	●		●	●	●	●		0.016	0.500	0.187	0.203
		CNMG 432 TS	CNMG120408-TS	●	●	●	●	●			●	●		●	●	●	●		0.031	0.500	0.187	0.203
		CNMG 433 TS	CNMG120412-TS		●	●	●	●			●	●				●			0.047	0.500	0.187	0.203

● : Line up

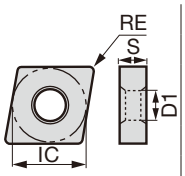
Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

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

CN

Rhombic, 80° with hole

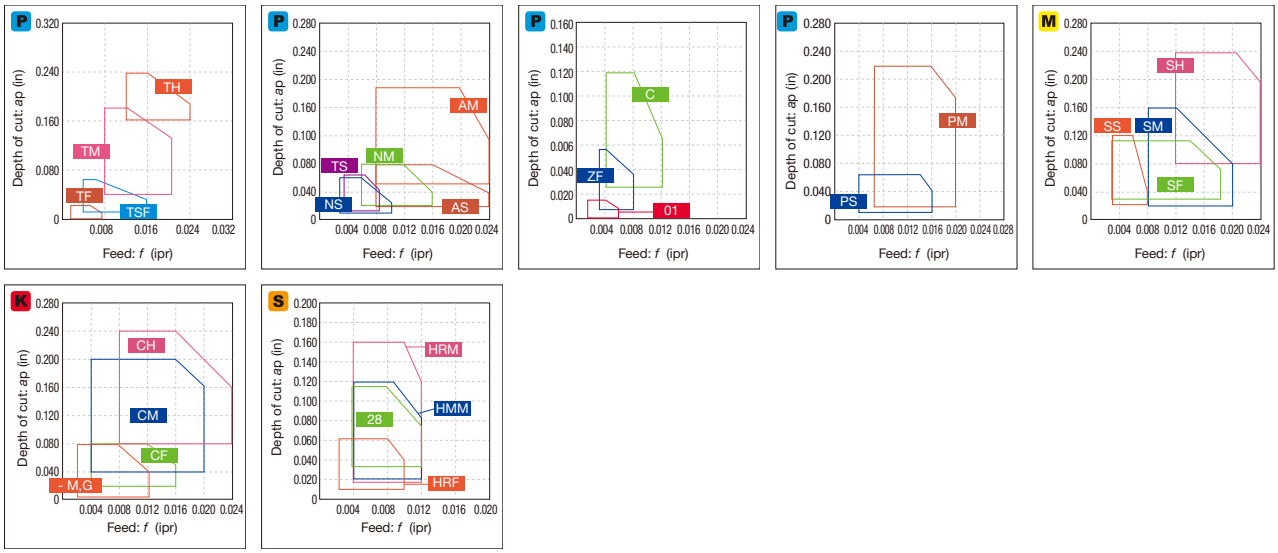
		T6215	T5105	T5115	AH8005	AH8015	AH6225	AH6235	AH120	GH330
P	Steel	◐					◐✠	✠	●◐	●◐
M	Stainless	●			●	◐	●◐	✠	●◐	●◐
K	Cast iron		●	◐					●◐	●◐
N	Non-ferrous									
S	Superalloy				●	◐			●◐	
H	Hard material									



Application	Chipbreaker	Designation Inch	Designation Metric	T6215	T5105	T5115	AH8005	AH8015	AH6225	AH6235	AH120	GH330	RE	IC	S	D1
				Coated									Dimension (in)			
Finishing	SF	CNMG 321 SF	CNMG090304-SF	●					●				0.016	0.375	0.125	0.150
		CNMG 322 SF	CNMG090308-SF	●					●				0.031	0.375	0.125	0.150
		CNMG 431 SF	CNMG120404-SF	●					●				0.016	0.500	0.187	0.203
		CNMG 432 SF	CNMG120408-SF	●					●				0.031	0.500	0.187	0.203
		CNMG 433 SF	CNMG120412-SF	●					●				0.047	0.500	0.187	0.203
	SS	CNMG 331E SS	CNMG090404E-SS						●	●			0.016	0.375	0.187	0.150
		CNMG 332E SS	CNMG090408E-SS						●	●			0.031	0.375	0.187	0.150
		CNMG 431 SS	CNMG120404-SS	●					●	●	●	●	0.016	0.500	0.187	0.203
		CNMG 432 SS	CNMG120408-SS	●					●	●	●	●	0.031	0.500	0.187	0.203
		CNMG 433 SS	CNMG120412-SS	●					●	●		●	0.047	0.500	0.187	0.203
	HRF	CNMG 431 HRF	CNMG120404-HRF				●	●					0.016	0.500	0.187	0.203
		CNMG 432 HRF	CNMG120408-HRF				●	●					0.031	0.500	0.187	0.203
		CNMG 433 HRF	CNMG120412-HRF				●	●					0.047	0.500	0.187	0.203
	CF	CNMG 431 CF	CNMG120404-CF		●	●							0.016	0.500	0.187	0.203
		CNMG 432 CF	CNMG120408-CF		●	●							0.031	0.500	0.187	0.203
		CNMG 433 CF	CNMG120412-CF		●	●							0.047	0.500	0.187	0.203

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

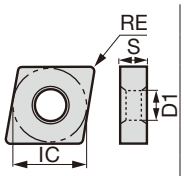
Insert NEGATIVE TYPE

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

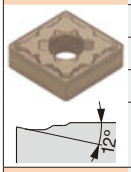
CN

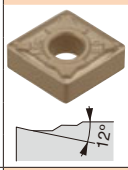
Rhombic, 80° with hole

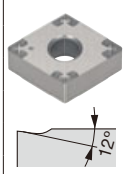
		T9205	T9215	T9225	T9235	T5105	AH110			GT9530	GT720			NS9530	NS520			TH10		
P	Steel	●	◐	◐	✠	✠		●			◐	◐			◐	◐			●	
M	Stainless		◐					●											●	
K	Cast iron	◐	◐				●	●			◐	◐			◐	◐			●	
N	Non-ferrous																		●	
S	Superalloy							●												
H	Hard material																			

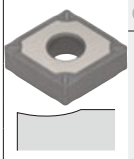


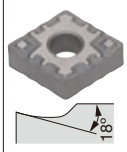
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T5105	AH110			GT9530	GT720			NS9530	NS520			TH10			RE	IC	S	D1
				Coated								Coated cermet				Cermet				Uncoated			Dimension (in)			
Finishing (wiper)	**FW**	**CNMG 331E FW**	**CNMG090404E-FW**	●	●	●						●				●							0.016	0.375	0.187	0.150
		CNMG 332E FW	CNMG090408E-FW	●	●	●						●				●							0.031	0.375	0.187	0.150
		CNMG 431 FW	**CNMG120404-FW**		●							●				●							0.016	0.500	0.187	0.203
		CNMG 432 FW	CNMG120408-FW	●	●	●						●				●							0.031	0.500	0.187	0.203
		*Wiper																								
	AFW	**CNMG 431 AFW**	**CNMG120404-AFW**		●	●						●				●							0.016	0.500	0.187	0.203
		CNMG 432 AFW	CNMG120408-AFW	●	●	●	●	●				●											0.031	0.500	0.187	0.203
Finishing	**01**	**CNGG 320.5-01**	**CNGG090302-01**													●							0.008	0.375	0.125	0.150
		CNGG 321-01	CNGG090304-01													●							0.016	0.375	0.125	0.150
		CNGG 322-01	CNGG090308-01													●							0.031	0.375	0.125	0.150
		CNGG 430-01	**CNGG120401-01**						●														0.004	0.500	0.187	0.203
		CNGG 430.5-01	CNGG120402-01						●							●	●			●			0.008	0.500	0.187	0.203
		CNGG 431-01	CNGG120404-01						●							●	●			●			0.016	0.500	0.187	0.203
		CNGG 432-01	CNGG120408-01						●							●	●			●			0.031	0.500	0.187	0.203
	11	**CNMG 431-11**	**CNMG120404-11**									●				●				●			0.016	0.500	0.187	0.203
		CNMG 432-11	CNMG120408-11									●	●			●				●			0.031	0.500	0.187	0.203
Finishing for mild steel	**17**	**CNMG 431-17**	**CNMG120404-17**													●							0.016	0.500	0.187	0.203
		CNMG 432-17	CNMG120408-17													●							0.031	0.500	0.187	0.203
Boring (double sided)	**CB**	**CNMG 321 CB**	**CNMG090304-CB**													●							0.016	0.375	0.125	0.150
		CNMG 322 CB	CNMG090308-CB													●							0.031	0.375	0.125	0.150
Finishing	**C**	**CNGG 431 R-C**	**CNGG120404R-C**													●							0.016	0.500	0.187	0.203
		CNGG 431 L-C	CNGG120404L-C													●							0.016	0.500	0.187	0.203
		CNGG 432 R-C	CNGG120408R-C													●							0.031	0.500	0.187	0.203
		CNGG 432 L-C	CNGG120408L-C													●							0.031	0.500	0.187	0.203

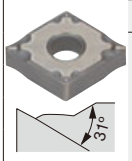


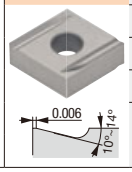












* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

● : Line up

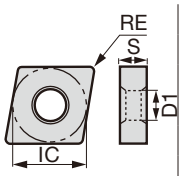
Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

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

CN

Rhombic, 80° with hole

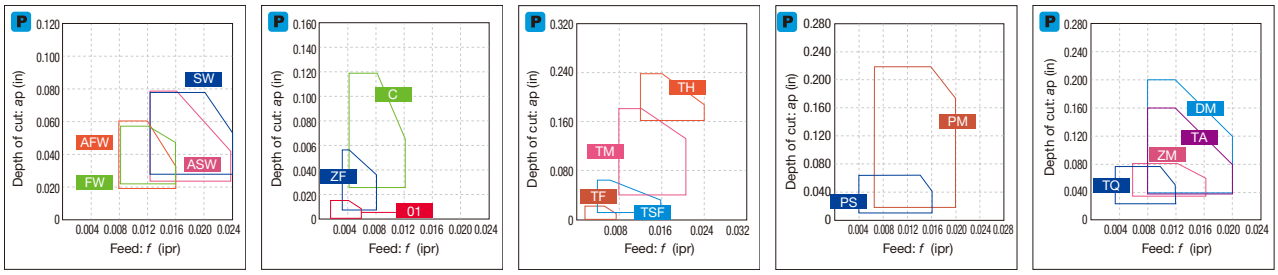
		T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH6235	AH725	AH110	AH120	GT9530	NS9530
P	Steel	●	●⊂	⊂✠	✠	⊂			⊂✠	✠	⊂	●	●⊂	●⊂	●⊂
M	Stainless		●⊂			●		⊂	●⊂	✠	⊂	●	●⊂		
K	Cast iron	●⊂	●⊂				●⊂				⊂	●	●⊂	●⊂	●⊂
N	Non-ferrous														
S	Superalloy							⊂			●	●	●⊂		
H	Hard material														



Application	Chipbreaker	Designation Inch	Designation Metric	Coated												Coated cermet		Cermet		Dimension (in)			
				T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH6235	AH725	AH110	AH120	GT9530		NS9530		RE	IC	S	D1
Medium cutting	TM	CNMG 321 TM	CNMG090304-TM		●	●														0.016	0.375	0.125	0.150
		CNMG 322 TM	CNMG090308-TM		●	●	●													0.031	0.375	0.125	0.150
		CNMG 331E TM	CNMG090404E-TM		●	●		●	●	●	●				●					0.016	0.375	0.187	0.150
		CNMG 332E TM	CNMG090408E-TM		●	●		●	●	●	●				●					0.031	0.375	0.187	0.150
		CNMG 333E TM	CNMG090412E-TM		●	●		●	●	●	●				●					0.047	0.375	0.187	0.150
		CNMG 431 TM	CNMG120404-TM	●	●	●	●	●	●	●	●	●			●					0.016	0.500	0.187	0.203
		CNMG 432 TM	CNMG120408-TM	●	●	●	●	●	●	●	●	●	●	●	●					0.031	0.500	0.187	0.203
		CNMG 433 TM	CNMG120412-TM	●	●	●	●	●	●	●	●	●		●	●					0.047	0.500	0.187	0.203
		CNMG 434 TM	CNMG120416-TM		●	●	●	●	●	●	●	●			●					0.063	0.500	0.187	0.203
		CNMG 542 TM	CNMG160608-TM		●															0.031	0.625	0.250	0.250
		CNMG 543 TM	CNMG160612-TM	●	●	●	●								●					0.047	0.625	0.250	0.250
		CNMG 642 TM	CNMG190608-TM	●	●	●	●								●					0.031	0.750	0.250	0.312
		CNMG 643 TM	CNMG190612-TM	●	●	●	●								●					0.047	0.750	0.250	0.312
	PM	CNMG 331E PM	CNMG090404E-PM		●	●		●		●	●									0.016	0.375	0.187	0.150
		CNMG 332E PM	CNMG090408E-PM		●	●		●		●	●									0.031	0.375	0.187	0.150
		CNMG 333E PM	CNMG090412E-PM		●	●		●		●	●									0.047	0.375	0.187	0.150
		CNMG 431-PM	CNMG120404-PM		●	●		●		●	●									0.016	0.500	0.187	0.203
		CNMG 432-PM	CNMG120408-PM		●	●		●		●	●									0.031	0.500	0.187	0.203
		CNMG 433-PM	CNMG120412-PM		●	●		●		●	●									0.047	0.500	0.187	0.203
		CNMG 434-PM	CNMG120416-PM		●	●		●		●	●									0.063	0.500	0.187	0.203
Medium cutting for mild steel	ZM	CNMG 331E ZM	CNMG090404E-ZM		●	●		●		●	●									0.016	0.375	0.187	0.150
		CNMG 332E ZM	CNMG090408E-ZM		●	●		●		●	●									0.031	0.375	0.187	0.150
		CNMG 333E ZM	CNMG090412E-ZM		●	●		●		●	●									0.047	0.375	0.187	0.150
		CNMG 431 ZM	CNMG120404-ZM		●	●		●		●	●									0.016	0.500	0.187	0.203
		CNMG 432 ZM	CNMG120408-ZM		●	●	●	●		●	●					●		●		0.031	0.500	0.187	0.203
		CNMG 433 ZM	CNMG120412-ZM		●	●	●	●		●	●					●				0.047	0.500	0.187	0.203
		CNMG 434 ZM	CNMG120416-ZM		●	●		●		●	●									0.063	0.500	0.187	0.203

● : Line up

Chip control range



Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

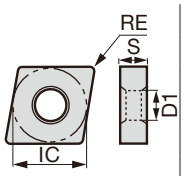
Insert NEGATIVE TYPE

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

CN

Rhombic, 80° with hole

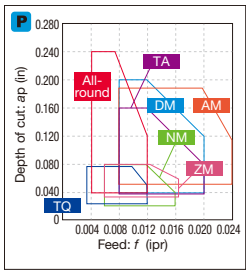
		T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH110	AH120	GT9530	GT720	NS9530	NS520	TH10
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ							ⓒ✠	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●						ⓒ	●ⓒ	●	●ⓒ					●
K	Cast iron	●ⓒ	●ⓒ				●	●ⓒ	●	ⓒ	✠			●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous																			●
S	Superalloy											ⓒ		●	●ⓒ					
H	Hard material																			



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH110	AH120	GT9530	GT720	NS9530	NS520	TH10	RE	IC	S	D1
				Coated														Coated cermet		Cermet		Un-coated	Dimension (in)			
Medium cutting	**AM**	**CNMG 432 AM**	**CNMG120408-AM**		●	●																	0.031	0.500	0.187	0.203
		CNMG 433 AM	CNMG120412-AM		●	●																	0.047	0.500	0.187	0.203
		CNMG 434 AM	CNMG120416-AM		●	●																	0.063	0.500	0.187	0.203
	NM	**CNMG 432 NM**	**CNMG120408-NM**	●	●	●	●													●			0.031	0.500	0.187	0.203
		CNMG 433 NM	CNMG120412-NM		●	●	●																0.047	0.500	0.187	0.203
	DM	**CNMG 431 DM**	**CNMG120404-DM**		●	●		●						●	●								0.016	0.500	0.187	0.203
		CNMG 432 DM	CNMG120408-DM	●	●	●	●	●						●	●								0.031	0.500	0.187	0.203
		CNMG 433 DM	CNMG120412-DM	●	●	●	●	●						●	●								0.047	0.500	0.187	0.203
		CNMG 434 DM	CNMG120416-DM		●	●		●						●	●								0.063	0.500	0.187	0.203
	All-round	**CNMG 321**	**CNMG090304**		●	●														●			0.016	0.375	0.125	0.150
		CNMG 322	CNMG090308	●	●	●	●												●	●			0.031	0.375	0.125	0.150
		CNMG 431	**CNMG120404**	●	●	●	●		●	●	●	●	●			●	●	●		●		●	0.016	0.500	0.187	0.203
		CNMG 432	CNMG120408	●	●	●	●		●	●	●	●	●			●	●	●		●	●	●	0.031	0.500	0.187	0.203
		CNMG 433	CNMG120412	●	●	●	●		●	●	●	●	●			●	●				●	●	0.047	0.500	0.187	0.203
		CNMG 434	CNMG120416	●	●	●	●		●	●	●	●	●										0.063	0.500	0.187	0.203
		CNMG 542	**CNMG160608**	●	●	●	●				●	●	●				●						0.031	0.625	0.250	0.250
		CNMG 543	CNMG160612	●	●	●	●			●	●	●	●				●						0.047	0.625	0.250	0.250
		CNMG 544	CNMG160616	●	●	●	●			●		●											0.063	0.625	0.250	0.250
		CNMG 642	**CNMG190608**		●	●	●																0.031	0.750	0.250	0.312
		CNMG 643	CNMG190612	●	●	●	●			●		●	●				●						0.047	0.750	0.250	0.312
		CNMG 644	CNMG190616		●	●	●			●		●	●				●						0.063	0.750	0.250	0.312

● : Line up

Chip control range



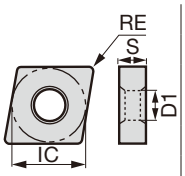
Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

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

CN

Rhombic, 80° with hole

		T9205	T9215	T9225	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH905	AH725
P	Steel	●	●⊂	⊂✠	⊂								⊂✠	✠		⊂
M	Stainless		●⊂		●						●	⊂	●⊂	✠		⊂
K	Cast iron	●⊂	●⊂			●	●⊂	●	⊂	✠						⊂
N	Non-ferrous															
S	Superalloy										●	⊂			⊂	●
H	Hard material															

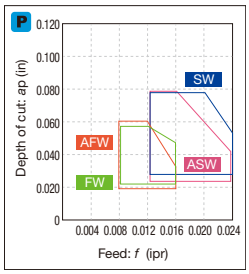


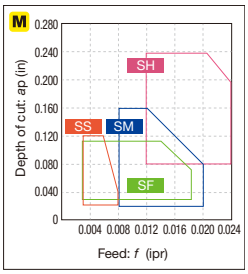
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH905	AH725	RE	IC	S	D1
				Coated															Dimension (in)			
Medium cutting	SM	CNMG 331E SM	CNMG090404E-SM				●								●				0.016	0.375	0.187	0.150
		CNMG 332E SM	CNMG090408E-SM				●								●				0.031	0.375	0.187	0.150
		CNMG 333E SM	CNMG090412E-SM				●								●				0.047	0.375	0.187	0.150
		CNMG 431 SM	CNMG120404-SM				●								●	●		●	0.016	0.500	0.187	0.203
		CNMG 432 SM	CNMG120408-SM				●								●	●	●	●	0.031	0.500	0.187	0.203
		CNMG 433 SM	CNMG120412-SM				●								●	●		●	0.047	0.500	0.187	0.203
		CNMG 543 SM	CNMG160612-SM				●								●				0.047	0.625	0.250	0.250
		CNMG 544 SM	CNMG160616-SM												●				0.063	0.625	0.250	0.250
		CNMG 643 SM	CNMG190612-SM												●				0.047	0.750	0.250	0.312
		CNMG 644 SM	CNMG190616-SM												●				0.063	0.750	0.250	0.312
	SDM	CNMG 431 SDM	CNMG120404-SDM				●						●	●	●	●			0.016	0.500	0.187	0.203
		CNMG 432 SDM	CNMG120408-SDM				●						●	●	●	●			0.031	0.500	0.187	0.203
		CNMG 433 SDM	CNMG120412-SDM				●						●	●	●	●			0.047	0.500	0.187	0.203
	HRM	CNMG 431 HRM	CNMG120404-HRM										●	●					0.016	0.500	0.187	0.203
		CNMG 432 HRM	CNMG120408-HRM										●	●					0.031	0.500	0.187	0.203
		CNMG 433 HRM	CNMG120412-HRM										●	●					0.047	0.500	0.187	0.203
		CNMG 542 HRM	CNMG160608-HRM										●	●					0.031	0.625	0.250	0.250
		CNMG 543 HRM	CNMG160612-HRM										●	●					0.047	0.625	0.250	0.250
		CNMG 643 HRM	CNMG190612-HRM										●	●					0.047	0.750	0.250	0.312
		CNMG 644 HRM	CNMG190616-HRM										●	●					0.063	0.750	0.250	0.312
	CM	CNMG 431 CM	CNMG120404-CM	●	●		●	●	●	●	●	●							0.016	0.500	0.187	0.203
		CNMG 432 CM	CNMG120408-CM	●	●		●	●	●	●	●	●							0.031	0.500	0.187	0.203
		CNMG 433 CM	CNMG120412-CM	●	●		●	●	●	●	●	●							0.047	0.500	0.187	0.203
		CNMG 542 CM	CNMG160608-CM	●	●		●	●	●	●	●	●							0.031	0.625	0.250	0.250
		CNMG 543 CM	CNMG160612-CM	●	●		●	●	●	●	●	●							0.047	0.625	0.250	0.250
Medium cutting (wiper)	SW	CNMG 332E SW	CNMG090408E-SW	●	●	●					●								0.031	0.375	0.187	0.150
		CNMG 333E SW	CNMG090412E-SW	●	●	●					●								0.047	0.375	0.187	0.150
		CNMG 432 SW	CNMG120408-SW	●	●	●			●		●								0.031	0.500	0.187	0.203
		CNMG 433 SW	CNMG120412-SW	●	●	●			●		●								0.047	0.500	0.187	0.203
		*Wiper																				

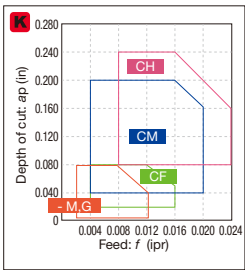
* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

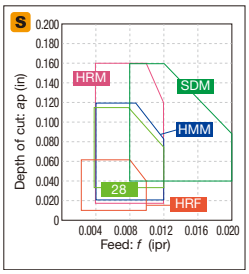
● : Line up

Chip control range









Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

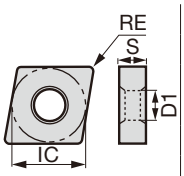
Insert NEGATIVE TYPE

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

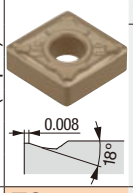
CN

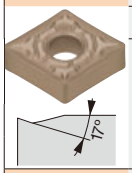
Rhombic, 80° with hole

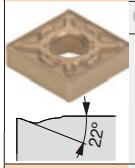
		T9205	T9215	T9225	T9235	T6215	AH6225	AH6235	AH905	AH110	AH120	GH330	GH110	GT9530	AT9530	GT720	NS9530		TH10	KS05F	KS20
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ	ⓒ✠	✠		●	●ⓒ	●ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ		●		
M	Stainless		●ⓒ			●	●ⓒ	✠		●	●ⓒ	●ⓒ	●						●		
K	Cast iron	●ⓒ	●ⓒ							●	●ⓒ	●ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ		●	●	ⓒ✠
N	Non-ferrous																		●	●	ⓒ✠
S	Superalloy								ⓒ	●	●ⓒ		●							●	ⓒ✠
H	Hard material																				

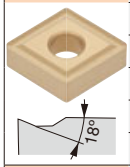


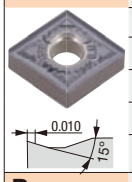
Application	Chipbreaker	Designation Inch	Designation Metric	Coated												Coated cermet			Cermet		Uncoated			Dimension (in) RE	IC	S	D1
Medium cutting (wiper)	ASW	CNMG 432 ASW	CNMG120408-ASW	●	●	●													●					0.031	0.500	0.187	0.203
		CNMG 433 ASW	CNMG120412-ASW	●	●	●																		0.047	0.500	0.187	0.203
Medium cutting	TQ	CNMG 431 TQ	CNMG120404-TQ		●	●										●	●		●					0.016	0.500	0.187	0.203
		CNMG 432 TQ	CNMG120408-TQ		●	●										●	●		●					0.031	0.500	0.187	0.203
	TA	CNMG 432 TA	CNMG120408-TA		●	●																		0.031	0.500	0.187	0.203
		CNMG 433 TA	CNMG120412-TA		●	●																		0.047	0.500	0.187	0.203
	SA	CNMG 431 SA	CNMG120404-SA					●	●	●		●	●											0.016	0.500	0.187	0.203
		CNMG 432 SA	CNMG120408-SA					●	●	●		●	●										●	0.031	0.500	0.187	0.203
		CNMG 433 SA	CNMG120412-SA					●	●	●		●	●										●	0.047	0.500	0.187	0.203
		CNMG 643 SA	CNMG190612-SA										●										●	0.047	0.750	0.250	0.312
		CNMG 644 SA	CNMG190616-SA										●										●	0.063	0.750	0.250	0.312
	HMM	CNMG 431 HMM	CNMG120404-HMM								●													0.016	0.500	0.187	0.203
		CNMG 432 HMM	CNMG120408-HMM								●										●			0.031	0.500	0.187	0.203
		CNMG 433 HMM	CNMG120412-HMM								●													0.047	0.500	0.187	0.203
		CNMG 542 HMM	CNMG160608-HMM								●													0.031	0.625	0.250	0.250
		CNMG 543 HMM	CNMG160612-HMM								●													0.047	0.625	0.250	0.250
		CNMG 544 HMM	CNMG160616-HMM								●													0.063	0.625	0.250	0.250
	P	CNGG 431 R-P	CNGG120404R-P										●				●		●					0.016	0.500	0.187	0.203
		CNGG 431 L-P	CNGG120404L-P										●				●		●					0.016	0.500	0.187	0.203
		CNGG 432 R-P	CNGG120408R-P										●						●					0.031	0.500	0.187	0.203
		CNGG 432 L-P	CNGG120408L-P										●						●					0.031	0.500	0.187	0.203
	S	CNMG 431 R-S	CNMG120404R-S			●	●		●	●			●			●	●							0.016	0.500	0.187	0.203
		CNMG 431 L-S	CNMG120404L-S			●	●		●	●			●				●							0.016	0.500	0.187	0.203
		CNMG 432 R-S	CNMG120408R-S			●	●		●	●			●			●	●							0.031	0.500	0.187	0.203
		CNMG 432 L-S	CNMG120408L-S			●	●		●	●			●				●							0.031	0.500	0.187	0.203

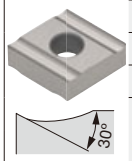


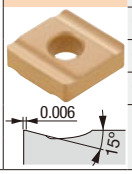












* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

● : Line up

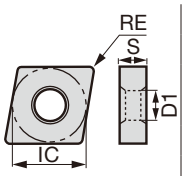
Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

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

CN

Rhombic, 80° with hole

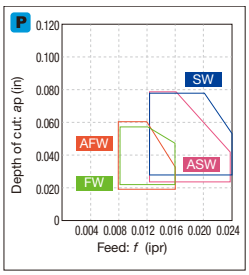
		T9205	T9215	T9225	T9235	T515	AH8005	AH8015	AH6225	AH905	AH725	AH110	AH120	GH330	GT720	NS9530	KS05F	TH10
P	Steel	●	●ⓒ	ⓒ✠	✠				ⓒ✠		ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ		●
M	Stainless		●ⓒ				●	ⓒ	●ⓒ		ⓒ	●	●ⓒ	●ⓒ				●
K	Cast iron	●ⓒ	●ⓒ			●ⓒ					ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●	●
N	Non-ferrous																●	●
S	Superalloy						●	ⓒ		ⓒ	●	●	●ⓒ				●	
H	Hard material																	

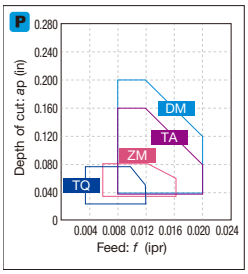


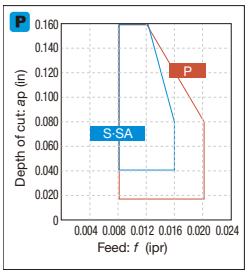
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T515	AH8005	AH8015	AH6225	AH905	AH725	AH110	AH120	GH330	GT720	NS9530	KS05F	TH10	RE	IC	S	D1
				Coated													Coated cermet	Cermet	Uncoated		Dimension (in)			
Medium cutting	27	CNMG 431-27	CNMG120404-27		●	●												●			0.016	0.500	0.187	0.203
		CNMG 432-27	CNMG120408-27		●	●	●							●				●			0.031	0.500	0.187	0.203
		CNMG 433-27	CNMG120412-27			●															0.047	0.500	0.187	0.203
	28	CNGP 430-28	CNGP120401-28											●	●						0.004	0.500	0.187	0.203
		CNGP 430.5-28	CNGP120402-28									●		●	●						0.008	0.500	0.187	0.203
		CNGP 431-28	CNGP120404-28									●		●	●				●		0.016	0.500	0.187	0.203
		CNGP 432-28	CNGP120408-28									●		●	●				●		0.031	0.500	0.187	0.203
		CNGG 430.5-28	CNGG120402-28																●		0.008	0.500	0.187	0.203
		CNGG 431-28	CNGG120404-28																●		0.016	0.500	0.187	0.203
		CNGG 432-28	CNGG120408-28																●		0.031	0.500	0.187	0.203
		CNMG 431-28	CNMG120404-28			●			●	●				●	●				●		0.016	0.500	0.187	0.203
		CNMG 432-28	CNMG120408-28						●	●				●	●				●		0.031	0.500	0.187	0.203
		CNMG 433-28	CNMG120412-28						●	●					●						0.047	0.500	0.187	0.203
	33	CNMG 432-33	CNMG120408-33											●			●				0.031	0.500	0.187	0.203
		CNMG 434-33	CNMG120416-33		●																0.063	0.500	0.187	0.203
		CNMG 543-33	CNMG160612-33		●																0.047	0.625	0.250	0.250
		CNMG 643-33	CNMG190612-33		●																0.047	0.750	0.250	0.312
	37	CNMG 431-37	CNMG120404-37		●													●			0.016	0.500	0.187	0.203
		CNMG 432-37	CNMG120408-37		●	●										●		●		●	0.031	0.500	0.187	0.203
		CNMG 433-37	CNMG120412-37		●																0.047	0.500	0.187	0.203
	38	CNMG 431-38	CNMG120404-38													●		●			0.016	0.500	0.187	0.203
		CNMG 432-38	CNMG120408-38		●								●			●		●			0.031	0.500	0.187	0.203
Medium to heavy cutting	TH	CNMG 432 TH	CNMG120408-TH	●	●	●	●	●		●	●				●						0.031	0.500	0.187	0.203
		CNMG 433 TH	CNMG120412-TH	●	●	●	●	●		●	●				●						0.047	0.500	0.187	0.203
		CNMG 434 TH	CNMG120416-TH	●	●	●	●	●		●					●						0.063	0.500	0.187	0.203
		CNMG 543 TH	CNMG160612-TH	●	●	●	●								●						0.047	0.625	0.250	0.250
		CNMG 544 TH	CNMG160616-TH	●	●	●	●								●						0.063	0.625	0.250	0.250
		CNMG 643 TH	CNMG190612-TH	●	●	●	●								●						0.047	0.750	0.250	0.312
		CNMG 644 TH	CNMG190616-TH	●	●	●	●								●						0.063	0.750	0.250	0.312

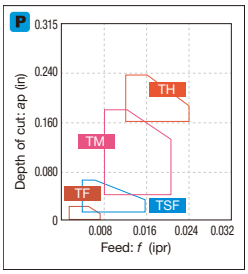
● : Line up

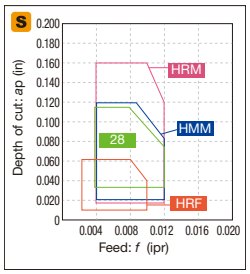
Chip control range











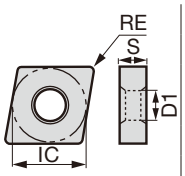
Insert NEGATIVE TYPE

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

CN

Rhombic, 80° with hole

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



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T515	T5105	T5115	T5125	AH6225	AH6235	RE	IC	S	D1
				Coated										Dimension (in)			
Medium to heavy cutting	**THS**	**CNMG 432 THS**	**CNMG120408-THS**	●	●	●	●							0.031	0.500	0.187	0.203
		CNMG 433 THS	**CNMG120412-THS**	●	●	●	●							0.047	0.500	0.187	0.203
		CNMG 434 THS	**CNMG120416-THS**	●	●	●	●							0.063	0.500	0.187	0.203
		CNMG 543 THS	**CNMG160612-THS**	●	●	●	●							0.047	0.625	0.250	0.250
		CNMG 544 THS	**CNMG160616-THS**	●	●	●	●							0.063	0.625	0.250	0.250
		CNMG 643 THS	**CNMG190612-THS**		●	●	●							0.047	0.750	0.250	0.312
		CNMG 644 THS	**CNMG190616-THS**		●	●	●							0.063	0.750	0.250	0.312
		CNMG 646 THS	**CNMG190624-THS**		●	●	●							0.094	0.750	0.250	0.312
		CNMG 866 THS	**CNMG250924-THS**		●	●	●							0.094	1.000	0.375	0.359
Medium to heavy cutting	**SH**	**CNMG 432 SH**	**CNMG120408-SH**									●	●	0.031	0.500	0.187	0.203
		CNMG 433 SH	**CNMG120412-SH**									●	●	0.047	0.500	0.187	0.203
		CNMG 434 SH	**CNMG120416-SH**									●	●	0.063	0.500	0.187	0.203
		CNMG 543 SH	**CNMG160612-SH**									●	●	0.047	0.625	0.250	0.250
		CNMG 544 SH	**CNMG160616-SH**									●	●	0.063	0.625	0.250	0.250
		CNMG 643 SH	**CNMG190612-SH**									●	●	0.047	0.750	0.250	0.312
		CNMG 644 SH	**CNMG190616-SH**									●	●	0.063	0.750	0.250	0.312
	CH	**CNMG 431 CH**	**CNMG120404-CH**						●	●	●			0.016	0.500	0.187	0.203
		CNMG 432 CH	**CNMG120408-CH**					●	●	●	●			0.031	0.500	0.187	0.203
		CNMG 433 CH	**CNMG120412-CH**					●	●	●	●			0.047	0.500	0.187	0.203
		CNMG 543 CH	**CNMG160612-CH**							●	●			0.047	0.625	0.250	0.250
		CNMG 544 CH	**CNMG160616-CH**							●	●			0.063	0.625	0.250	0.250
		CNMG 643 CH	**CNMG190612-CH**						●	●	●			0.047	0.750	0.250	0.312
		CNMG 644 CH	**CNMG190616-CH**						●	●	●			0.063	0.750	0.250	0.312
Medium to heavy cutting (single sided)	**TRS**	**CNMM 432 TRS**	**CNMM120408-TRS**	●	●	●	●							0.031	0.500	0.187	0.203
		CNMM 433 TRS	**CNMM120412-TRS**		●	●	●							0.047	0.500	0.187	0.203
		CNMM 543 TRS	**CNMM160612-TRS**		●	●	●							0.047	0.625	0.250	0.250
		CNMM 544 TRS	**CNMM160616-TRS**		●	●	●							0.063	0.625	0.250	0.250
		CNMM 644 TRS	**CNMM190616-TRS**		●	●	●							0.063	0.750	0.250	0.312
		CNMM 646 TRS	**CNMM190624-TRS**		●	●	●							0.094	0.750	0.250	0.312
		CNMM 866 TRS	**CNMM250924-TRS**		●	●	●							0.094	1.000	0.375	0.359
	57	**CNMM 431-57**	**CNMM120404-57**			●								0.016	0.500	0.187	0.203
		CNMM 432-57	**CNMM120408-57**		●	●								0.031	0.500	0.187	0.203
		CNMM 433-57	**CNMM120412-57**			●								0.047	0.500	0.187	0.203
		CNMM 643-57	**CNMM190612-57**			●								0.047	0.750	0.250	0.312
		CNMM 644-57	**CNMM190616-57**			●								0.063	0.750	0.250	0.312
	65	**CNMM 433-65**	**CNMM120412-65**		●	●								0.047	0.500	0.187	0.203
		CNMM 544-65	**CNMM160616-65**		●									0.063	0.625	0.250	0.250

● : Line up

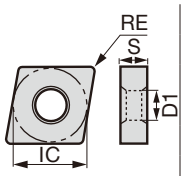
Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

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

CN

Rhombic, 80° with hole

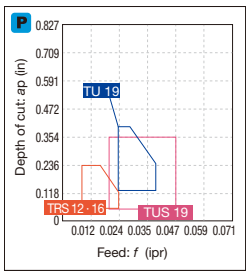
		T9205	T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	NS520	TH10	FX105
P	Steel	●	●◐	◐✠	✠						●◐	●	
M	Stainless		●◐									●	
K	Cast iron	●◐	●◐			●	●◐	●	◐	✠	●◐	●	●◐
N	Non-ferrous											●	
S	Superalloy												
H	Hard material												

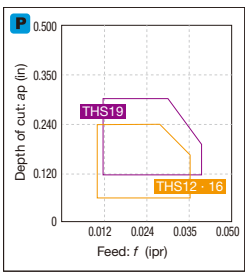


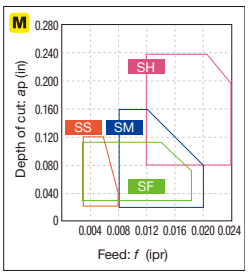
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	NS520	TH10	FX105	RE	IC	S	D1
Medium to heavy cutting (single sided)	TU	CNMM 643 TU	CNMM190612-TU			●	●									0.047	0.750	0.250	0.312
		CNMM 644 TU	CNMM190616-TU			●	●									0.063	0.750	0.250	0.312
		CNMM 646 TU	CNMM190624-TU		●	●	●									0.094	0.750	0.250	0.312
		CNMM 866 TU	CNMM250924-TU			●	●									0.094	1.000	0.375	0.359
	TUS	CNMM 642 TUS	CNMM190608-TUS		●	●										0.031	0.750	0.250	0.312
		CNMM 643 TUS	CNMM190612-TUS		●	●	●									0.047	0.750	0.250	0.312
		CNMM 644 TUS	CNMM190616-TUS		●	●	●									0.063	0.750	0.250	0.312
		CNMM 646 TUS	CNMM190624-TUS		●	●	●									0.094	0.750	0.250	0.312
		CNMM 648 TUS	CNMM190632-TUS		●	●										0.125	0.750	0.250	0.312
		CNMM 864 TUS	CNMM250916-TUS		●	●	●									0.063	1.000	0.375	0.359
		CNMM 866 TUS	CNMM250924-TUS		●	●	●									0.094	1.000	0.375	0.359
		CNMM 868 TUS	CNMM250932-TUS		●	●										0.125	1.000	0.375	0.359
Finishing to medium cutting	-	CNMA 331E	CNMA090404E						●							0.016	0.375	0.187	0.150
		CNMA 332E	CNMA090408E						●							0.031	0.375	0.187	0.150
		CNMA 333E	CNMA090412E						●							0.047	0.375	0.187	0.150
		CNMA 334E	CNMA090416E						●							0.063	0.375	0.187	0.150
		CNMA 431	CNMA120404							●	●	●		●		0.016	0.500	0.187	0.203
		CNMA 432	CNMA120408	●				●	●	●	●	●	●	●	●	0.031	0.500	0.187	0.203
		CNMA 433	CNMA120412	●				●	●	●	●	●		●	●	0.047	0.500	0.187	0.203
		CNMA 434	CNMA120416	●						●	●	●		●	●	0.063	0.500	0.187	0.203
		CNMA 542	CNMA160608							●		●				0.031	0.625	0.250	0.250
		CNMA 543	CNMA160612						●	●	●	●				0.047	0.625	0.250	0.250
		CNMA 544	CNMA160616						●							0.063	0.625	0.250	0.250
		CNMA 643	CNMA190612						●		●	●				0.047	0.750	0.250	0.312
		CNMA 644	CNMA190616						●			●				0.063	0.750	0.250	0.312

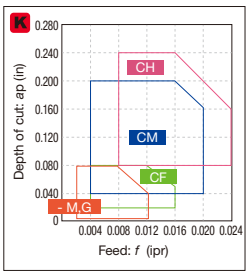
● : Line up

Chip control range









*-M,G: Without chipbreaker

Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

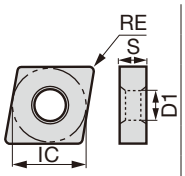
Insert NEGATIVE TYPE

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

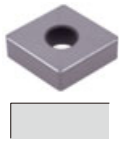
CN

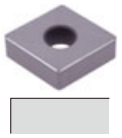
Rhombic, 80° with hole

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



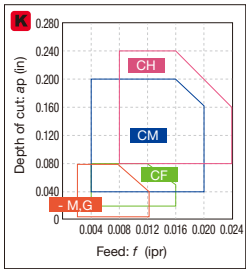
Application	Chipbreaker	Designation Inch	Designation Metric	NS520 (Cermet)	TZ120 (Ceramic)	FX105	CX710	LX10	LX11	LX21	RE (in)	IC (in)	S (in)	D1 (in)
Finishing to medium cutting	Wiper	CNMA 432 W	CNMA120408W			●					0.031	0.500	0.187	0.203
		CNMA 433 W	CNMA120412W			●					0.047	0.500	0.187	0.203
		CNMA 434 W	CNMA120416W			●					0.063	0.500	0.187	0.203
	-	CNGA 431	CNGA120404			●		●	▲	●	0.016	0.500	0.187	0.203
		CNGA 432	CNGA120408	●	●	●	●	●	▲	●	0.031	0.500	0.187	0.203
		CNGA 433	CNGA120412			●		●	▲	●	0.047	0.500	0.187	0.203
		CNGA 434	CNGA120416			●		●	▲		0.063	0.500	0.187	0.203
		CNGA 435	CNGA120420					●	▲		0.078	0.500	0.187	0.203





● : Line up
▲ : To be discontinued

Chip control range



*-M,G: Without chipbreaker

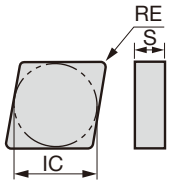
Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

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

CN

Rhombic, 80° without hole

		FX105	LX10	LX11	LX21	CX710	TS200	TS300
P	Steel							
M	Stainless							
K	Cast iron	◐				◐		
N	Non-ferrous							
S	Superalloy						●	●
H	Hard material		◐	◐	◐			

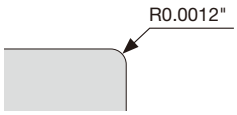


Application	Chipbreaker	Designation Inch	Designation Metric	FX105	LX10	LX11	LX21	CX710	TS200	TS300	RE (in)	IC (in)	S (in)	D1 (in)
Finishing to medium cutting	-	CNGD 453	CNGD120712	●							0.047	0.500	0.313	-
		CNGD 454	CNGD120716	●							0.063	0.500	0.313	-
	-	CNMN 432	CNMN120408	●							0.031	0.500	0.187	-
		CNMN 433	CNMN120412	●							0.047	0.500	0.187	-
		CNMN 434	CNMN120416	●							0.063	0.500	0.187	-
	-	CNGN 432-E	CNGN120408-E							●	0.031	0.500	0.187	-
		CNGN 433-E	CNGN120412-E							●	0.047	0.500	0.187	-
		CNGN 433-T1	CNGN120412-T1						●		0.047	0.500	0.187	-
		CNGN 431	CNGN120404		●	▲					0.016	0.500	0.187	-
		CNGN 432	CNGN120408	●	●	▲					0.031	0.500	0.187	-
		CNGN 433	CNGN120412	●	●	▲					0.047	0.500	0.187	-
		CNGN 434	CNGN120416	●	●	▲	●				0.063	0.500	0.187	-
		CNGN 435	CNGN120420	●							0.078	0.500	0.187	-
		CNGN 452-E	CNGN120708-E							●	0.031	0.500	0.313	-
		CNGN 453-E	CNGN120712-E						●	●	0.047	0.500	0.313	-
		CNGN 454-T1	CNGN120716-T1						●		0.063	0.500	0.313	
		CNGN 452	CNGN120708	●	●	▲					0.031	0.500	0.313	-
		CNGN 453	CNGN120712	●	●	▲					0.047	0.500	0.313	-
		CNGN 454	CNGN120716	●	●	▲					0.063	0.500	0.313	-
		CNGN 455	CNGN120720			▲					0.078	0.500	0.313	-

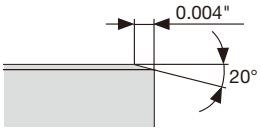
● : Line up
▲ : To be discontinued

Edge prep

E: Low cutting force



T1: Strong cutting edge



Reference pages: CNGD...: External toolholder → C027

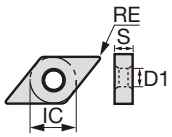
Insert NEGATIVE TYPE

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

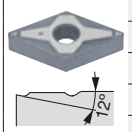
DN

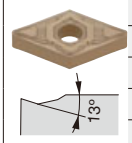
Rhombic, 55° with hole

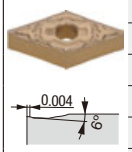
		T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH120	GT9530	AT9530	NS9530	TH10
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ			ⓒ✠	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●		ⓒ	●ⓒ	●ⓒ				●
K	Cast iron	●ⓒ	●ⓒ				●ⓒ			●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous													●
S	Superalloy							ⓒ		●ⓒ				
H	Hard material													

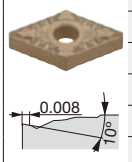


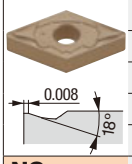
Application	Chipbreaker	Designation Inch	Designation Metric	Coated									Coated cermet		Cermet		Uncoated	Dimension (in)			
				T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH120	GT9530	AT9530	NS9530		TH10	RE	IC	S	D1
Finishing	TF	DNMG 330.5E TF	DNMG110402E-TF		●	●		●		●	●				●			0.008	0.375	0.187	0.150
		DNMG 331E TF	DNMG110404E-TF		●	●		●		●	●				●			0.016	0.375	0.187	0.150
		DNMG 332E TF	DNMG110408E-TF		●	●		●		●	●				●			0.031	0.375	0.187	0.150
		DNMG 430.5 TF	DNMG150402-TF		●	●		●		●	●				●			0.008	0.500	0.187	0.203
		DNMG 431 TF	DNMG150404-TF		●	●		●		●	●				●		●	0.016	0.500	0.187	0.203
		DNMG 432 TF	DNMG150408-TF		●	●		●		●	●				●			0.031	0.500	0.187	0.203
	TSF	DNMG 330.5E TSF	DNMG110402E-TSF		●	●		●		●	●	●	●		●			0.008	0.375	0.187	0.150
		DNMG 331E TSF	DNMG110404E-TSF		●	●	●	●		●	●	●	●	●	●			0.016	0.375	0.187	0.150
		DNMG 332E TSF	DNMG110408E-TSF		●	●	●	●		●	●	●	●	●	●			0.031	0.375	0.187	0.150
		DNMG 333E TSF	DNMG110412E-TSF		●	●				●		●	●	●	●			0.047	0.375	0.187	0.150
		DNMG 430.5 TSF	DNMG150402-TSF		●	●		●		●	●				●			0.008	0.500	0.187	0.203
		DNMG 431 TSF	DNMG150404-TSF	●	●	●	●	●	●	●	●	●	●	●	●			0.016	0.500	0.187	0.203
		DNMG 432 TSF	DNMG150408-TSF	●	●	●	●	●	●	●	●	●	●	●	●			0.031	0.500	0.187	0.203
		DNMG 433 TSF	DNMG150412-TSF	●	●	●	●	●	●	●	●	●			●			0.047	0.500	0.187	0.203
		DNMG 440.5 TSF	DNMG150602-TSF		●	●		●		●	●				●			0.008	0.500	0.250	0.203
		DNMG 441 TSF	DNMG150604-TSF		●	●		●		●	●		●	●	●			0.016	0.500	0.250	0.203
		DNMG 442 TSF	DNMG150608-TSF	●	●	●	●	●		●	●		●	●	●			0.031	0.500	0.250	0.203
		DNMG 443 TSF	DNMG150612-TSF	●	●	●	●	●		●	●				●			0.047	0.500	0.250	0.203
	PS	DNMG 330.5E PS	DNMG110402E-PS		●	●		●		●	●				●			0.008	0.375	0.187	0.150
		DNMG 331E PS	DNMG110404E-PS		●	●		●		●	●				●			0.016	0.375	0.187	0.150
		DNMG 332E PS	DNMG110408E-PS		●	●		●		●	●				●			0.031	0.375	0.187	0.150
		DNMG 430.5 PS	DNMG150402-PS		●	●		●		●	●				●			0.008	0.500	0.187	0.203
		DNMG 431 PS	DNMG150404-PS		●	●		●		●	●				●			0.016	0.500	0.187	0.203
		DNMG 432 PS	DNMG150408-PS		●	●		●		●	●				●			0.031	0.500	0.187	0.203
		DNMG 433 PS	DNMG150412-PS		●	●		●		●	●				●			0.047	0.500	0.187	0.203
		DNMG 440.5 PS	DNMG150602-PS		●	●		●		●	●				●			0.008	0.500	0.250	0.203
		DNMG 441 PS	DNMG150604-PS		●	●		●		●	●				●			0.016	0.500	0.250	0.203
		DNMG 442 PS	DNMG150608-PS		●	●		●		●	●				●			0.031	0.500	0.250	0.203
		DNMG 443 PS	DNMG150612-PS		●	●		●		●	●				●			0.047	0.500	0.250	0.203
Finishing for mild steel	ZF	DNMG 330.5E ZF	DNMG110402E-ZF		●	●		●		●	●				●			0.008	0.375	0.187	0.150
		DNMG 331E ZF	DNMG110404E-ZF		●	●		●		●	●				●			0.016	0.375	0.187	0.150
		DNMG 332E ZF	DNMG110408E-ZF		●	●		●		●	●				●			0.031	0.375	0.187	0.150
		DNMG 430.5 ZF	DNMG150402-ZF		●	●		●		●	●				●			0.008	0.500	0.187	0.203
		DNMG 431 ZF	DNMG150404-ZF		●	●	●	●		●	●		●	●	●			0.016	0.500	0.187	0.203
		DNMG 432 ZF	DNMG150408-ZF		●	●	●	●		●	●		●	●	●			0.031	0.500	0.187	0.203
		DNMG 433 ZF	DNMG150412-ZF		●	●	●	●		●	●				●			0.047	0.500	0.187	0.203
		DNMG 440.5 ZF	DNMG150602-ZF		●	●		●		●	●				●			0.008	0.500	0.187	0.203
		DNMG 441 ZF	DNMG150604-ZF		●	●		●		●	●				●			0.016	0.500	0.250	0.203
		DNMG 442 ZF	DNMG150608-ZF		●	●	●	●		●	●				●			0.031	0.500	0.250	0.203
		DNMG 443 ZF	DNMG150612-ZF		●	●		●		●	●				●			0.047	0.500	0.250	0.203
Finishing	AS	DNMG 431 AS	DNMG150404-AS		●		●								●			0.016	0.500	0.187	0.203
		DNMG 432 AS	DNMG150408-AS		●	●	●								●			0.031	0.500	0.187	0.203
		DNMG 433 AS	DNMG150412-AS		●	●	●											0.047	0.500	0.187	0.203
		DNMG 441 AS	DNMG150604-AS		●													0.016	0.500	0.250	0.203
		DNMG 442 AS	DNMG150608-AS		●	●												0.031	0.500	0.250	0.203
		DNMG 443 AS	DNMG150612-AS		●													0.047	0.500	0.250	0.203
	NS	DNMG 431 NS	DNMG150404-NS			●									●			0.016	0.500	0.187	0.203
		DNMG 432 NS	DNMG150408-NS	●	●	●									●			0.031	0.500	0.187	0.203

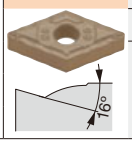












Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

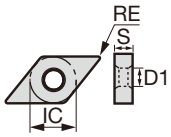
●: Line up

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

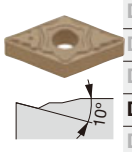
DN

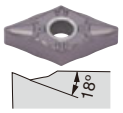
Rhombic, 55° with hole

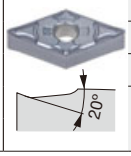
		T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530	NS9530	NS520	KS20
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ			ⓒ✠	✠	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	
M	Stainless		●ⓒ			●	●	ⓒ	●ⓒ	✠	●ⓒ	●ⓒ					
K	Cast iron	●ⓒ	●ⓒ								●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	ⓒ✠
N	Non-ferrous																ⓒ✠
S	Superalloy						●	ⓒ			●ⓒ						ⓒ✠
H	Hard material																



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530	NS9530	NS520	KS20	RE	IC	S	D1
				Coated											Coated cermet		Cermet		Uncoated	Dimension (in)			
Finishing	TS	DNMG 330.5E TS	DNMG110402E-TS		●	●		●		●	●				●		●			0.008	0.375	0.187	0.150
		DNMG 331E TS	DNMG110404E-TS		●	●		●		●	●				●		●			0.016	0.375	0.187	0.150
		DNMG 332E TS	DNMG110408E-TS		●	●		●		●	●				●		●			0.031	0.375	0.187	0.150
		DNMG 430.5 TS	DNMG150402-TS		●	●		●		●	●						●			0.008	0.500	0.187	0.203
		DNMG 431 TS	DNMG150404-TS		●	●	●	●		●	●				●	●	●	●		0.016	0.500	0.187	0.203
		DNMG 432 TS	DNMG150408-TS	●	●	●	●	●		●	●				●	●	●	●		0.031	0.500	0.187	0.203
		DNMG 433 TS	DNMG150412-TS	●	●	●	●	●		●	●						●			0.047	0.500	0.187	0.203
		DNMG 440.5 TS	DNMG150602-TS		●	●		●		●	●						●			0.008	0.500	0.250	0.203
		DNMG 441 TS	DNMG150604-TS		●	●		●		●	●				●	●	●	●		0.016	0.500	0.250	0.203
		DNMG 442 TS	DNMG150608-TS		●	●		●		●	●				●	●	●	●		0.031	0.500	0.250	0.203
		DNMG 443 TS	DNMG150612-TS		●	●		●		●	●						●			0.047	0.500	0.250	0.203
	SF	DNMG 431 SF	DNMG150404-SF					●			●									0.016	0.500	0.187	0.203
		DNMG 432 SF	DNMG150408-SF					●			●									0.031	0.500	0.187	0.203
		DNMG 441 SF	DNMG150604-SF					●			●									0.016	0.500	0.250	0.203
		DNMG 442 SF	DNMG150608-SF					●			●									0.031	0.500	0.250	0.203
	SS	DNMG 331E SS	DNMG110404E-SS								●	●								0.016	0.375	0.187	0.150
		DNMG 332E SS	DNMG110408E-SS								●	●								0.031	0.375	0.187	0.150
		DNMG 431 SS	DNMG150404-SS					●			●	●		●						0.016	0.500	0.187	0.203
		DNMG 432 SS	DNMG150408-SS					●			●	●		●					●	0.031	0.500	0.187	0.203
		DNMG 433 SS	DNMG150412-SS					●			●	●		●						0.047	0.500	0.187	0.203
		DNMG 441 SS	DNMG150604-SS					●			●	●	●	●						0.016	0.500	0.250	0.203
		DNMG 442 SS	DNMG150608-SS					●			●	●	●	●						0.031	0.500	0.250	0.203
		DNMG 443 SS	DNMG150612-SS					●			●	●								0.047	0.500	0.250	0.203
	HRF	DNMG 431 HRF	DNMG150404-HRF						●	●										0.016	0.500	0.187	0.203
		DNMG 432 HRF	DNMG150408-HRF						●	●										0.031	0.500	0.187	0.203
		DNMG 441 HRF	DNMG150604-HRF						●	●										0.016	0.500	0.250	0.203
		DNMG 442 HRF	DNMG150608-HRF						●	●										0.031	0.500	0.250	0.203

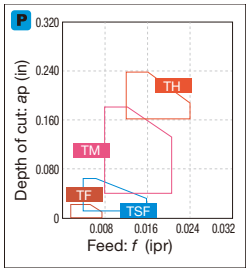


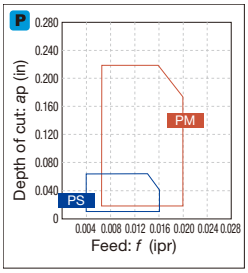


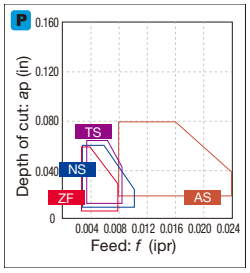


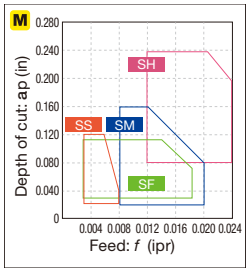
● : Line up

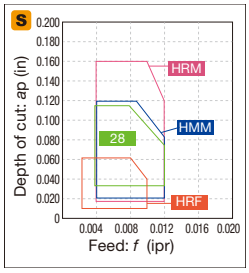
Chip control range











Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

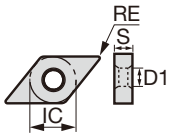
Insert NEGATIVE TYPE

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

DN

Rhombic, 55° with hole

		T9215	T5105	T5115	GH330	GH110	GT9530	GT720	NS9530	NS520	TH10
P	Steel	◐			◐	●	◐	◐	◐	◐	●
M	Stainless	◐			◐	●					●
K	Cast iron	◐	●	◐	◐	●	◐	◐	◐	◐	●
N	Non-ferrous										●
S	Superalloy					●					
H	Hard material										

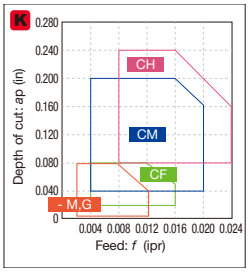


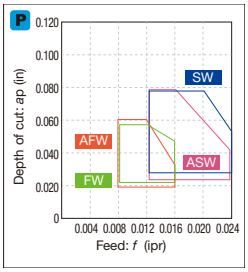
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T5105	T5115	GH330	GH110	GT9530	GT720	NS9530	NS520	TH10	RE	IC	S	D1
				Coated					Coated cermet		Cermet		Uncoated	Dimension (in)			
Finishing	CF	DNMG 431 CF	DNMG150404-CF		●	●								0.016	0.500	0.187	0.203
		DNMG 432 CF	DNMG150408-CF		●	●								0.031	0.500	0.187	0.203
		DNMG 433 CF	DNMG150412-CF		●	●								0.047	0.500	0.187	0.203
		DNMG 441 CF	DNMG150604-CF		●	●								0.016	0.500	0.250	0.203
		DNMG 442 CF	DNMG150608-CF			●								0.031	0.500	0.250	0.203
Finishing (wiper)	FW	DNMG 331E FW	DNMG110404E-FW	●										0.016	0.375	0.187	0.150
		DNMG 332E FW	DNMG110408E-FW	●										0.031	0.375	0.187	0.150
		DNMG 431 FW	DNMG150404-FW	●										0.016	0.500	0.187	0.203
		DNMG 432 FW	DNMG150408-FW	●										0.031	0.500	0.187	0.203
		DNMG 441 FW	DNMG150604-FW	●										0.016	0.500	0.250	0.203
		DNMG 442 FW	DNMG150608-FW	●										0.031	0.500	0.250	0.203
	*Wiper																
Finishing	01	DNGG 330.5-01	DNGG110402-01								●			0.008	0.375	0.187	0.150
		DNGG 331-01	DNGG110404-01								●	●		0.016	0.375	0.187	0.150
		DNGG 332-01	DNGG110408-01							●	●			0.031	0.375	0.187	0.150
		DNGG 430.5-01	DNGG150402-01								●	●	●	0.008	0.500	0.187	0.203
		DNGG 431-01	DNGG150404-01					●			●	●	●	0.016	0.500	0.187	0.203
		DNGG 432-01	DNGG150408-01					●			●	●	●	0.031	0.500	0.187	0.203
	11	DNMG 331-11	DNMG110404-11								●			0.016	0.375	0.187	0.150
		DNMG 332-11	DNMG110408-11								●			0.031	0.375	0.187	0.150
		DNMG 431-11	DNMG150404-11				●				●		●	0.016	0.500	0.187	0.203
		DNMG 432-11	DNMG150408-11	●							●			0.031	0.500	0.187	0.203
Finishing for mild steel	17	DNMG 431-17	DNMG150404-17								●			0.016	0.500	0.187	0.203
		DNMG 432-17	DNMG150408-17								●			0.031	0.500	0.187	0.203
Boring (double sided)	CB	DNMG 331 CB	DNMG110404-CB						●		●			0.016	0.375	0.187	0.150
		DNMG 332 CB	DNMG110408-CB	●					●		●			0.031	0.375	0.187	0.150

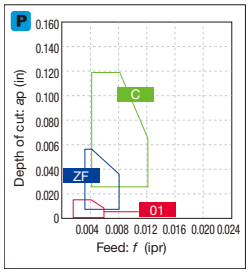
* Please see L011 - L015 about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

● : Line up

Chip control range







*-M,G: Without chipbreaker

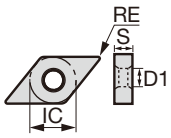
Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

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

DN

Rhombic, 55° with hole

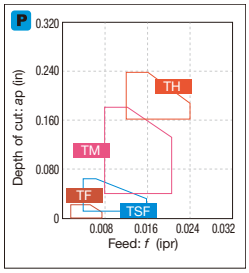
		T9205	T9215	T9225	T9235	T6215	T5125	T515	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120	GT9530	NS9530
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ					ⓒ✠	✠	ⓒ	●	●ⓒ	●ⓒ	●ⓒ
M	Stainless		●ⓒ			●			●	ⓒ	●ⓒ	✠	ⓒ	●	●ⓒ		
K	Cast iron	●ⓒ	●ⓒ				✠	●ⓒ					ⓒ	●	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous																
S	Superalloy								●	ⓒ			●	●	●ⓒ		
H	Hard material																

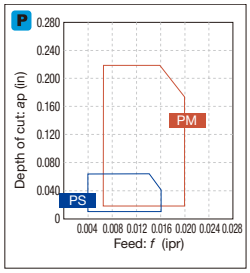


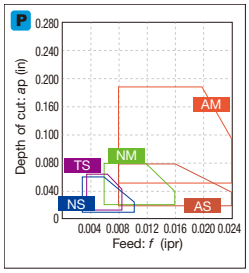
Application	Chipbreaker	Designation Inch	Designation Metric	RE	IC	S	D1
Medium cutting	TM	DNMG 331E TM	DNMG110404E-TM	0.016	0.375	0.187	0.150
		DNMG 332E TM	DNMG110408E-TM	0.031	0.375	0.187	0.150
		DNMG 333E TM	DNMG110412E-TM	0.047	0.375	0.187	0.150
		DNMG 331 TM	DNMG110404-TM	0.016	0.375	0.187	0.150
		DNMG 332 TM	DNMG110408-TM	0.031	0.375	0.187	0.150
		DNMG 431 TM	DNMG150404-TM	0.016	0.500	0.187	0.203
		DNMG 432 TM	DNMG150408-TM	0.031	0.500	0.187	0.203
		DNMG 433 TM	DNMG150412-TM	0.047	0.500	0.187	0.203
		DNMG 434 TM	DNMG150416-TM	0.063	0.500	0.187	0.203
		DNMG 441 TM	DNMG150604-TM	0.016	0.500	0.250	0.203
		DNMG 442 TM	DNMG150608-TM	0.031	0.500	0.250	0.203
		DNMG 443 TM	DNMG150612-TM	0.047	0.500	0.250	0.203
		DNMG 444 TM	DNMG150616-TM	0.063	0.500	0.250	0.203
	PM	DNMG 331E PM	DNMG110404E-PM	0.016	0.375	0.187	0.150
		DNMG 332E PM	DNMG110408E-PM	0.031	0.375	0.187	0.150
		DNMG 333E PM	DNMG110412E-PM	0.047	0.375	0.187	0.150
		DNMG 431 PM	DNMG150404-PM	0.016	0.500	0.187	0.203
		DNMG 432 PM	DNMG150408-PM	0.031	0.500	0.187	0.203
		DNMG 433 PM	DNMG150412-PM	0.047	0.500	0.187	0.203
		DNMG 434 PM	DNMG150416-PM	0.063	0.500	0.187	0.203
		DNMG 441 PM	DNMG150604-PM	0.016	0.500	0.250	0.203
		DNMG 442 PM	DNMG150608-PM	0.031	0.500	0.250	0.203
		DNMG 443 PM	DNMG150612-PM	0.047	0.500	0.250	0.203
		DNMG 444 PM	DNMG150616-PM	0.063	0.500	0.250	0.203
Medium cutting for mild steel	ZM	DNMG 331E ZM	DNMG110404E-ZM	0.016	0.375	0.187	0.150
		DNMG 332E ZM	DNMG110408E-ZM	0.031	0.375	0.187	0.150
		DNMG 333E ZM	DNMG110412E-ZM	0.047	0.375	0.187	0.150
		DNMG 431 ZM	DNMG150404-ZM	0.016	0.500	0.187	0.203
		DNMG 432 ZM	DNMG150408-ZM	0.031	0.500	0.187	0.203
		DNMG 433 ZM	DNMG150412-ZM	0.047	0.500	0.187	0.203
		DNMG 434 ZM	DNMG150416-ZM	0.063	0.500	0.187	0.203
		DNMG 441 ZM	DNMG150604-ZM	0.016	0.500	0.250	0.203
		DNMG 442 ZM	DNMG150608-ZM	0.031	0.500	0.250	0.203
		DNMG 443 ZM	DNMG150612-ZM	0.047	0.500	0.250	0.203
		DNMG 444 ZM	DNMG150616-ZM	0.063	0.500	0.250	0.203
Medium cutting	AM	DNMG 432 AM	DNMG150408-AM	0.031	0.500	0.187	0.203
		DNMG 433 AM	DNMG150412-AM	0.047	0.500	0.187	0.203
		DNMG 434 AM	DNMG150416-AM	0.063	0.500	0.187	0.203
		DNMG 442 AM	DNMG150608-AM	0.031	0.500	0.250	0.203
		DNMG 443 AM	DNMG150612-AM	0.047	0.500	0.250	0.203
		DNMG 444 AM	DNMG150616-AM	0.063	0.500	0.250	0.203

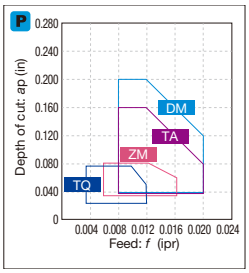
● : Line up

Chip control range









Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

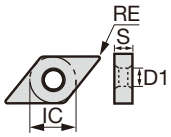
Insert NEGATIVE TYPE

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

DN

Rhombic, 55° with hole

		T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH110	AH120	GT9530		NS9530	NS520	TH10
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ								ⓒ✠	✠	●	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●						●	ⓒ	●ⓒ	✠	●	●ⓒ					●
K	Cast iron	●ⓒ	●ⓒ				●	●ⓒ	●	ⓒ	✠					●	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●
N	Non-ferrous																					●
S	Superalloy											●	ⓒ			●	●ⓒ					
H	Hard material																					



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH110	AH120	GT9530		NS9530	NS520	TH10	RE	IC	S	D1
				Coated																Coated cermet		Cermet		Uncoated	Dimension (in)			
Medium cutting	**NM**	**DNMG 432 NM**	**DNMG150408-NM**		●	●	●													●		●			0.031	0.500	0.187	0.203
		DNMG 433 NM	DNMG150412-NM	●	●	●	●																		0.047	0.500	0.187	0.203
		DNMG 442 NM	**DNMG150608-NM**																	●		●			0.031	0.500	0.250	0.203
	DM	**DNMG 431 DM**	**DNMG150404-DM**		●	●		●							●	●									0.016	0.500	0.187	0.203
		DNMG 432 DM	DNMG150408-DM		●	●	●	●							●	●									0.031	0.500	0.187	0.203
		DNMG 433 DM	DNMG150412-DM	●	●	●	●	●							●	●									0.047	0.500	0.187	0.203
		DNMG 434 DM	DNMG150416-DM		●	●		●							●	●									0.063	0.500	0.187	0.203
		DNMG 441 DM	**DNMG150604-DM**		●	●		●							●	●									0.016	0.500	0.250	0.203
		DNMG 442 DM	DNMG150608-DM		●	●	●	●							●	●									0.031	0.500	0.250	0.203
		DNMG 443 DM	DNMG150612-DM	●	●	●	●	●							●	●									0.047	0.500	0.250	0.203
		DNMG 444 DM	DNMG150616-DM	●	●	●		●							●	●									0.063	0.500	0.250	0.203
Finishing to medium cutting	**All-round**	**DNMG 331**	**DNMG110404**		●	●					●	●	●							●		●			0.016	0.375	0.187	0.150
		DNMG 332	DNMG110408	●	●	●	●				●	●	●							●		●			0.031	0.375	0.187	0.150
		DNMG 431	**DNMG150404**		●	●	●				●	●	●					●	●	●		●	●	●	0.016	0.500	0.187	0.203
		DNMG 432	DNMG150408	●	●	●	●		●	●	●	●	●					●	●	●		●	●	●	0.031	0.500	0.187	0.203
		DNMG 433	DNMG150412	●	●	●	●		●	●	●	●	●					●	●			●	●	●	0.047	0.500	0.187	0.203
		DNMG 434	DNMG150416		●	●					●	●	●												0.063	0.500	0.187	0.203
		DNMG 441	**DNMG150604**		●	●					●	●												●	0.016	0.500	0.250	0.203
		DNMG 442	DNMG150608	●	●	●	●		●	●	●	●	●											●	0.031	0.500	0.250	0.203
		DNMG 443	DNMG150612	●	●	●	●		●	●		●	●											●	0.047	0.500	0.250	0.203
		DNMG 444	DNMG150616		●	●																			0.063	0.500	0.250	0.203
Medium cutting	**SM**	**DNMG 331E SM**	**DNMG110404E-SM**					●								●									0.016	0.375	0.187	0.150
		DNMG 332E SM	DNMG110408E-SM					●								●									0.031	0.375	0.187	0.150
		DNMG 431 SM	**DNMG150404-SM**					●								●	●								0.016	0.500	0.187	0.203
		DNMG 432 SM	DNMG150408-SM					●								●	●								0.031	0.500	0.187	0.203
		DNMG 433 SM	DNMG150412-SM					●								●	●								0.047	0.500	0.187	0.203
		DNMG 441 SM	**DNMG150604-SM**					●								●	●								0.016	0.500	0.250	0.203
		DNMG 442 SM	DNMG150608-SM					●								●	●								0.031	0.500	0.250	0.203
		DNMG 443 SM	DNMG150612-SM					●								●	●								0.047	0.500	0.250	0.203
	SDM	**DNMG 431 SDM**	**DNMG150404-SDM**					●						●	●	●	●								0.016	0.500	0.187	0.203
		DNMG 432 SDM	DNMG150408-SDM					●						●	●	●	●								0.031	0.500	0.187	0.203
		DNMG 433 SDM	DNMG150412-SDM					●								●	●								0.047	0.500	0.187	0.203
		DNMG 441 SDM	**DNMG150604-SDM**					●								●	●								0.016	0.500	0.250	0.203
		DNMG 442 SDM	DNMG150608-SDM					●						●	●	●	●								0.031	0.500	0.250	0.203
		DNMG 443 SDM	DNMG150612-SDM					●						●	●	●	●								0.047	0.500	0.250	0.203
	HRM	**DNMG 431 HRM**	**DNMG150404-HRM**											●	●										0.016	0.500	0.250	0.203
		DNMG 432 HRM	DNMG150408-HRM											●	●										0.031	0.500	0.187	0.203
		DNMG 433 HRM	DNMG150412-HRM											●	●										0.047	0.500	0.187	0.203
		DNMG 441 HRM	**DNMG150604-HRM**											●	●										0.016	0.500	0.187	0.203
		DNMG 442 HRM	DNMG150608-HRM											●	●										0.031	0.500	0.250	0.203
		DNMG 443 HRM	DNMG150612-HRM											●	●										0.047	0.500	0.250	0.203

● : Line up

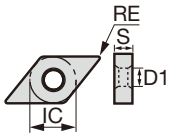
Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

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

DN

Rhombic, 55° with hole

		T9205	T9215	T9225	T6215	T505	T515	T5105	T5115	T5125	AH905	AH120	GT9530	AT9530	NS9530
P	Steel	●	●ⓒ	ⓒ✠	ⓒ							●ⓒ	●ⓒ	●ⓒ	●ⓒ
M	Stainless		●ⓒ		●							●ⓒ			
K	Cast iron	●ⓒ	●ⓒ			●	●ⓒ	●	ⓒ	✠		●ⓒ	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous														
S	Superalloy										ⓒ	●ⓒ			
H	Hard material														

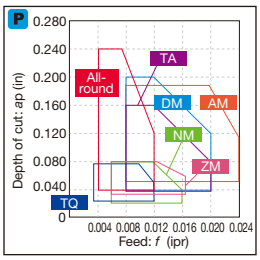


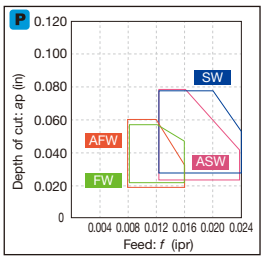
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T6215	T505	T515	T5105	T5115	T5125	AH905	AH120	GT9530	AT9530	NS9530	RE	IC	S	D1
				Coated											Coated cermet		Cermet	Dimension (in)			
Medium cutting	CM	DNMG 431 CM	DNMG150404-CM	●	●		●	●	●	●	●	●						0.016	0.500	0.187	0.203
		DNMG 432 CM	DNMG150408-CM	●	●		●	●	●	●	●	●						0.031	0.500	0.187	0.203
		DNMG 433 CM	DNMG150412-CM	●	●		●	●	●	●	●	●						0.047	0.500	0.187	0.203
		DNMG 441 CM	DNMG150604-CM	●	●		●	●	●		●	●						0.016	0.500	0.250	0.203
		DNMG 442 CM	DNMG150608-CM	●	●		●	●	●	●	●	●						0.031	0.500	0.250	0.203
		DNMG 443 CM	DNMG150612-CM	●	●		●	●	●	●	●	●						0.047	0.500	0.250	0.203
Finishing (wiper)	SW	DNMG 332E SW	DNMG110408E-SW		●													0.031	0.375	0.187	0.150
		DNMG 333E SW	DNMG110412E-SW		●													0.047	0.375	0.187	0.150
		DNMG 432 SW	DNMG150408-SW		●													0.031	0.500	0.187	0.203
		DNMG 433 SW	DNMG150412-SW		●													0.047	0.500	0.187	0.203
		DNMG 442 SW	DNMG150608-SW		●													0.031	0.500	0.250	0.203
		DNMG 443 SW	DNMG150612-SW		●													0.047	0.500	0.250	0.203
		*Wiper																			
Medium cutting	TQ	DNMG 431 TQ	DNMG150404-TQ		●	●									●	●	●	0.016	0.500	0.187	0.203
		DNMG 432 TQ	DNMG150408-TQ		●	●									●	●	●	0.031	0.500	0.187	0.203
	SA	DNMG 431 SA	DNMG150404-SA									●						0.016	0.500	0.187	0.203
		DNMG 432 SA	DNMG150408-SA									●						0.031	0.500	0.187	0.203
		DNMG 441 SA	DNMG150604-SA									●						0.016	0.500	0.250	0.203
		DNMG 442 SA	DNMG150608-SA									●						0.031	0.500	0.250	0.203
	HMM	DNMG 431 HMM	DNMG150404-HMM								●							0.016	0.500	0.187	0.203
		DNMG 432 HMM	DNMG150408-HMM								●							0.031	0.500	0.187	0.203
		DNMG 433 HMM	DNMG150412-HMM								●							0.047	0.500	0.187	0.203

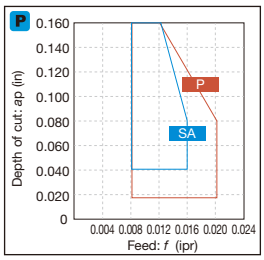
* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

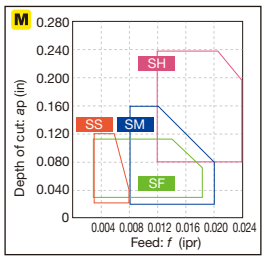
● : Line up

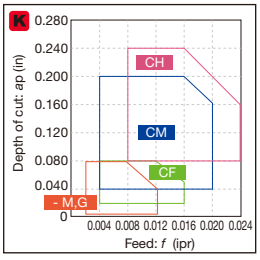
Chip control range

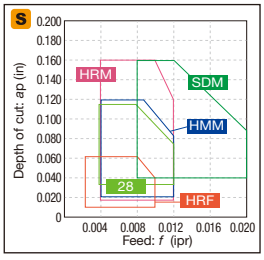












Reference pages: External toolholder → C036 -
Internal toolholder → D042 -
J-Series toolholder → G052
TungCap → K011 -

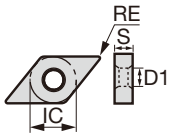
Insert NEGATIVE TYPE

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

DN

Rhombic, 55° with hole

		T9215	T9225	T9235	AH8005	AH8015	AH6225	AH6235	AH110	AH120	GH110	GH330	GT9530			NS9530			TH10	KS05F
		Coated											Coated cermet			Cermet			Uncoated	
P	Steel	●ⓒ	ⓒ✠	✠			ⓒ✠	✠	●	●ⓒ	●	●ⓒ	●ⓒ			●ⓒ			●	
M	Stainless	●ⓒ			●	ⓒ	●ⓒ	✠	●	●ⓒ	●	●ⓒ							●	
K	Cast iron	●ⓒ							●	●ⓒ	●	●ⓒ	●ⓒ			●ⓒ			●	●
N	Non-ferrous																		●	●
S	Superalloy				●	ⓒ			●	●ⓒ	●									●
H	Hard material																			



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T9235	AH8005	AH8015	AH6225	AH6235	AH110	AH120	GH110	GH330	GT9530			NS9530			TH10	KS05F	RE	IC	S	D1
Medium cutting	P	DNGG 430.5 R-P	DNGG150402R-P										●								●		0.008	0.500	0.187	0.203
		DNGG 430.5 L-P	DNGG150402L-P										●								●		0.008	0.500	0.187	0.203
		DNGG 431 R-P	DNGG150404R-P										●								●		0.016	0.500	0.187	0.203
		DNGG 431 L-P	DNGG150404L-P										●								●		0.016	0.500	0.187	0.203
		DNGG 432 R-P	DNGG150408R-P																		●		0.031	0.500	0.187	0.203
		DNGG 432 L-P	DNGG150408L-P																		●		0.031	0.500	0.187	0.203
	S	DNMG 431 R-S	DNMG150404R-S		●	●			●	●				●				●					0.016	0.500	0.187	0.203
		DNMG 431 L-S	DNMG150404L-S		●	●			●	●				●				●					0.016	0.500	0.187	0.203
		DNMG 432 R-S	DNMG150408R-S		●	●			●	●				●				●					0.031	0.500	0.187	0.203
		DNMG 432 L-S	DNMG150408L-S		●	●			●	●				●				●					0.031	0.500	0.187	0.203
		DNMG 441 R-S	DNMG150604R-S		●	●			●	●													0.016	0.500	0.250	0.203
		DNMG 441 L-S	DNMG150604L-S		●	●			●	●													0.016	0.500	0.250	0.203
		DNMG 442 R-S	DNMG150608R-S		●	●			●	●				●									0.031	0.500	0.250	0.203
		DNMG 442 L-S	DNMG150608L-S		●	●			●	●													0.031	0.500	0.250	0.203
	27	DNMG 431-27	DNMG150404-27		●													●					0.016	0.500	0.187	0.203
		DNMG 432-27	DNMG150408-27	●	●													●					0.031	0.500	0.187	0.203
		DNMG 433-27	DNMG150412-27		●																		0.047	0.500	0.187	0.203
	28	DNMG 431-28	DNMG150404-28				●	●			●	●										●	0.016	0.500	0.187	0.203
		DNMG 432-28	DNMG150408-28				●	●			●	●										●	0.031	0.500	0.187	0.203
		DNMG 441-28	DNMG150604-28				●	●														●	0.016	0.500	0.250	0.203
		DNMG 442-28	DNMG150608-28				●	●														●	0.031	0.500	0.250	0.203
	33	DNMG 431-33	DNMG150404-33								●												0.016	0.500	0.187	0.203
		DNMG 432-33	DNMG150408-33								●										●		0.031	0.500	0.187	0.203
	37	DNMG 431-37	DNMG150404-37															●					0.016	0.500	0.187	0.203
		DNMG 432-37	DNMG150408-37											●				●					0.031	0.500	0.187	0.203
		DNMG 442-37	DNMG150608-37	●																			0.031	0.500	0.250	0.203
	38	DNMG 433-38	DNMG150412-38	●																			0.047	0.500	0.187	0.203
	Parallel	DNGG 431 R	DNGG150404R												●			●					0.016	0.500	0.187	0.203
		DNGG 431 L	DNGG150404L												●			●					0.016	0.500	0.187	0.203
		DNGG 432 R	DNGG150408R															●					0.031	0.500	0.187	0.203
		DNGG 432 L	DNGG150408L															●					0.031	0.500	0.187	0.203

● : Line up

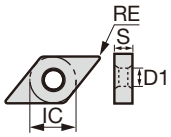
Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

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

DN

Rhombic, 55° with hole

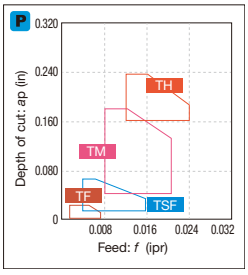
		T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH6235	AH120	GT720	NS520	TH10
P	Steel	●ⓒ	ⓒ✠	✠							ⓒ✠	✠	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless	●ⓒ								ⓒ	●ⓒ	✠	●ⓒ			●
K	Cast iron	●ⓒ			●	●ⓒ	●	ⓒ	✠				●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous															●
S	Superalloy									ⓒ			●ⓒ			
H	Hard material															

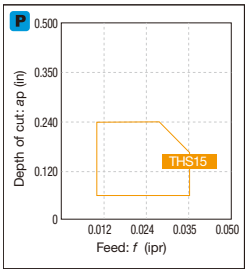


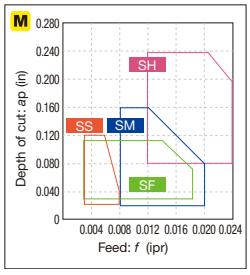
Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH6235	AH120	Coated cermet GT720	Cermet NS520	Uncoated TH10	RE	IC	S	D1
Medium to heavy cutting	TH	DNMG 432 TH	DNMG150408-TH	●	●	●		●				●			●				0.031	0.500	0.187	0.203
		DNMG 433 TH	DNMG150412-TH	●	●	●		●				●			●				0.047	0.500	0.187	0.203
		DNMG 434 TH	DNMG150416-TH	●	●														0.063	0.500	0.187	0.203
		DNMG 442 TH	DNMG150608-TH	●	●	●									●				0.031	0.500	0.250	0.203
		DNMG 443 TH	DNMG150612-TH	●	●	●									●				0.047	0.500	0.250	0.203
		DNMG 444 TH	DNMG150616-TH	●	●	●													0.063	0.500	0.250	0.203
	THS	DNMG 432 THS	DNMG150408-THS	●	●	●													0.031	0.500	0.187	0.203
		DNMG 433 THS	DNMG150412-THS	●	●	●													0.047	0.500	0.187	0.203
		DNMG 434 THS	DNMG150416-THS	●	●														0.063	0.500	0.187	0.203
		DNMG 442 THS	DNMG150608-THS	●	●	●													0.031	0.500	0.250	0.203
		DNMG 443 THS	DNMG150612-THS	●	●	●													0.047	0.500	0.250	0.203
		DNMG 444 THS	DNMG150616-THS	●	●														0.063	0.500	0.250	0.203
	SH	DNMG 432 SH	DNMG150408-SH										●	●					0.031	0.500	0.187	0.203
		DNMG 433 SH	DNMG150412-SH										●	●					0.047	0.500	0.187	0.203
		DNMG 434 SH	DNMG150416-SH										●	●					0.063	0.500	0.187	0.203
		DNMG 442 SH	DNMG150608-SH										●	●					0.031	0.500	0.250	0.203
		DNMG 443 SH	DNMG150612-SH										●	●					0.047	0.500	0.250	0.203
	CH	DNMG 431 CH	DNMG150404-CH							●	●								0.016	0.500	0.187	0.203
		DNMG 432 CH	DNMG150408-CH					●	●	●	●								0.031	0.500	0.187	0.203
		DNMG 433 CH	DNMG150412-CH					●		●	●								0.047	0.500	0.187	0.203
		DNMG 442 CH	DNMG150608-CH							●	●								0.031	0.500	0.250	0.203
		DNMG 443 CH	DNMG150612-CH						●										0.047	0.500	0.250	0.203
Medium to heavy cutting (single side)	57	DNMM 442-57	DNMM150608-57		●														0.031	0.500	0.250	0.203
		DNMM 443-57	DNMM150612-57		●														0.047	0.500	0.250	0.203
Finishing to medium cutting	-	DNMA 331E	DNMA110404E					●											0.016	0.375	0.187	0.150
		DNMA 332E	DNMA110408E					●											0.031	0.375	0.187	0.150
		DNMA 333E	DNMA110412E					●											0.047	0.375	0.187	0.150
		DNMA 431	DNMA150404				●	●	●	●	●					●	●	●	0.016	0.500	0.187	0.203
		DNMA 432	DNMA150408				●	●	●	●	●							●	0.031	0.500	0.187	0.203
		DNMA 433	DNMA150412						●	●	●								0.047	0.500	0.187	0.203
		DNMA 441	DNMA150604				●	●											0.016	0.500	0.250	0.203
		DNMA 442	DNMA150608				●	●	●	●									0.031	0.500	0.250	0.203
		DNMA 443	DNMA150612						●	●	●								0.047	0.500	0.250	0.203

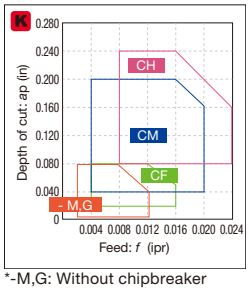
● : Line up

Chip control range









*-M,G: Without chipbreaker

Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

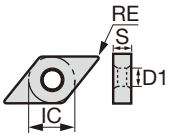
Insert NEGATIVE TYPE

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

DN

Rhombic, 55° with hole

		NS520 (Cermet)			TH10 (Uncoated)			FX105 (Ceramic)	LX10 (Ceramic)	LX11 (Ceramic)	LX21 (Ceramic)
P	Steel	●ⓒ			●						
M	Stainless				●						
K	Cast iron	●ⓒ			●			●ⓒ			
N	Non-ferrous				●						
S	Superalloy										
H	Hard material								●ⓒ	●ⓒ	●ⓒ

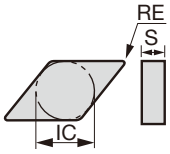


Application	Chipbreaker	Designation Inch	Designation Metric	NS520	TH10	FX105	LX10	LX11	LX21	RE	IC	S	D1
Finishing to medium cutting	-	DNGA 431	DNGA150404	●	●		●	▲	●	0.016	0.500	0.187	0.203
		DNGA 432	DNGA150408	●	●	●	●	▲	●	0.031	0.500	0.187	0.203
		DNGA 433	DNGA150412			●	●	▲	●	0.047	0.500	0.187	0.203
		DNGA 434	DNGA150416			●		▲		0.063	0.500	0.187	0.203
		DNGA 441	DNGA150604				●	▲		0.016	0.500	0.250	0.203
		DNGA 442	DNGA150608				●	▲	●	0.031	0.500	0.250	0.203
		DNGA 443	DNGA150612				●	▲		0.047	0.500	0.250	0.203
		DNGA 444	DNGA150616				●	▲		0.063	0.500	0.250	0.203
		DNGA 445	DNGA150620				●	▲		0.078	0.500	0.250	0.203

DN

Rhombic, 55° without hole

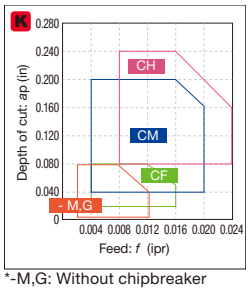
		FX105 (Ceramic)	LX10 (Ceramic)	LX11 (Ceramic)
P	Steel			
M	Stainless			
K	Cast iron	●ⓒ		
N	Non-ferrous			
S	Superalloy			
H	Hard material		●ⓒ	●ⓒ



Application	Chipbreaker	Designation Inch	Designation Metric	FX105	LX10	LX11	RE	IC	S	D1
Finishing to medium cutting	-	DNGD 452	DNGD150708	●			0.031	0.500	0.313	-
		DNGD 453	DNGD150712	●			0.047	0.500	0.313	-
		DNGD 454	DNGD150716	●			0.063	0.500	0.313	-
	-	DNGN 431	DNGN150404			●	0.016	0.500	0.187	-
		DNGN 432	DNGN150408		●	▲	0.031	0.500	0.187	-
		DNGN 433	DNGN150412	●		▲	0.047	0.500	0.187	-
		DNGN 434	DNGN150416	●			0.063	0.500	0.187	-
		DNGN 452	DNGN150708		●	▲	0.031	0.500	0.313	-
		DNGN 453	DNGN150712		●	▲	0.047	0.500	0.313	-
		DNGN 454	DNGN150716		●	▲	0.063	0.500	0.313	-

● : Line up
▲ : To be discontinued

Chip control range



*-M,G: Without chipbreaker

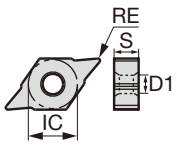
Reference pages: DNGA...: External toolholder → C036 -, Internal toolholder → D042 -
J-Series toolholder → G052, TungCap → K011 -
DNGD...: External toolholder → C042, C044

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

FN

Rhombic, 45° with hole

		T9215	T9225	T6215	AH8015	AH6225
P	Steel	●◐	◐✠	◐		◐✠
M	Stainless	●◐		●	◐	●◐
K	Cast iron	●◐				
N	Non-ferrous					
S	Superalloy				◐	
H	Hard material					



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH8015	AH6225	RE	IC	S	D1
				Coated					Dimension (in)			
Finishing	TSF	FNMG 330.5E TSF	FNMG110402E-TSF	●	●	●	●	●	0.008	0.375	0.187	0.150
		FNMG 331E TSF	FNMG110404E-TSF	●	●	●	●	●	0.016	0.375	0.187	0.150
		FNMG 332E TSF	FNMG110408E-TSF	●	●	●	●	●	0.031	0.375	0.187	0.150
		FNMG 333E TSF	FNMG110412E-TSF	●	●	●	●	●	0.047	0.375	0.187	0.150
Medium cutting	TM	FNMG 331E TM	FNMG110404E-TM	●	●	●	●	●	0.016	0.375	0.187	0.150
		FNMG 332E TM	FNMG110408E-TM	●	●	●	●	●	0.031	0.375	0.187	0.150
		FNMG 333E TM	FNMG110412E-TM	●	●	●	●	●	0.047	0.375	0.187	0.150
		FNMG 334E TM	FNMG110416E-TM					●	0.063	0.375	0.187	0.150

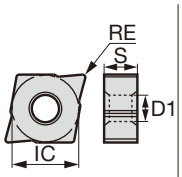
Make sure to offset the cutting edge position after insert change.
Please note that the insert shim may interfere with the workpiece when FNMG insert is used with Q-style toolholder to undercut a work diameter of 1.968" or smaller.

● : Line up

GN

Rhombic, 70° with hole

		T9215	T9225	T6215	AH8015	AH6225
P	Steel	●◐	◐✠	◐		◐✠
M	Stainless	●◐		●	◐	●◐
K	Cast iron	●◐				
N	Non-ferrous					
S	Superalloy				◐	
H	Hard material					

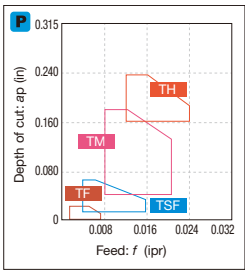


Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH8015	AH6225	RE	IC	S	D1
				Coated					Dimension (in)			
Finishing	TSF	GNMG 330.5E TSF	GNMG090402E-TSF	●	●	●	●	●	0.008	0.375	0.187	0.150
		GNMG 331E TSF	GNMG090404E-TSF	●	●	●	●	●	0.016	0.375	0.187	0.150
		GNMG 332E TSF	GNMG090408E-TSF	●	●	●	●	●	0.031	0.375	0.187	0.150
Medium cutting	TM	GNMG 330.5E TM	-			●		●	0.008	0.375	0.187	0.150
		GNMG 331E TM	GNMG090404E-TM	●	●	●	●	●	0.016	0.375	0.187	0.150
		GNMG 332E TM	GNMG090408E-TM	●	●	●	●	●	0.031	0.375	0.187	0.150
		GNMG 333E TM	GNMG090412E-TM	●	●	●	●	●	0.047	0.375	0.187	0.150

Make sure to offset the cutting edge position after insert change.
Do not use ISO-EcoTurn cartridge set for CNMG33 (AD-CL-4/3-SET or -SET-S) with GNMG33 insert.
The insert may move during machining.

● : Line up

Chip control range



Reference pages: FNMG... : External toolholder → C036 -, Internal toolholder → D042 -
J-Series toolholder → G052, TungCap → K011 -
GNMG...: External toolholder → C019 -, Internal toolholder → D027 -
J-Series toolholder → G036, TungCap → K008 -

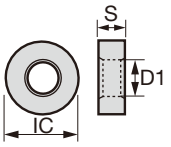
Insert NEGATIVE TYPE

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

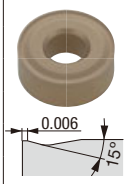
RN

Round, with hole

		T9205	T9215	T9225	T9235	T5105	T5115	T5125	AH120	TH10	LX10	LX11
P	Steel	●	●ⓒ	●ⓒ✠	✠				●ⓒ	●		
M	Stainless		●ⓒ						●ⓒ	●		
K	Cast iron	●ⓒ	●ⓒ			●	ⓒ	✠	●ⓒ	●		
N	Non-ferrous									●		
S	Superalloy								●ⓒ			
H	Hard material										●ⓒ	●ⓒ



Application	Chipbreaker	Designation Inch	Designation Metric	RE	IC	S	D1
Heavy cutting	61	RNMG 32-61	RNMG090300-61	-	0.375	0.125	0.150
		RNMG 43-61	RNMG120400-61	-	0.500	0.187	0.203
		RNMG 54-61	RNMG150600-61	-	0.625	0.250	6.43
		RNMG 64-61	RNMG190600-61	-	0.750	0.250	0.312
		RNMG 86-61	RNMG250900-61	-	1.000	0.375	9.22
Finishing to medium cutting	-	RNGA 43	RNGA120400	-	0.500	0.187	0.203

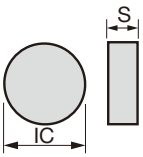


Application	Chipbreaker	Designation Inch	Designation Metric	RE	IC	S	D1
Finishing to medium cutting	-	RNGN 430	RNGN120400	-	0.500	0.187	-
		RNGN 450	RNGN120700	-	0.500	0.313	-
		RNGN 45	RNGN120700	-	0.500	0.313	-
		RNGN 45-E	RNGN120700-E	-	0.500	0.313	-
		RNGN 45-T1	RNGN120700-T1	-	0.500	0.313	-
		RNGN 43 T6	RNGN120400 T6	-	0.500	0.187	-
		RNGN 45 T6	RNGN120700 T6	-	0.500	0.313	-

RN

Round, without hole

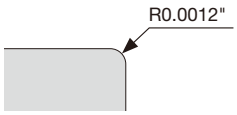
		FX105	LX10	LX11	TW43	TS200	TS300
P	Steel						
M	Stainless						
K	Cast iron	●ⓒ					
N	Non-ferrous						
S	Superalloy				●	●	●
H	Hard material		●ⓒ	●ⓒ			



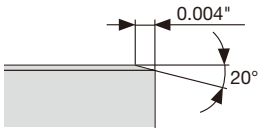
● : Line up
▲ : To be discontinued

Edge prep

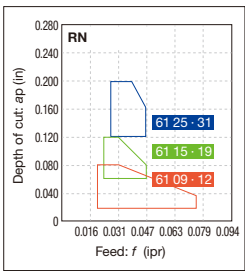
E: Low cutting force



T1/T6 : Strong cutting edge



Chip control range



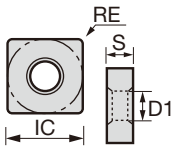
Reference pages: RNMG..., RNGA...: External toolholder → C065 -

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

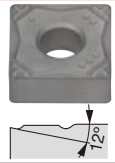
SN

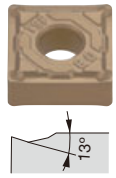
Square with hole

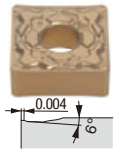
		T9205	T9215	T9225	T6215	AH8015	AH6225	GT9530	AT9530	NS9530
P	Steel	●	●ⓒ	●ⓒ✠	ⓒ		ⓒ✠	●ⓒ	●ⓒ	●ⓒ
M	Stainless		●ⓒ		●	ⓒ	●ⓒ			
K	Cast iron	●ⓒ	●ⓒ					●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous									
S	Superalloy					ⓒ				
H	Hard material									

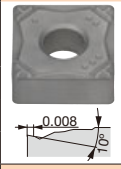


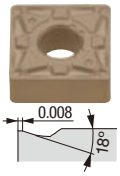
Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9205	Coated T9215	Coated T9225	Coated T6215	Coated AH8015	Coated AH6225	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530	RE	IC	S	D1
Finishing	TF	SNMG 431 TF	SNMG120402-TF		●	●	●	●	●			●	0.008	0.500	0.187	0.203
		SNMG 431 TF	SNMG120404-TF		●	●	●	●	●			●	0.016	0.500	0.187	0.203
		SNMG 432 TF	SNMG120408-TF		●	●	●	●	●			●	0.031	0.500	0.187	0.203
	TSF	SNMG 430.5 TSF	SNMG120402-TSF		●	●	●	●	●			●	0.008	0.500	0.187	0.203
		SNMG 431 TSF	SNMG120404-TSF		●	●	●	●	●	●	●	●	0.016	0.500	0.187	0.203
		SNMG 432 TSF	SNMG120408-TSF		●	●	●	●	●	●	●	●	0.031	0.500	0.187	0.203
		SNMG 433 TSF	SNMG120412-TSF		●	●	●	●	●			●	0.047	0.500	0.187	0.203
	PS	SNMG 430.5 PS	SNMG120402-PS		●	●	●	●	●				0.008	0.500	0.187	0.203
		SNMG 431 PS	SNMG120404-PS		●	●	●	●	●			●	0.016	0.500	0.187	0.203
		SNMG 432 PS	SNMG120408-PS		●	●	●	●	●			●	0.031	0.500	0.187	0.203
		SNMG 433 PS	SNMG120412-PS		●	●	●	●	●				0.047	0.500	0.187	0.203
Finishing for mild steel	ZF	SNMG 430.5 ZF	SNMG120402-ZF		●	●	●	●	●			●	0.008	0.500	0.187	0.203
		SNMG 431 ZF	SNMG120404-ZF		●	●	●	●	●			●	0.016	0.500	0.187	0.203
		SNMG 432 ZF	SNMG120408-ZF		●	●	●	●	●			●	0.031	0.500	0.187	0.203
		SNMG 433 ZF	SNMG120412-ZF		●	●	●	●	●			●	0.047	0.500	0.187	0.203
Finishing	AS	SNMG 431 AS	SNMG120404-AS									●	0.016	0.500	0.187	0.203
		SNMG 432 AS	SNMG120408-AS	●	●							●	0.031	0.500	0.187	0.203
	NS	SNMG 432 NS	SNMG120408-NS		●	●							0.031	0.500	0.187	0.203

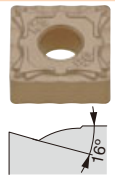






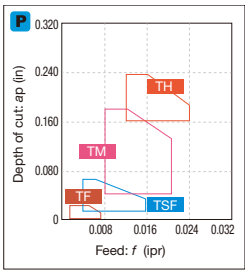


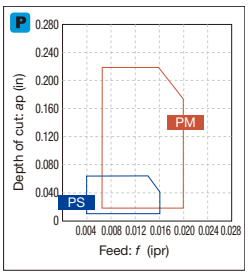


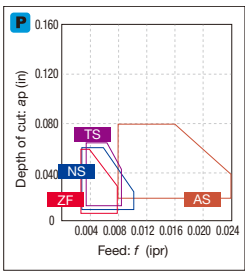


● : Line up

Chip control range







Reference pages: External toolholder → C076 - Internal toolholder → D054 -

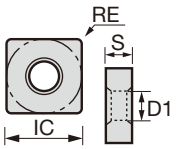
Insert NEGATIVE TYPE

● : Continuous cutting
ⓒ : 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
		Coated												Coated cermet		Cermet		Uncoated
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ					ⓒ✠	✠	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●			●	ⓒ	●ⓒ	✠	●ⓒ					●
K	Cast iron	●ⓒ	●ⓒ				●	ⓒ					●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous																	●
S	Superalloy								●	ⓒ								
H	Hard material																	



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T5105	T5115	AH8005	AH8015	AH6225	AH6235	GH330	GT9530	AT9530	NS9530	NS520	TH10	RE	IC	S	D1
Finishing	TS	SNMG 430.5 TS	SNMG120402-TS		●	●		●				●	●					●			0.008	0.500	0.187	0.203
		SNMG 431 TS	SNMG120404-TS		●	●		●				●	●			●	●	●			0.016	0.500	0.187	0.203
		SNMG 432 TS	SNMG120408-TS	●	●	●	●	●				●	●			●	●	●			0.031	0.500	0.187	0.203
		SNMG 433 TS	SNMG120412-TS		●	●	●	●				●	●					●			0.047	0.500	0.187	0.203
	SF	SNMG 431 SF	SNMG120404-SF					●					●								0.016	0.500	0.187	0.203
		SNMG 432 SF	SNMG120408-SF					●					●								0.031	0.500	0.187	0.203
	SS	SNMG 431 SS	SNMG120404-SS					●					●	●	●						0.016	0.500	0.187	0.203
		SNMG 432 SS	SNMG120408-SS					●					●	●	●						0.031	0.500	0.187	0.203
		SNMG 433 SS	SNMG120412-SS					●					●	●							0.047	0.500	0.187	0.203
	HRF	SNMG 432 HRF	SNMG120408-HRF								●	●									0.031	0.500	0.187	0.203
		SNMG 433 HRF	SNMG120412-HRF								●	●									0.047	0.500	0.187	0.203
	CF	SNMG 432 CF	SNMG120408-CF						●	●											0.031	0.500	0.187	0.203
		SNMG 433 CF	SNMG120412-CF						●	●											0.047	0.500	0.187	0.203
	01	SNGG 320.5-01	SNGG090302-01															●			0.008	0.375	0.125	0.150
		SNGG 321-01	SNGG090304-01															●			0.016	0.375	0.125	0.150
		SNGG 322-01	SNGG090308-01															●	●		0.031	0.375	0.125	0.150
		SNGG 430.5-01	SNGG120402-01															●			0.008	0.500	0.187	0.203
		SNGG 431-01	SNGG120404-01															●			0.016	0.500	0.187	0.203
		SNGG 432-01	SNGG120408-01															●	●		0.031	0.500	0.187	0.203
	11	SNMG 431-11	SNMG120404-11															●			0.016	0.500	0.187	0.203
		SNMG 432-11	SNMG120408-11															●		●	0.031	0.500	0.187	0.203

● : Line up

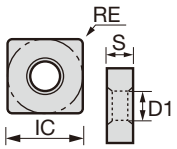
Reference pages: External toolholder → C076 - Internal toolholder → D054 -

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

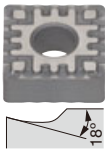
SN

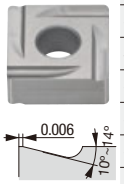
Square with hole

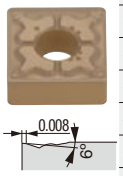
		T9205	T9215	T9225	T9235	T6215	AH8015	AH6225	AH725	AH120	GT9530	NS9530
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ		ⓒ✠	ⓒ	●ⓒ	●ⓒ	●ⓒ
M	Stainless		●ⓒ			●	ⓒ	●ⓒ	ⓒ	●ⓒ		
K	Cast iron	●ⓒ	●ⓒ						ⓒ	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous											
S	Superalloy						ⓒ		●	●ⓒ		
H	Hard material											

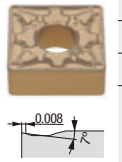


Application	Chipbreaker	Designation Inch	Designation Metric	Coated									Coated cermet	Cermet	Dimension (in) RE	IC	S	D1
				T9205	T9215	T9225	T9235	T6215	AH8015	AH6225	AH725	AH120	GT9530	NS9530				
Finishing for mild steel	17	SNMG 432-17	SNMG120408-17											●	0.031	0.500	0.187	0.203
Finishing	B ~ D	SNGG 321 R-B	SNGG090304R-B										●	●	0.016	0.375	0.125	0.150
		SNGG 321 L-B	SNGG090304L-B										●	●	0.016	0.375	0.125	0.150
		SNGG 322 R-B	SNGG090308R-B											●	0.031	0.375	0.125	0.150
		SNGG 322 L-B	SNGG090308L-B											●	0.031	0.375	0.125	0.150
		SNGG 431 R-C	SNGG120404R-C										●	●	0.016	0.500	0.187	0.203
		SNGG 431 L-C	SNGG120404L-C										●	●	0.016	0.500	0.187	0.203
		SNGG 432 R-C	SNGG120408R-C											●	0.031	0.500	0.187	0.203
		SNGG 432 L-C	SNGG120408L-C											●	0.031	0.500	0.187	0.203
		SNGG 432 R-D	SNGG120408R-D											●	0.031	0.500	0.187	0.203
		SNGG 432 L-D	SNGG120408L-D											●	0.031	0.500	0.187	0.203
Medium cutting	TM	SNMG 321 TM	SNMG090304-TM		●	●	●								0.016	0.375	0.125	0.150
		SNMG 322 TM	SNMG090308-TM		●	●	●								0.031	0.375	0.125	0.150
		SNMG 431 TM	SNMG120404-TM		●	●		●	●	●		●			0.016	0.500	0.187	0.203
		SNMG 432 TM	SNMG120408-TM	●	●	●	●	●	●	●		●			0.031	0.500	0.187	0.203
		SNMG 433 TM	SNMG120412-TM	●	●	●	●	●	●	●	●	●			0.047	0.500	0.187	0.203
		SNMG 434 TM	SNMG120416-TM		●	●	●	●	●	●					0.063	0.500	0.187	0.203
		SNMG 542 TM	SNMG150608-TM		●										0.031	0.625	0.250	0.250
		SNMG 543 TM	SNMG150612-TM		●							●			0.047	0.625	0.250	0.250
		SNMG 642 TM	SNMG190608-TM		●							●			0.031	0.750	0.250	0.312
		SNMG 643 TM	SNMG190612-TM		●							●			0.047	0.750	0.250	0.312
	PM	SNMG 431 PM	SNMG120404-PM		●	●		●	●	●					0.016	0.500	0.187	0.203
		SNMG 432 PM	SNMG120408-PM		●	●		●	●	●					0.031	0.500	0.187	0.203
		SNMG 433 PM	SNMG120412-PM		●	●		●	●	●					0.047	0.500	0.187	0.203
		SNMG 434 PM	SNMG120416-PM		●	●		●	●	●					0.063	0.500	0.187	0.203



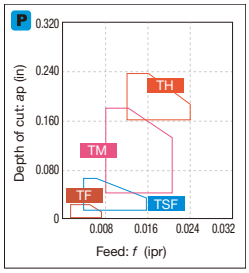


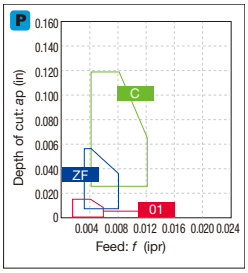


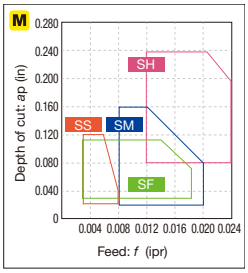


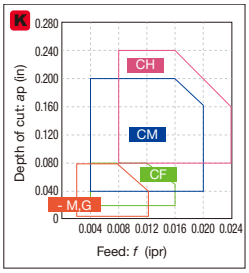
● : Line up

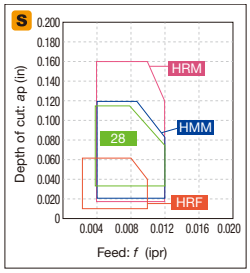
Chip control range











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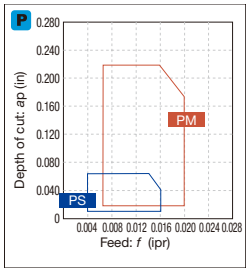
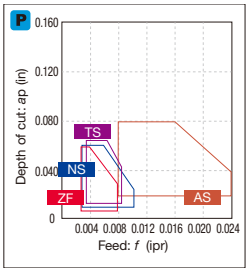




Reference pages: External toolholder → C076 -
Internal toolholder → D054 -

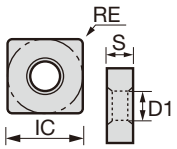
Insert NEGATIVE TYPE

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

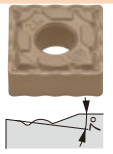
SN

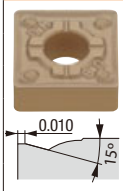
Square with hole

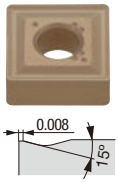
		T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH6235	AH905	AH725	AH110	AH120	GT720	NS9530	NS520	TH10
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ							ⓒ✠	✠		ⓒ	●	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●						ⓒ	●ⓒ	✠		ⓒ	●	●ⓒ					●
K	Cast iron	●ⓒ	●ⓒ				●	●ⓒ	●	ⓒ	✠					ⓒ	●	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●
N	Non-ferrous																						●
S	Superalloy											ⓒ			ⓒ	●	●	●ⓒ					
H	Hard material																						

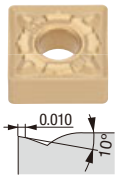


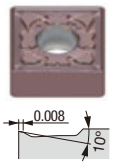
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8015	AH6225	AH6235	AH905	AH725	AH110	AH120	GT720	NS9530	NS520	TH10	RE	IC	S	D1
				Coated																	Coated cermet	Cermet		Uncoated	Dimension (in)			
Medium cutting for mild steel	ZM	SNMG 431 ZM	SNMG120404-ZM		●	●		●						●	●										0.016	0.500	0.187	0.203
		SNMG 432 ZM	SNMG120408-ZM		●	●	●	●						●	●										0.031	0.500	0.187	0.203
		SNMG 433 ZM	SNMG120412-ZM		●	●	●	●						●	●										0.047	0.500	0.187	0.203
		SNMG 434 ZM	SNMG120416-ZM		●	●		●						●	●										0.063	0.500	0.187	0.203
Medium cutting	DM	SNMG 431 DM	SNMG120404-DM		●	●		●						●	●										0.016	0.500	0.187	0.203
		SNMG 432 DM	SNMG120408-DM		●	●		●						●	●										0.031	0.500	0.187	0.203
		SNMG 433 DM	SNMG120412-DM		●	●	●	●						●	●										0.047	0.500	0.187	0.203
		SNMG 434 DM	SNMG120416-DM		●	●		●						●	●										0.063	0.500	0.187	0.203
Medium cutting	All-round	SNMG 321	SNMG090304		●	●																●		●	0.016	0.375	0.125	0.150
		SNMG 322	SNMG090308		●	●	●															●		●	0.031	0.375	0.125	0.150
		SNMG 431	SNMG120404		●	●	●				●	●						●	●			●	●	●	0.016	0.500	0.187	0.203
		SNMG 432	SNMG120408	●	●	●	●		●	●	●	●	●				●		●	●	●		●	●	0.031	0.500	0.187	0.203
		SNMG 433	SNMG120412	●	●	●	●		●	●	●	●	●						●	●				●	0.047	0.500	0.187	0.203
		SNMG 434	SNMG120416	●	●	●	●				●	●													0.063	0.500	0.187	0.203
		SNMG 435	SNMG120420		●	●	●					●	●												0.078	0.500	0.187	0.203
		SNMG 543	SNMG150612		●	●	●			●					●					●					0.047	0.625	0.250	0.250
		SNMG 544	SNMG150616		●	●				●										●					0.063	0.625	0.250	0.250
		SNMG 643	SNMG190612		●	●	●			●		●	●		●					●					0.047	0.750	0.250	0.312
		SNMG 644	SNMG190616		●	●	●			●	●	●	●							●					0.063	0.750	0.250	0.312
		SNMG 856	SNMG250724		●	●	●																		0.094	1.000	0.313	0.359
		SNMG 866	SNMG250924											●						●					0.094	1.000	0.375	0.359
	SM	SNMG 432 SM	SNMG120408-SM					●							●	●		●							0.031	0.500	0.187	0.203
		SNMG 433 SM	SNMG120412-SM					●							●	●									0.047	0.500	0.187	0.203
	SDM	SNMG 432 SDM	SNMG120408-SDM					●							●	●									0.031	0.500	0.187	0.203
		SNMG 433 SDM	SNMG120412-SDM					●							●	●									0.047	0.500	0.187	0.203
	CM	SNMG 432 CM	SNMG120408-CM	●	●			●	●	●	●	●	●												0.031	0.500	0.187	0.203
		SNMG 433 CM	SNMG120412-CM	●	●			●	●	●	●	●	●												0.047	0.500	0.187	0.203

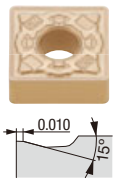












● : Line up

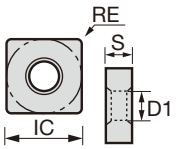
Reference pages: External toolholder → C076 - Internal toolholder → D054 -

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

SN

Square with hole

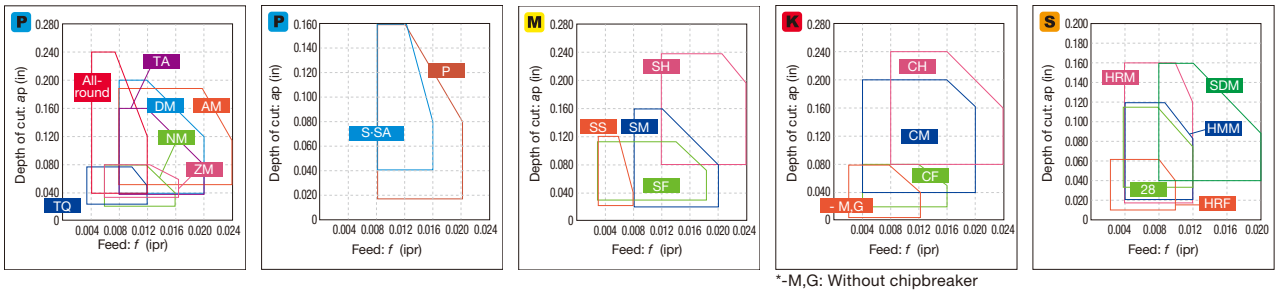
		T9215	T9225	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH905	AH120	GH110	GH330	NS9530		TH10	KS20
P	Steel	●⊂	⊂✠	⊂								⊂✠	✠		●⊂	●	●⊂	●⊂		●	
M	Stainless	●⊂		●						●	⊂	●⊂	✠		●⊂	●	●⊂			●	
K	Cast iron	●⊂			●	●⊂	●	⊂	✠						●⊂	●	●⊂	●⊂		●	⊂✠
N	Non-ferrous																			●	⊂✠
S	Superalloy									●	⊂			⊂	●⊂	●					⊂✠
H	Hard material																				



Application	Chipbreaker	Designation Inch	Designation Metric	Coated															Cermet		Uncoated		Dimension (in) RE	IC	S	D1
Medium cutting	HRM	SNMG 432 HRM	SNMG120408-HRM									●	●										0.031	0.500	0.187	0.203
		SNMG 433 HRM	SNMG120412-HRM									●	●										0.047	0.500	0.187	0.203
		SNMG 542 HRM	SNMG150608-HRM									●	●										0.031	0.625	0.250	0.250
		SNMG 543 HRM	SNMG150612-HRM									●	●										0.047	0.625	0.250	0.250
		SNMG 643 HRM	SNMG190612-HRM									●	●										0.047	0.750	0.250	0.312
		SNMG 644 HRM	SNMG190616-HRM									●	●										0.063	0.750	0.250	0.312
	TA	SNMG 432 TA	SNMG120408-TA	●	●																		0.031	0.500	0.187	0.203
		SNMG 433 TA	SNMG120412-TA	●	●																		0.047	0.500	0.187	0.203
	SA	SNMG 431 SA	SNMG120404-SA			●							●	●		●							0.016	0.500	0.187	0.203
		SNMG 432 SA	SNMG120408-SA			●							●	●		●						●	0.031	0.500	0.187	0.203
		SNMG 433 SA	SNMG120412-SA			●							●	●		●							0.047	0.500	0.187	0.203
		SNMG 643 SA	SNMG190612-SA													●						●	0.047	0.750	0.250	0.312
		SNMG 644 SA	SNMG190616-SA													●							0.063	0.750	0.250	0.312
	HMM	SNMG 432 HMM	SNMG120408-HMM											●									0.031	0.500	0.187	0.203
		SNMG 433 HMM	SNMG120412-HMM											●									0.047	0.500	0.187	0.203
	P	SNGG 321 R-P	SNGG090304R-P													●				●			0.016	0.375	0.125	0.150
		SNGG 321 L-P	SNGG090304L-P													●				●			0.016	0.375	0.125	0.150
		SNGG 322 R-P	SNGG090308R-P													●	●	●		●			0.031	0.375	0.125	0.150
		SNGG 322 L-P	SNGG090308L-P													●				●			0.031	0.375	0.125	0.150
		SNGG 431 R-P	SNGG120404R-P													●				●			0.016	0.500	0.187	0.203
		SNGG 431 L-P	SNGG120404L-P													●				●			0.016	0.500	0.187	0.203
		SNGG 432 R-P	SNGG120408R-P													●				●			0.031	0.500	0.187	0.203
		SNGG 432 L-P	SNGG120408L-P													●				●			0.031	0.500	0.187	0.203

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: External toolholder → C076 - Internal toolholder → D054 -

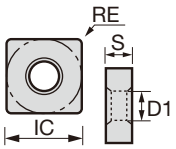
Insert NEGATIVE TYPE

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

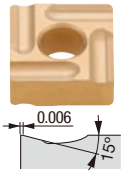
SN

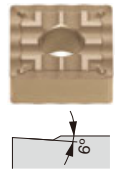
Square with hole

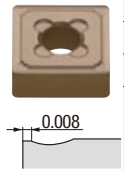
		T9205	T9215	T9225	T9235	AH6225	AH6235	AH120	GH330	NS9530
P	Steel	●	●◐	◐✠	✠	◐✠	✠	●◐	●◐	●◐
M	Stainless		●◐			●◐	✠	●◐	●◐	
K	Cast iron	●◐	●◐					●◐	●◐	●◐
N	Non-ferrous									
S	Superalloy							●◐		
H	Hard material									

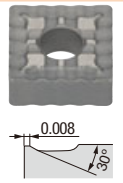


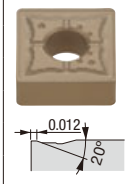
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	AH6225	AH6235	AH120	GH330	NS9530	RE	IC	S	D1
				Coated								Cermet	Dimension (in)			
Medium cutting	S	SNMG 431 R-S	SNMG120404R-S			●	●	●	●			●	0.016	0.500	0.187	0.203
		SNMG 431 L-S	SNMG120404L-S			●	●	●	●			●	0.016	0.500	0.187	0.203
		SNMG 432 R-S	SNMG120408R-S			●	●	●	●		●	●	0.031	0.500	0.187	0.203
		SNMG 432 L-S	SNMG120408L-S			●	●	●	●		●	●	0.031	0.500	0.187	0.203
	27	SNMG 432-27	SNMG120408-27			●						●	0.031	0.500	0.187	0.203
		SNMG 433-27	SNMG120412-27			●							0.047	0.500	0.187	0.203
	33	SNMG 432-33	SNMG120408-33		●	●							0.031	0.500	0.187	0.203
		SNMG 433-33	SNMG120412-33			●							0.047	0.500	0.187	0.203
		SNMG 543-33	SNMG150612-33		●	●							0.047	0.625	0.250	0.250
		SNMG 644-33	SNMG190616-33			●	●						0.063	0.750	0.250	0.312
	37	SNMG 432-37	SNMG120408-37		●						●	●	0.031	0.500	0.187	0.203
		SNMG 433-37	SNMG120412-37		●								0.047	0.500	0.187	0.203
Medium to heavy cutting	TH	SNMG 432 TH	SNMG120408-TH		●	●	●			●			0.031	0.500	0.187	0.203
		SNMG 433 TH	SNMG120412-TH		●	●	●			●			0.047	0.500	0.187	0.203
		SNMG 543 TH	SNMG150612-TH	●	●	●				●			0.047	0.625	0.250	0.250
		SNMG 544 TH	SNMG150616-TH	●	●	●				●			0.063	0.625	0.250	0.250
		SNMG 643 TH	SNMG190612-TH	●	●	●	●			●			0.047	0.750	0.250	0.312
		SNMG 644 TH	SNMG190616-TH	●	●	●	●			●			0.063	0.750	0.250	0.312
	THS	SNMG 432 THS	SNMG120408-THS		●	●	●						0.031	0.500	0.187	0.203
		SNMG 433 THS	SNMG120412-THS		●	●	●						0.047	0.500	0.187	0.203
		SNMG 543 THS	SNMG150612-THS		●	●							0.047	0.625	0.250	0.250
		SNMG 544 THS	SNMG150616-THS		●	●							0.063	0.625	0.250	0.250
		SNMG 642 THS	SNMG190608-THS		●	●	●						0.031	0.750	0.250	0.312
		SNMG 643 THS	SNMG190612-THS		●	●	●						0.047	0.750	0.250	0.312
		SNMG 644 THS	SNMG190616-THS		●	●	●						0.063	0.750	0.250	0.312
		SNMG 646 THS	SNMG190624-THS		●	●	●						0.094	0.750	0.250	0.312
		SNMG 854 THS	SNMG250716-THS		●	●	●						0.063	1.000	0.313	0.359
		SNMG 856 THS	SNMG250724-THS		●	●	●						0.094	1.000	0.313	0.359

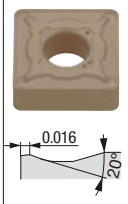












● : Line up

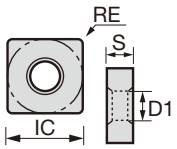
Reference pages: External toolholder → C076 - Internal toolholder → D054 -

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

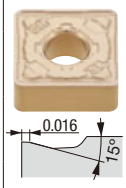
SN

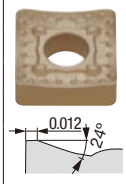
Square with hole

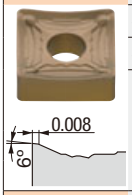
		T9215	T9225	T9235	T5105	T5115	T5125	AH6225	AH6235
P	Steel	●◐	◐✠	✠				◐✠	✠
M	Stainless	●◐						●◐	✠
K	Cast iron	●◐			●	◐	✠		
N	Non-ferrous								
S	Superalloy								
H	Hard material								

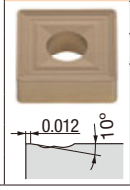


Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T9235	T5105	T5115	T5125	AH6225	AH6235	RE	IC	S	D1
				Coated								Dimension (in)			
Medium to heavy cutting	SH	SNMG 432 SH	SNMG120408-SH							●	●	0.031	0.500	0.187	0.203
		SNMG 433 SH	SNMG120412-SH							●	●	0.047	0.500	0.187	0.203
		SNMG 543 SH	SNMG150612-SH							●	●	0.047	0.625	0.250	0.250
		SNMG 544 SH	SNMG150616-SH							●	●	0.063	0.625	0.250	0.250
		SNMG 643 SH	SNMG190612-SH							●	●	0.047	0.750	0.250	0.312
		SNMG 644 SH	SNMG190616-SH							●	●	0.063	0.750	0.250	0.312
	CH	SNMG 432 CH	SNMG120408-CH				●	●	●			0.031	0.500	0.187	0.203
		SNMG 433 CH	SNMG120412-CH				●	●	●			0.047	0.500	0.187	0.203
		SNMG 434 CH	SNMG120416-CH					●	●			0.063	0.500	0.187	0.203
Medium to heavy cutting (single sided)	TRS	SNMM 543 TRS	SNMM150612-TRS	●	●	●						0.047	0.625	0.250	0.250
		SNMM 544 TRS	SNMM150616-TRS	●	●	●						0.063	0.625	0.250	0.250
		SNMM 644 TRS	SNMM190616-TRS	●	●	●						0.063	0.750	0.250	0.312
		SNMM 646 TRS	SNMM190624-TRS	●	●	●						0.094	0.750	0.250	0.312
		SNMM 866 TRS	SNMM250924-TRS	●	●	●						0.094	1.000	0.375	0.359
	57	SNMM 432-57	SNMM120408-57	●	●							0.031	0.500	0.187	0.203
		SNMM 544-57	SNMM150616-57		●							0.063	0.625	0.250	0.250
		SNMM 643-57	SNMM190612-57		●							0.047	0.750	0.250	0.312
	65	SNMM 643-65	SNMM190612-65		●							0.047	0.750	0.250	0.312
		SNMM 646-65	SNMM190624-65		●							0.094	0.750	0.250	0.312
		SNMM 1066-65	SNMM310924-65		●							0.094	1.250	0.375	0.346



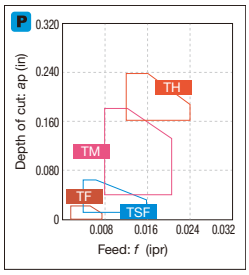


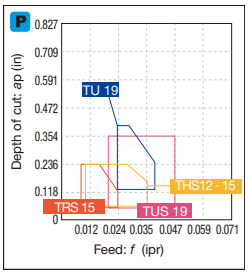


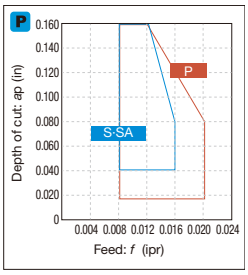


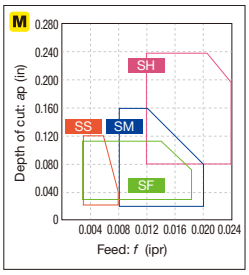
● : Line up

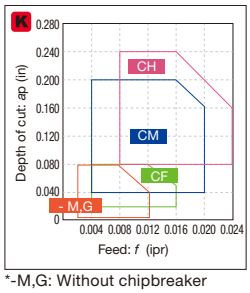
Chip control range











*-M,G: Without chipbreaker

Reference pages: External toolholder → C076 - Internal toolholder → D054 -

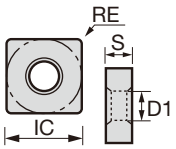
Insert NEGATIVE TYPE

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

SN

Square with hole

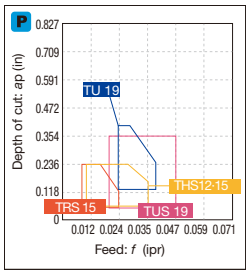
		T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	GT720			NS520		TH10		FX105	LX10	LX11	LX21
		Coated								Coated cermet			Cermet		Un-coated		Ceramic			
P	Steel	●◐	◐✠	✠						●◐			●◐		●					
M	Stainless	●◐													●					
K	Cast iron	●◐			●	●◐	●	◐	✠	●◐			●◐		●		●◐			
N	Non-ferrous														●					
S	Superalloy																			
H	Hard material																	●◐	●◐	●◐

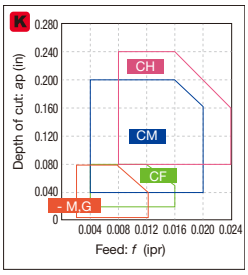


Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T9235	T505	T515	T5105	T5115	T5125	GT720	NS520	TH10	FX105	LX10	LX11	LX21	RE	IC	S	D1
Heavy cutting (single sided)	TU	SNMM 644 TU	SNMM190616-TU			●													0.063	0.750	0.250	0.312
		SNMM 646 TU	SNMM190624-TU		●	●													0.094	0.750	0.250	0.312
		SNMM 856 TU	SNMM250724-TU		●	●													0.094	1.000	0.313	0.359
		SNMM 866 TU	SNMM250924-TU	●	●														0.094	1.000	0.375	0.359
	TUS	SNMM 643 TUS	SNMM190612-TUS	●	●	●													0.047	0.750	0.250	0.312
		SNMM 644 TUS	SNMM190616-TUS	●	●	●													0.063	0.750	0.250	0.312
		SNMM 646 TUS	SNMM190624-TUS	●	●	●													0.094	0.750	0.250	0.312
		SNMM 856 TUS	SNMM250724-TUS	●	●	●													0.094	1.000	0.313	0.359
		SNMM 858 TUS	SNMM250732-TUS	●	●														0.125	1.000	0.313	0.359
		SNMM 866 TUS	SNMM250924-TUS	●	●	●													0.094	1.000	0.375	0.359
		SNMM 868 TUS	SNMM250932-TUS	●	●														0.125	1.000	0.375	0.359
Finishing to medium cutting	-	SNMA 322	SNMA090308						●	●	●			●					0.031	0.375	0.125	0.150
		SNMA 323	SNMA090312							●									0.047	0.375	0.125	0.150
		SNMA 431	SNMA120404						●	●		●							0.016	0.500	0.187	0.203
		SNMA 432	SNMA120408				●	●	●	●	●		●	●	●				0.031	0.500	0.187	0.203
		SNMA 433	SNMA120412				●	●	●	●	●		●	●	●				0.047	0.500	0.187	0.203
		SNMA 434	SNMA120416						●	●	●								0.063	0.500	0.187	0.203
	-	SNGA 321	SNGA090304											●					0.016	0.375	0.125	0.150
		SNGA 431	SNGA120404									●		●		●	▲		0.016	0.500	0.187	0.203
		SNGA 432	SNGA120408										●	●	●	●	▲		0.031	0.500	0.187	0.203
		SNGA 433	SNGA120412											●	●	●	▲	●	0.047	0.500	0.187	0.203
		SNGA 434	SNGA120416												●	●	▲		0.063	0.500	0.187	0.203

● : Line up
▲ : To be discontinued

Chip control range





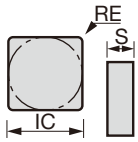
Reference pages: External toolholder → C076 - Internal toolholder → D054 -

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

SN

Square without hole

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

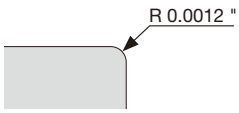


Application	Chipbreaker	Designation Inch	Designation Metric	AH120	TH10	TZ120	FX105	LX10	LX11	LX21	TS300	RE	IC	S	D1
Finishing to medium cutting	-	SNGD 453	SNGD120712				●					0.047	0.500	0.313	-
		SNGD 454	SNGD120716				●					0.063	0.500	0.313	-
	-	SNMN 432	SNMN120408		●							0.031	0.500	0.187	-
		SNMN 433	SNMN120412	●								0.047	0.500	0.187	-
		SNMN 434	SNMN120416				●					0.063	0.500	0.187	-
	-	SNGN 322	SNGN090308					●	▲	●		0.031	0.375	0.125	-
		SNGN 421	SNGN120304					●	▲			0.016	0.500	0.125	-
		SNGN 423	SNGN120312						▲			0.047	0.500	0.125	-
		SNGN 431	SNGN120404					●	▲			0.016	0.500	0.187	-
		SNGN 432	SNGN120408		●		●	●	▲	●		0.031	0.500	0.187	-
		SNGN 433	SNGN120412			●	●	●	▲	●		0.047	0.500	0.187	-
		SNGN 434	SNGN120416				●	●	▲	●		0.063	0.500	0.187	-
		SNGN 435	SNGN120420				●			●		0.078	0.500	0.187	-
		SNGN 436	SNGN120424				●					0.094	0.500	0.187	-
		SNGN 452	SNGN120708			●		●	▲			0.031	0.500	0.313	-
		SNGN 453	SNGN120712			●	●	●	▲			0.047	0.500	0.313	-
		SNGN 453-T1	SNGN120712-T1								●	0.047	0.500	0.313	-
		SNGN 454	SNGN120716			●	●	●	▲			0.063	0.500	0.313	-
		SNGN 455	SNGN120720						▲			0.078	0.500	0.313	-

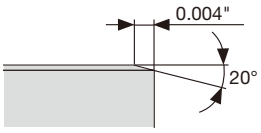
● : Line up
▲ : To be discontinued

Edge prep

E: Low cutting force



T1: Strong cutting edge



Reference pages: SNGD...: External toolholder → C081

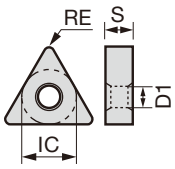
MEMO

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

TN

Triangular with hole

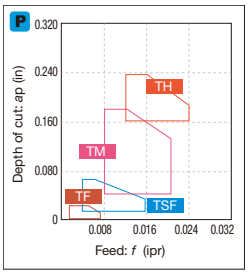
		T9205	T9215	T9225	T9235	T6215	AH8015	AH6225	AH120	GT9530	AT9530	NS9530	NS520	TH10
		Coated								Coated cermet		Cermet		Uncoated
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ		ⓒ✠	●ⓒ	●ⓒ	●ⓒ			●
M	Stainless		●ⓒ			●	ⓒ	●ⓒ	●ⓒ					●
K	Cast iron	●ⓒ	●ⓒ						●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous													●
S	Superalloy						ⓒ		●ⓒ					
H	Hard material													

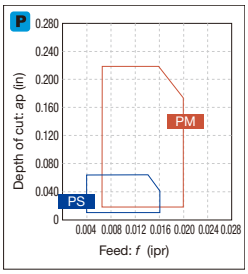


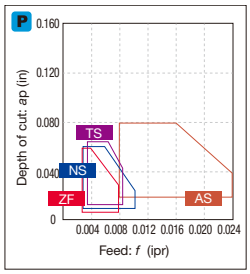
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	AH8015	AH6225	AH120	GT9530	AT9530	NS9530	NS520	TH10	RE	IC	S	D1
Finishing	TF	TNMG 230.5E TF	TNMG110402E-TF		●	●		●	●	●				●			0.008	0.250	0.187	0.089
		TNMG 231E TF	TNMG110404E-TF		●	●		●	●	●				●			0.016	0.250	0.187	0.089
		TNMG 232E TF	TNMG110408E-TF		●	●		●	●	●				●			0.031	0.250	0.187	0.089
		TNMG 331 TF	TNMG160402-TF		●	●		●	●	●				●			0.008	0.375	0.187	0.150
		TNMG 331 TF	TNMG160404-TF		●	●		●	●	●				●	●	●	0.016	0.375	0.187	0.150
		TNMG 332 TF	TNMG160408-TF		●	●		●	●	●				●	●		0.031	0.375	0.187	0.150
	TSF	TNMG 230.5E TSF	TNMG110402E-TSF		●	●		●	●	●		●		●			0.008	0.250	0.187	0.089
		TNMG 231E TSF	TNMG110404E-TSF		●	●		●	●	●		●	●	●			0.016	0.250	0.187	0.089
		TNMG 232E TSF	TNMG110408E-TSF		●	●		●	●	●		●	●	●			0.031	0.250	0.187	0.089
		TNMG 330.5 TSF	TNMG160402-TSF		●	●		●	●	●	●	●	●	●			0.008	0.375	0.187	0.150
		TNMG 331 TSF	TNMG160404-TSF		●	●	●	●	●	●	●	●	●	●			0.016	0.375	0.187	0.150
		TNMG 332 TSF	TNMG160408-TSF	●	●	●	●	●	●	●	●	●	●	●			0.031	0.375	0.187	0.150
		TNMG 333 TSF	TNMG160412-TSF	●	●	●	●	●	●	●	●	●		●			0.047	0.375	0.187	0.150
Finishing for mild steel	PS	TNMG 230.5E PS	TNMG110402E-PS		●	●		●	●	●				●			0.008	0.250	0.187	0.089
		TNMG 231E PS	TNMG110404E-PS		●	●		●	●	●				●			0.016	0.250	0.187	0.089
		TNMG 232E PS	TNMG110408E-PS		●	●		●	●	●				●			0.031	0.250	0.187	0.089
		TNMG 330.5 PS	TNMG160402-PS		●	●		●	●	●				●			0.008	0.375	0.187	0.150
		TNMG 331 PS	TNMG160404-PS		●	●		●	●	●				●			0.016	0.375	0.187	0.150
		TNMG 332 PS	TNMG160408-PS		●	●		●	●	●				●			0.031	0.375	0.187	0.150
		TNMG 333 PS	TNMG160412-PS		●	●		●	●	●				●			0.047	0.375	0.187	0.150
	ZF	TNMG 230.5E ZF	TNMG110402E-ZF		●	●		●	●	●				●			0.008	0.250	0.187	0.089
		TNMG 231E ZF	TNMG110404E-ZF		●	●		●	●	●				●			0.016	0.250	0.187	0.089
		TNMG 232E ZF	TNMG110408E-ZF		●	●		●	●	●				●			0.031	0.250	0.187	0.089
		TNMG 330.5 ZF	TNMG160402-ZF		●	●		●	●	●				●			0.008	0.375	0.187	0.150
		TNMG 331 ZF	TNMG160404-ZF		●	●	●	●	●	●		●	●	●			0.016	0.375	0.187	0.150
		TNMG 332 ZF	TNMG160408-ZF		●	●	●	●	●	●		●	●	●			0.031	0.375	0.187	0.150
		TNMG 333 ZF	TNMG160412-ZF		●	●		●	●	●				●			0.047	0.375	0.187	0.150
Finishing	AS	TNMG 331 AS	TNMG160404-AS			●	●							●			0.016	0.375	0.187	0.150
		TNMG 332 AS	TNMG160408-AS	●	●	●	●							●			0.031	0.375	0.187	0.150
		TNMG 333 AS	TNMG160412-AS	●	●	●											0.047	0.375	0.187	0.150
	NS	TNMG 331 NS	TNMG160404-NS		●	●								●			0.016	0.375	0.187	0.150
		TNMG 332 NS	TNMG160408-NS	●	●	●								●			0.031	0.375	0.187	0.150

● : Line up

Chip control range







Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

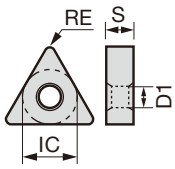
Insert NEGATIVE TYPE

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

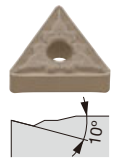
TN

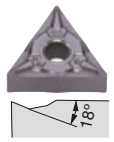
Triangular with hole

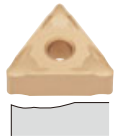
		T9205	T9215	T9225	T9235	T6215	T5105	T5115	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530	NS9530	NS520	KS20
		Coated													Coated cermet		Cermet		Uncoated
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ					ⓒ✠	✠	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	
M	Stainless		●ⓒ			●			●	ⓒ	●ⓒ	✠	●ⓒ	●ⓒ					
K	Cast iron	●ⓒ	●ⓒ				●	ⓒ					●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	ⓒ✠
N	Non-ferrous																		ⓒ✠
S	Superalloy								●	ⓒ			●ⓒ						ⓒ✠
H	Hard material																		

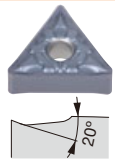


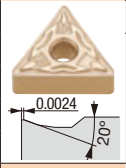
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T5105	T5115	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530	NS9530	NS520	KS20	RE	IC	S	D1
Finishing	TS	TNMG 330.5E TS	TNMG110402E-TS		●	●		●				●	●						●			0.008	0.250	0.187	0.089
		TNMG 231E TS	TNMG110404E-TS		●	●		●				●	●						●			0.016	0.250	0.187	0.089
		TNMG 232E TS	TNMG110408E-TS		●	●		●				●	●						●			0.031	0.250	0.187	0.089
		TNMG 330.5 TS	TNMG160402-TS		●	●		●				●	●						●			0.008	0.375	0.187	0.150
		TNMG 331 TS	TNMG160404-TS		●	●	●	●				●	●				●	●	●	●		0.016	0.375	0.187	0.150
		TNMG 332 TS	TNMG160408-TS	●	●	●	●	●				●	●				●	●	●	●		0.031	0.375	0.187	0.150
		TNMG 333 TS	TNMG160412-TS	●	●	●	●	●				●	●						●			0.047	0.375	0.187	0.150
	SF	TNMG 331 SF	TNMG160404-SF					●					●									0.016	0.375	0.187	0.150
		TNMG 332 SF	TNMG160408-SF					●					●									0.031	0.375	0.187	0.150
		TNMG 333 SF	TNMG160412-SF					●					●									0.047	0.375	0.187	0.150
	SS	TNMG 231E SS	TNMG110404E-SS										●	●								0.016	0.250	0.187	0.089
		TNMG 232E SS	TNMG110408E-SS										●	●								0.031	0.250	0.187	0.089
		TNMG 331 SS	TNMG160404-SS					●					●	●	●	●					●	0.016	0.375	0.187	0.150
		TNMG 332 SS	TNMG160408-SS					●					●	●	●	●					●	0.031	0.375	0.187	0.150
		TNMG 333 SS	TNMG160412-SS					●					●	●		●						0.047	0.375	0.187	0.150
		TNMG 431 SS	TNMG220404-SS					●					●	●		●						0.016	0.500	0.187	0.203
		TNMG 432 SS	TNMG220408-SS					●					●	●		●						0.031	0.500	0.187	0.203
		TNMG 433 SS	TNMG220412-SS					●					●	●		●						0.047	0.500	0.187	0.203
	HRF	TNMG 331 HRF	TNMG160404-HRF								●	●										0.016	0.375	0.187	0.150
		TNMG 332 HRF	TNMG160408-HRF								●	●										0.031	0.375	0.187	0.150
	CF	TNMG 331 CF	TNMG160404-CF						●	●												0.016	0.375	0.187	0.150
		TNMG 332 CF	TNMG160408-CF						●	●												0.031	0.375	0.187	0.150
Finishing (wiper)	FW	TNMG 231E FW	TNMG110404E-FW		●																	0.016	0.250	0.187	0.089
		TNMG 232E FW	TNMG110408E-FW		●																	0.031	0.250	0.187	0.089
		TNMG 332 FW	TNMG110408E-FW		●																	0.031	0.375	0.187	0.150
		TNMG 331 FW	TNMG160404-FW		●																	0.016	0.375	0.187	0.150
		TNMG 332 FW	TNMG160408-FW		●																	0.031	0.375	0.187	0.150
		*Wiper																							

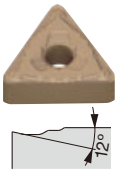












* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

● : Line up

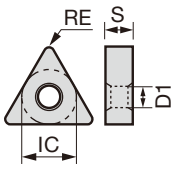
Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

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

TN

Triangular with hole

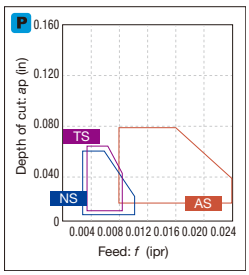
		T9215	T9225	GH110	GH330	SH725	GT720	NS9530	NS520	TH10
P	Steel	◐	✠	●	◐	◐	◐	◐	◐	●
M	Stainless	◐		●	◐	◐				●
K	Cast iron	◐		●	◐		◐	◐	◐	●
N	Non-ferrous									●
S	Superalloy			●						
H	Hard material									

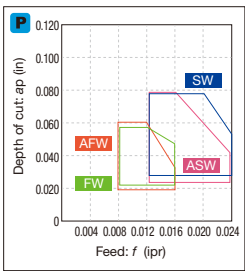


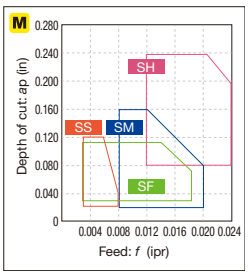
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	GH110	GH330	SH725	GT720	NS9530	NS520	TH10	RE	IC	S	D1
Finishing (sharp edge)	01	TNGG 330.5 F-01	TNGG160402F-01					●					0.008	0.375	0.187	0.150
		TNGG 331 F-01	TNGG160404F-01					●					0.016	0.375	0.187	0.150
		TNGG 332 F-01	TNGG160408F-01					●					0.031	0.375	0.187	0.150
Finishing	01	TNGG 220.5-01	TNGG110302-01							●			0.008	0.250	0.125	0.089
		TNGG 221-01	TNGG110304-01							●			0.016	0.250	0.125	0.089
		TNGG 222-01	TNGG110308-01							●	●		0.031	0.250	0.125	0.089
		TNGG 330.5-01	TNGG160402-01			●				●	●	●	0.008	0.375	0.187	0.150
		TNGG 331-01	TNGG160404-01			●				●	●	●	0.016	0.375	0.187	0.150
		TNGG 332-01	TNGG160408-01			●				●	●		0.031	0.375	0.187	0.150
		TNGG 333-01	TNGG160412-01						●	●			0.047	0.375	0.187	0.150
	11	TNMG 221-11	TNMG110304-11							●			0.016	0.250	0.125	0.089
		TNMG 222-11	TNMG110308-11							●			0.031	0.250	0.125	0.089
		TNMG 330.5-11	TNMG160402-11							●			0.008	0.375	0.187	0.150
		TNMG 331-11	TNMG160404-11				●			●		●	0.016	0.375	0.187	0.150
		TNMG 332-11	TNMG160408-11							●			0.031	0.375	0.187	0.150
		TNMG 431-11	TNMG220404-11							●			0.016	0.500	0.187	0.203
		TNMG 432-11	TNMG220408-11							●			0.031	0.500	0.187	0.203
Finishing for mild steel	17	TNMG 331-17	TNMG160404-17		●		●			●			0.016	0.375	0.187	0.150
		TNMG 332-17	TNMG160408-17		●					●			0.031	0.375	0.187	0.150
Boring (double sided)	CB	TNMG 221 CB	TNMG110304-CB	●						●			0.016	0.250	0.125	0.089
		TNMG 222 CB	TNMG110308-CB	●						●			0.031	0.250	0.125	0.089

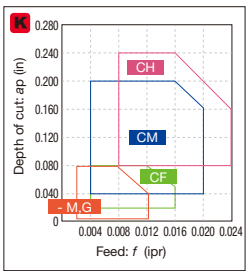
● : Line up

Chip control range

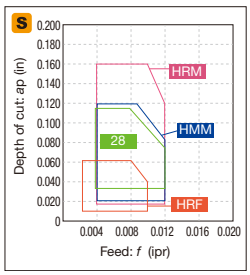


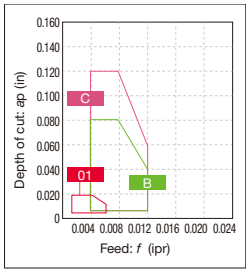






*-M,G: Without chipbreaker





Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

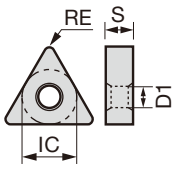
Insert NEGATIVE TYPE

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

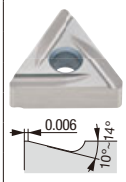
TN

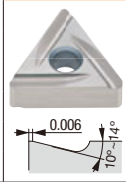
Triangular with hole

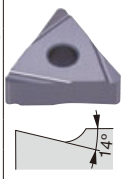
		T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH725	AH120	GH110	GH330	SH725	GT9530	NS9530	NS520	X407	TH10
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ			ⓒ✠	ⓒ	●ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●	●
M	Stainless		●ⓒ			●	●	ⓒ	●ⓒ	ⓒ	●ⓒ	●	●ⓒ	●ⓒ					●
K	Cast iron	●ⓒ	●ⓒ							ⓒ	●ⓒ	●	●ⓒ		●ⓒ	●ⓒ	●ⓒ	●	●
N	Non-ferrous																		●
S	Superalloy						●	ⓒ		●	●ⓒ	●							
H	Hard material																		

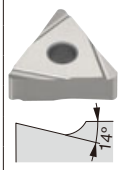


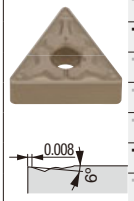
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH725	AH120	GH110	GH330	SH725	GT9530	NS9530	NS520	X407	TH10	RE	IC	S	D1
				Coated													Coated cermet	Cermet			Un-coated	Dimension (in)			
Finishing	A, C	TNGG 221 R-A	TNGG110304R-A														●	●				0.016	0.250	0.125	0.089
		TNGG 221 L-A	TNGG110304L-A														●	●				0.016	0.250	0.125	0.089
		TNGG 222 R-A	TNGG110308R-A														●	●				0.031	0.250	0.125	0.089
		TNGG 222 L-A	TNGG110308L-A														●	●				0.031	0.250	0.125	0.089
		TNGG 321 R-C	TNGG160304R-C															●		●		0.016	0.375	0.125	0.150
		TNGG 321 L-C	TNGG160304L-C															●				0.016	0.375	0.125	0.150
		TNGG 322 R-C	TNGG160308R-C															●				0.031	0.375	0.125	0.150
		TNGG 322 L-C	TNGG160308L-C															●				0.031	0.375	0.125	0.150
		TNGG 33V R-C	TNGG160400R-C															●				0.001	0.375	0.187	0.150
		TNGG 33V L-C	TNGG160400L-C															●				0.001	0.375	0.187	0.150
		TNGG 330.5 R-C	TNGG160402R-C														●	●		●	●	0.008	0.375	0.187	0.150
		TNGG 330.5 L-C	TNGG160402L-C														●	●				0.008	0.375	0.187	0.150
		TNGG 331 R-C	TNGG160404R-C											●	●		●	●	●	●	●	0.016	0.375	0.187	0.150
		TNGG 331 L-C	TNGG160404L-C											●	●		●	●		●	●	0.016	0.375	0.187	0.150
		TNGG 332 R-C	TNGG160408R-C											●	●		●	●	●	●	●	0.031	0.375	0.187	0.150
		TNGG 332 L-C	TNGG160408L-C											●	●		●	●		●	●	0.031	0.375	0.187	0.150
	D	TNGG 431 R-D	TNGG220404R-D															●		●		0.016	0.500	0.187	0.203
		TNGG 431 L-D	TNGG220404L-D															●				0.016	0.500	0.187	0.203
		TNGG 432 R-D	TNGG220408R-D															●		●		0.031	0.500	0.187	0.203
		TNGG 432 L-D	TNGG220408L-D															●				0.031	0.500	0.187	0.203
Finishing (sharp edge)	W	TNGG 330.5 FR-W	TNGG160402FR-W													●						0.008	0.375	0.187	0.150
		TNGG 330.5 FL-W	TNGG160402FL-W													●						0.008	0.375	0.187	0.150
		TNGG 331 FR-W	TNGG160404FR-W													●						0.016	0.375	0.187	0.150
		TNGG 331 FL-W	TNGG160404FL-W													●						0.016	0.375	0.187	0.150
		TNGG 332 FR-W	TNGG160408FR-W													●						0.031	0.375	0.187	0.150
		TNGG 332 FL-W	TNGG160408FL-W													●						0.031	0.375	0.187	0.150
Finishing	W	TNGG 331 R-W	TNGG160404R-W															●			●	0.016	0.375	0.187	0.150
		TNGG 331 L-W	TNGG160404L-W															●			●	0.016	0.375	0.187	0.150
		TNGG 332 R-W	TNGG160408R-W															●				0.031	0.375	0.187	0.150
		TNGG 332 L-W	TNGG160408L-W															●				0.031	0.375	0.187	0.150
Medium cutting	TM	TNMG 221 TM	TNMG110304-TM		●	●	●															0.016	0.250	0.125	0.089
		TNMG 222 TM	TNMG110308-TM		●	●	●															0.031	0.250	0.125	0.089
		TNMG 231E TM	TNMG110404E-TM		●	●		●		●	●											0.016	0.250	0.187	0.089
		TNMG 232E TM	TNMG110408E-TM		●	●		●		●	●											0.031	0.250	0.187	0.089
		TNMG 233E TM	TNMG110412E-TM		●	●		●		●	●											0.047	0.250	0.187	0.089
		TNMG 331 TM	TNMG160404-TM		●	●	●	●		●	●	●	●									0.016	0.375	0.187	0.150
		TNMG 332 TM	TNMG160408-TM	●	●	●	●	●		●	●	●	●									0.031	0.375	0.187	0.150
		TNMG 333 TM	TNMG160412-TM	●	●	●	●	●		●	●											0.047	0.375	0.187	0.150
		TNMG 334 TM	TNMG160416-TM		●	●		●	●	●	●											0.063	0.375	0.187	0.150
		TNMG 431 TM	TNMG220404-TM		●	●							●									0.016	0.500	0.187	0.203
		TNMG 432 TM	TNMG220408-TM	●	●	●	●						●									0.031	0.500	0.187	0.203
		TNMG 433 TM	TNMG220412-TM		●	●	●						●									0.047	0.500	0.187	0.203
		TNMG 434 TM	TNMG220416-TM		●	●																0.063	0.500	0.187	0.203











● : Line up

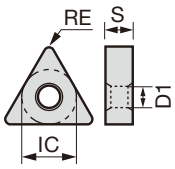
Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

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

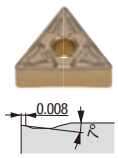
TN

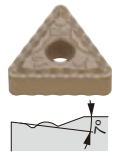
Triangular with hole

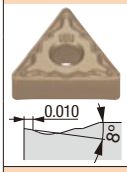
		T9215	T9225	T9235	T6215	AH8015	AH6225	GT9530	NS9530
P	Steel	●ⓒ	ⓒ✠	✠	ⓒ		ⓒ✠	●ⓒ	●ⓒ
M	Stainless	●ⓒ			●	ⓒ	●ⓒ		
K	Cast iron	●ⓒ						●ⓒ	●ⓒ
N	Non-ferrous								
S	Superalloy					ⓒ			
H	Hard material								

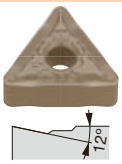


Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T9235	T6215	AH8015	AH6225	GT9530	NS9530	RE	IC	S	D1
				Coated						Coated cermet	Cermet	Dimension (in)			
Medium cutting	PM	TNMG 231E PM	TNMG110404E-PM	●	●		●	●	●			0.016	0.250	0.187	0.089
		TNMG 232E PM	TNMG110408E-PM	●	●		●	●	●			0.031	0.250	0.187	0.089
		TNMG 233E PM	TNMG110412E-PM	●	●		●	●	●			0.047	0.250	0.187	0.089
		TNMG 331 PM	TNMG160404-PM	●	●		●	●	●			0.016	0.375	0.187	0.150
		TNMG 332 PM	TNMG160408-PM	●	●		●	●	●			0.031	0.375	0.187	0.150
		TNMG 333 PM	TNMG160412-PM	●	●		●	●	●			0.047	0.375	0.187	0.150
		TNMG 334 PM	TNMG160416-PM									0.063	0.375	0.187	0.150
Medium cutting for mild steel	ZM	TNMG 231E ZM	TNMG110404E-ZM	●	●		●	●	●			0.016	0.250	0.187	0.089
		TNMG 232E ZM	TNMG110408E-ZM	●	●		●	●	●			0.031	0.250	0.187	0.089
		TNMG 233E ZM	TNMG110412E-ZM	●	●		●	●	●			0.047	0.250	0.187	0.089
		TNMG 331 ZM	TNMG160404-ZM	●	●	●	●	●	●	●	●	0.016	0.375	0.187	0.150
		TNMG 332 ZM	TNMG160408-ZM	●	●	●	●	●	●	●	●	0.031	0.375	0.187	0.150
		TNMG 333 ZM	TNMG160412-ZM	●	●	●	●	●	●			0.047	0.375	0.187	0.150
		TNMG 334 ZM	TNMG160416-ZM	●	●		●	●	●			0.063	0.375	0.187	0.150
		TNMG 433 ZM	TNMG220412-ZM		●							0.047	0.500	0.187	0.203
Medium cutting	AM	TNMG 332 AM	TNMG160408-AM	●	●							0.031	0.375	0.187	0.150
		TNMG 333 AM	TNMG160412-AM	●	●							0.047	0.375	0.187	0.150
	NM	TNMG 332 NM	TNMG160408-NM		●							0.031	0.375	0.187	0.150
		TNMG 333 NM	TNMG160412-NM	●	●							0.047	0.375	0.187	0.150



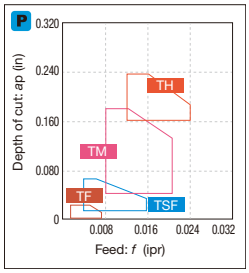


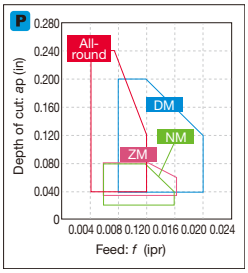


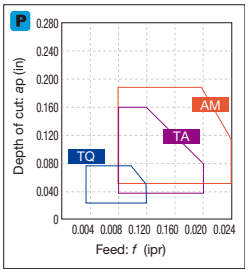


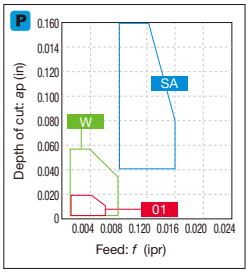
● : Line up

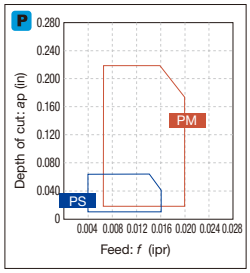
Chip control range

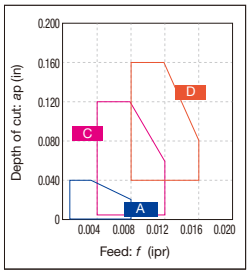












Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

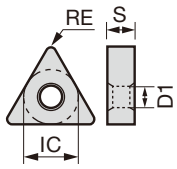
Insert NEGATIVE TYPE

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

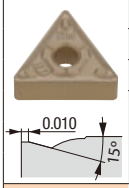
TN

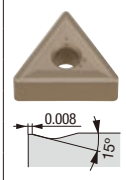
Triangular with hole

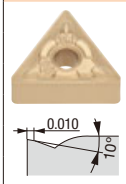
		T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120	GT720	NS9530	NS520	TH10
P	Steel	●	●ⓒ	●ⓒ	✠	✠	ⓒ							ⓒ✠	✠	ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●						●	ⓒ	●ⓒ	✠	ⓒ	●	●ⓒ				●
K	Cast iron	●ⓒ	●ⓒ				●	●ⓒ	●	ⓒ	✠					ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous																					●
S	Superalloy											●	ⓒ			●	●	●ⓒ				
H	Hard material																					

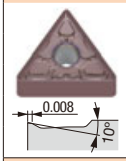


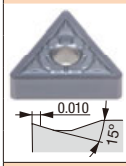
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120	GT720	NS9530	NS520	TH10	RE	IC	S	D1
				Coated																	Coated cermet	Cermet		Uncoated	Dimension (in)			
Medium cutting	**DM**	**TNMG 331 DM**	**TNMG160404-DM**		●	●		●							●	●									0.016	0.375	0.187	0.150
		TNMG 332 DM	TNMG160408-DM	●	●	●	●	●							●	●									0.031	0.375	0.187	0.150
		TNMG 333 DM	TNMG160412-DM		●	●		●							●	●									0.047	0.375	0.187	0.150
		TNMG 334 DM	TNMG160416-DM		●	●		●							●	●									0.063	0.375	0.187	0.150
	All-round	**TNMG 221**	**TNMG110304**		●	●					●	●	●									●		●	0.016	0.250	0.125	0.089
		TNMG 222	TNMG110308		●	●					●	●	●									●		●	0.031	0.250	0.125	0.089
		TNMG 321	**TNMG160304**																					●	0.016	0.375	0.125	0.150
		TNMG 322	TNMG160308																					●	0.031	0.375	0.125	0.150
		TNMG 331	**TNMG160404**	●	●	●	●		●	●	●	●	●					●	●			●	●	●	0.016	0.375	0.187	0.150
		TNMG 332	TNMG160408	●	●	●	●		●	●	●	●	●					●	●		●	●	●	●	0.031	0.375	0.187	0.150
		TNMG 333	TNMG160412	●	●	●	●		●	●	●	●	●					●	●					●	0.047	0.375	0.187	0.150
		TNMG 334	TNMG160416		●	●	●						●											●	0.063	0.375	0.187	0.150
		TNMG 335	TNMG160420		●	●	●																		0.078	0.375	0.187	0.150
		TNMG 432	**TNMG220408**	●	●	●	●					●	●											●	0.031	0.500	0.187	0.203
		TNMG 433	TNMG220412	●	●	●	●						●			●								●	0.047	0.500	0.187	0.203
		TNMG 434	TNMG220416		●	●						●				●								●	0.063	0.500	0.187	0.203
		TNMG 542	**TNMG270608**			●														●					0.031	0.625	0.250	0.250
		TNMG 543	TNMG270612			●														●					0.047	0.625	0.250	0.250
		TNMG 544	TNMG270616																	●					0.063	0.625	0.250	0.250
	SM	**TNMG 231E SM**	**TNMG110404E-SM**					●								●									0.016	0.250	0.187	0.089
		TNMG 232E SM	TNMG110408E-SM					●								●									0.031	0.250	0.187	0.089
		TNMG 331 SM	**TNMG160404-SM**					●								●	●	●							0.016	0.375	0.187	0.150
		TNMG 332 SM	TNMG160408-SM					●								●	●	●							0.031	0.375	0.187	0.150
		TNMG 333 SM	TNMG160412-SM					●								●	●								0.047	0.375	0.187	0.150
		TNMG 432 SM	**TNMG220408-SM**					●								●	●								0.031	0.500	0.187	0.203
		TNMG 433 SM	TNMG220412-SM					●								●	●								0.047	0.500	0.187	0.203
	SDM	**TNMG 331 SDM**	**TNMG160404-SDM**					●								●	●								0.016	0.375	0.187	0.150
		TNMG 332 SDM	TNMG160408-SDM					●								●	●								0.031	0.375	0.187	0.150
		TNMG 333 SDM	TNMG160412-SDM					●								●	●								0.047	0.375	0.187	0.150
	HRM	**TNMG 331 HRM**	**TNMG160404-HRM**											●	●										0.016	0.375	0.187	0.150
		TNMG 332 HRM	TNMG160408-HRM											●	●										0.031	0.375	0.187	0.150
		TNMG 333 HRM	TNMG160412-HRM											●	●										0.047	0.375	0.187	0.150
	CM	**TNMG 331 CM**	**TNMG160404-CM**	●	●			●	●	●	●	●	●												0.016	0.375	0.187	0.150
		TNMG 332 CM	TNMG160408-CM	●	●			●	●	●	●	●	●												0.031	0.375	0.187	0.150
		TNMG 333 CM	TNMG160412-CM	●	●			●	●	●	●	●	●												0.047	0.375	0.187	0.150
		TNMG 432 CM	**TNMG220408-CM**	●	●			●	●	●		●	●												0.031	0.500	0.187	0.203
		TNMG 433 CM	TNMG220412-CM	●	●			●	●	●	●	●	●												0.047	0.500	0.187	0.203

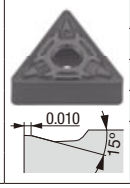












● : Line up

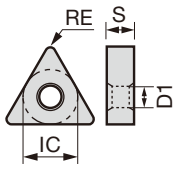
Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

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

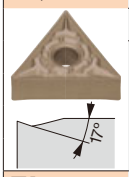
TN

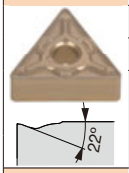
Triangular with hole

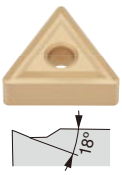
		T9215	T9225	T6215	AH6225	AH6235	AH905	AH120			GT9530	AT9530	NS9530			KS20		
		Coated									Coated cermet		Cermet			Uncoated		
P	Steel	●ⓒ	ⓒ✠	ⓒ	ⓒ✠	✠		●ⓒ			●ⓒ	●ⓒ		●ⓒ				
M	Stainless	●ⓒ		●	●ⓒ	✠		●ⓒ										
K	Cast iron	●ⓒ						●ⓒ			●ⓒ	●ⓒ		●ⓒ		ⓒ✠		
N	Non-ferrous															ⓒ✠		
S	Superalloy						ⓒ	●ⓒ								ⓒ✠		
H	Hard material																	

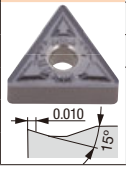


Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH6225	AH6235	AH905	AH120	GT9530	AT9530	NS9530	KS20	RE	IC	S	D1
Medium cutting (wiper)	SW	TNMG 232E SW	TNMG110408E-SW	●											0.031	0.250	0.187	0.089
		TNMG 233E SW	TNMG110412E-SW	●											0.047	0.250	0.187	0.089
		TNMG 332 SW	TNMG160408-SW	●											0.031	0.375	0.187	0.150
		TNMG 333 SW	TNMG160412-SW	●											0.047	0.375	0.187	0.150
		*Wiper																
Medium cutting	TQ	TNMG 331 TQ	TNMG160404-TQ	●	●						●	●	●		0.016	0.375	0.187	0.150
		TNMG 332 TQ	TNMG160408-TQ	●	●						●	●	●		0.031	0.375	0.187	0.150
	TA	TNMG 331 TA	TNMG160404-TA	●	●										0.016	0.375	0.187	0.150
		TNMG 332 TA	TNMG160408-TA	●	●										0.031	0.375	0.187	0.150
		TNMG 333 TA	TNMG160412-TA	●	●										0.047	0.375	0.187	0.150
	SA	TNMG 331 SA	TNMG160404-SA			●	●	●		●					0.016	0.375	0.187	0.150
		TNMG 332 SA	TNMG160408-SA			●	●	●		●				●	0.031	0.375	0.187	0.150
		TNMG 333 SA	TNMG160412-SA			●	●	●		●				●	0.047	0.375	0.187	0.150
		TNMG 432 SA	TNMG220408-SA			●	●	●		●				●	0.031	0.500	0.187	0.203
		TNMG 433 SA	TNMG220412-SA			●	●	●		●					0.047	0.500	0.187	0.203
	HMM	TNMG 331 HMM	TNMG160404-HMM						●						0.016	0.375	0.187	0.150
		TNMG 332 HMM	TNMG160408-HMM						●						0.031	0.375	0.187	0.150
		TNMG 333 HMM	TNMG160412-HMM						●						0.047	0.375	0.187	0.150





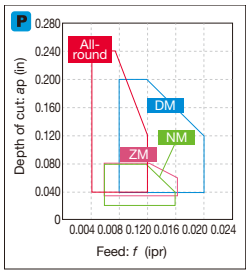


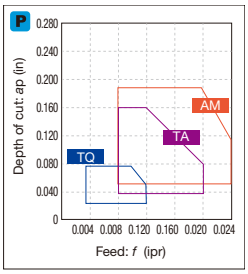


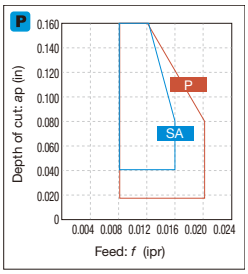
* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

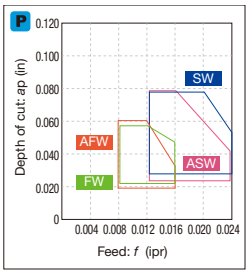
● : Line up

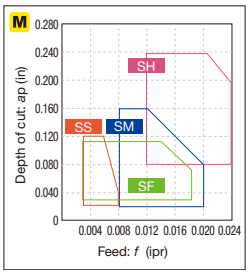
Chip control range

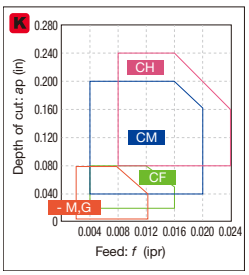


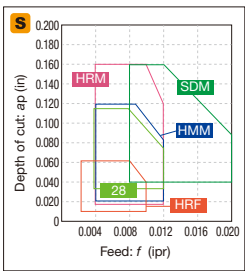












*-M,G: Without chipbreaker

Reference pages: External toolholder → C088 -
Internal toolholder → D063 -
J-Series toolholder → G056 -
TungCap → K013 -

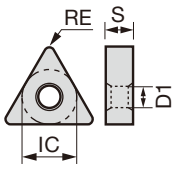
Insert NEGATIVE TYPE

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

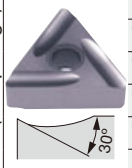
TN

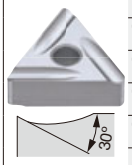
Triangular with hole

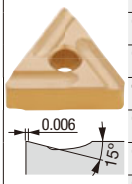
		T9215	T9225	T9235	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120	GH110	GH330	SH725	GT720	NS9530	KS05F	TH10
		Coated													Coated cermet	Cermet	Uncoated	
P	Steel	●ⓒ	ⓒ✠	✠			ⓒ✠	✠	ⓒ	●	●ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ		●
M	Stainless	●ⓒ			●	ⓒ	●ⓒ	✠	ⓒ	●	●ⓒ	●	●ⓒ	●ⓒ				●
K	Cast iron	●ⓒ							ⓒ	●	●ⓒ	●	●ⓒ		●ⓒ	●ⓒ	●	●
N	Non-ferrous																●	●
S	Superalloy				●	ⓒ			●	●	●ⓒ	●					●	
H	Hard material																	

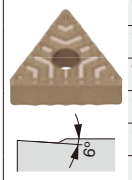


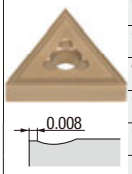
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T9235	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120	GH110	GH330	SH725	GT720	NS9530	KS05F	TH10	RE	IC	S	D1
Medium cutting (sharp edge)	P	TNGG 330.5 FR-P	TNGG160402FR-P													●					0.008	0.375	0.187	0.150
		TNGG 330.5 FL-P	TNGG160402FL-P													●					0.008	0.375	0.187	0.150
		TNGG 331 FR-P	TNGG160404FR-P													●					0.016	0.375	0.187	0.150
		TNGG 331 FL-P	TNGG160404FL-P													●					0.016	0.375	0.187	0.150
		TNGG 332 FR-P	TNGG160408FR-P													●					0.031	0.375	0.187	0.150
		TNGG 332 FL-P	TNGG160408FL-P													●					0.031	0.375	0.187	0.150
Medium cutting	P	TNGG 330.5 R-P	TNGG160402R-P										●	●				●		●	0.008	0.375	0.187	0.150
		TNGG 330.5 L-P	TNGG160402L-P										●	●				●		●	0.008	0.375	0.187	0.150
		TNGG 331 R-P	TNGG160404R-P										●	●				●		●	0.016	0.375	0.187	0.150
		TNGG 331 L-P	TNGG160404L-P										●	●				●		●	0.016	0.375	0.187	0.150
		TNGG 332 R-P	TNGG160408R-P										●	●				●		●	0.031	0.375	0.187	0.150
		TNGG 332 L-P	TNGG160408L-P										●	●				●		●	0.031	0.375	0.187	0.150
	S	TNMG 331 R-S	TNMG160404R-S	●	●	●			●	●	●			●				●			0.016	0.375	0.187	0.150
		TNMG 331 L-S	TNMG160404L-S	●	●	●			●	●				●				●			0.016	0.375	0.187	0.150
		TNMG 332 R-S	TNMG160408R-S	●	●	●			●	●	●			●				●			0.031	0.375	0.187	0.150
		TNMG 332 L-S	TNMG160408L-S	●	●	●			●	●				●				●			0.031	0.375	0.187	0.150
		TNMG 431 R-S	TNMG220404R-S		●	●			●	●				●				●			0.016	0.500	0.187	0.203
		TNMG 431 L-S	TNMG220404L-S		●	●			●	●				●				●			0.016	0.500	0.187	0.203
		TNMG 432 R-S	TNMG220408R-S		●	●			●	●				●				●			0.031	0.500	0.187	0.203
		TNMG 432 L-S	TNMG220408L-S		●	●			●	●				●				●			0.031	0.500	0.187	0.203
	27	TNMG 331-27	TNMG160404-27	●	●																0.016	0.375	0.187	0.150
		TNMG 332-27	TNMG160408-27	●	●													●			0.031	0.375	0.187	0.150
		TNMG 333-27	TNMG160412-27	●	●																0.047	0.375	0.187	0.150
		TNMG 431-27	TNMG220404-27		●																0.016	0.500	0.187	0.203
		TNMG 432-27	TNMG220408-27		●																0.031	0.500	0.187	0.203
		TNMG 433-27	TNMG220412-27		●																0.047	0.500	0.187	0.203
	28	TNMG 331-28	TNMG160404-28				●	●					●						●		0.016	0.375	0.187	0.150
		TNMG 332-28	TNMG160408-28				●	●					●						●		0.031	0.375	0.187	0.150
		TNMG 431-28	TNMG220404-28									●	●								0.016	0.500	0.187	0.203
		TNMG 432-28	TNMG220408-28									●	●								0.031	0.500	0.187	0.203
	33	TNMG 331-33	TNMG160404-33																	●	0.016	0.375	0.187	0.150
		TNMG 332-33	TNMG160408-33																	●	0.031	0.375	0.187	0.150
		TNMG 334-33	TNMG160416-33		●																0.063	0.375	0.187	0.150
		TNMG 431-33	TNMG220404-33		●											●					0.016	0.500	0.187	0.203
		TNMG 433-33	TNMG220412-33			●															0.047	0.500	0.187	0.203
		TNMG 434-33	TNMG220416-33		●																0.063	0.500	0.187	0.203
	37	TNMG 331-37	TNMG160404-37	●										●				●			0.016	0.375	0.187	0.150
		TNMG 332-37	TNMG160408-37	●										●				●			0.031	0.375	0.187	0.150

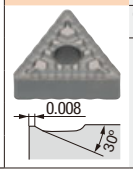












● : Line up

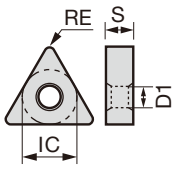
Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

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

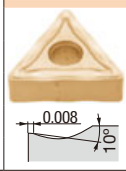
TN

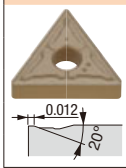
Triangular with hole

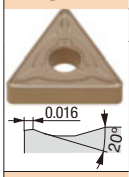
		T9215	T9225	T9235	T515	T5105	T5115	T5125	AH120	GH330
P	Steel	●ⓒ	ⓒ✠	✠					●ⓒ	●ⓒ
M	Stainless	●ⓒ							●ⓒ	●ⓒ
K	Cast iron	●ⓒ			●ⓒ	●	ⓒ	✠	●ⓒ	●ⓒ
N	Non-ferrous									
S	Superalloy								●ⓒ	
H	Hard material									

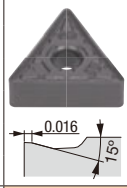


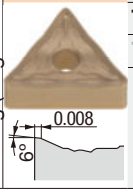
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T9235	T515	T5105	T5115	T5125	AH120	GH330	RE	IC	S	D1
				Coated									Dimension (in)			
Medium cutting	38	TNMG 331-38	TNMG160404-38									●	0.016	0.375	0.187	0.150
		TNMG 332-38	TNMG160408-38									●	0.031	0.375	0.187	0.150
Medium to heavy cutting	TH	TNMG 432 TH	TNMG220408-TH	●	●	●					●		0.031	0.500	0.187	0.203
		TNMG 433 TH	TNMG220412-TH	●	●	●							0.047	0.500	0.187	0.203
	THS	TNMG 432 THS	TNMG220408-THS	●	●	●							0.031	0.500	0.187	0.203
		TNMG 433 THS	TNMG220412-THS	●	●	●							0.047	0.500	0.187	0.203
	CH	TNMG 331 CH	TNMG160404-CH				●	●	●	●			0.016	0.375	0.187	0.150
		TNMG 332 CH	TNMG160408-CH				●	●	●	●			0.031	0.375	0.187	0.150
		TNMG 333 CH	TNMG160412-CH				●	●	●	●			0.047	0.375	0.187	0.150
		TNMG 432 CH	TNMG220408-CH							●			0.031	0.500	0.187	0.203
		TNMG 433 CH	TNMG220412-CH					●	●				0.047	0.500	0.187	0.203
		TNMG 434 CH	TNMG220416-CH					●	●	●			0.063	0.500	0.187	0.203
Medium to heavy cutting (single sided)	57	TNMM 332-57	TNMM160408-57		●								0.031	0.375	0.187	0.150
		TNMM 432-57	TNMM220408-57		●								0.031	0.500	0.187	0.203
		TNMM 433-57	TNMM220412-57		●								0.047	0.500	0.187	0.203





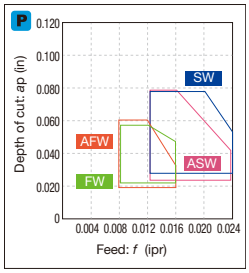


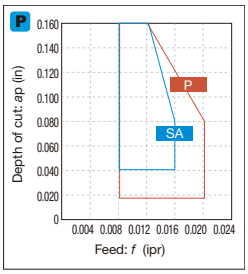


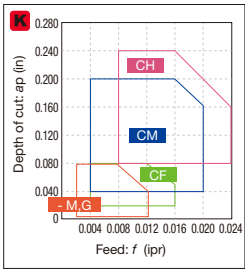


● : Line up

Chip control range







*-M,G: Without chipbreaker

Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

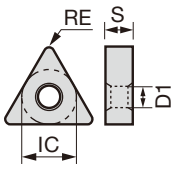
Insert NEGATIVE TYPE

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

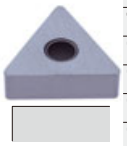
TN

Triangular with hole

		T505	T515	T5105	T5115	T5125	GH110	GT720	NS520	TH03	TH10	FX105	LX10	LX11	LX21
		Coated						Coated cermet	Cermet	Uncoated		Ceramic			
P	Steel						●	●ⓒ	●ⓒ	●	●				
M	Stainless						●			●	●				
K	Cast iron	●	●ⓒ	●	ⓒ	✠	●	●ⓒ	●ⓒ	●	●	●ⓒ			
N	Non-ferrous									●	●				
S	Superalloy						●								
H	Hard material												●ⓒ	●ⓒ	●ⓒ



Application	Chipbreaker	Designation Inch	Designation Metric	T505	T515	T5105	T5115	T5125	GH110	GT720	NS520	TH03	TH10	FX105	LX10	LX11	LX21	RE	IC	S	D1
Finishing to medium cutting	-	TNMA 231E	TNMA110404E		●													0.016	0.250	0.187	0.089
		TNMA 232E	TNMA110408E		●													0.031	0.250	0.187	0.089
		TNMA 233E	TNMA110412E		●													0.047	0.250	0.187	0.089
		TNMA 331	TNMA160404	●	●	●	●	●				●	●					0.016	0.375	0.187	0.150
		TNMA 332	TNMA160408	●	●	●	●	●		●	●		●	●				0.031	0.375	0.187	0.150
		TNMA 333	TNMA160412	●	●	●	●							●				0.047	0.375	0.187	0.150
		TNMA 334	TNMA160416			●	●	●										0.063	0.375	0.187	0.150
		TNMA 335	TNMA160420			●	●	●										0.078	0.375	0.187	0.150
		TNMA 431	TNMA220404				●	●										0.016	0.500	0.187	0.203
		TNMA 432	TNMA220408			●	●	●										0.031	0.500	0.187	0.203
		TNMA 433	TNMA220412			●	●	●										0.047	0.500	0.187	0.203
		TNMA 434	TNMA220416			●	●											0.063	0.500	0.187	0.203
		TNMA 438	TNMA220432											●				0.125	0.500	0.187	0.203
	-	TNGA 221	TNGA110304									●	●					0.016	0.250	0.125	0.089
		TNGA 222	TNGA110308										●					0.031	0.250	0.125	0.089
		TNGA 321	TNGA160304										●					0.016	0.375	0.125	0.150
		TNGA 322	TNGA160308										●					0.031	0.375	0.125	0.150
		TNGA 330.5	TNGA160402												●	▲		0.008	0.375	0.187	0.150
		TNGA 331	TNGA160404						●		●	●	●		●	▲	●	0.016	0.375	0.187	0.150
		TNGA 332	TNGA160408						●		●	●	●	●	●	▲	●	0.031	0.375	0.187	0.150
		TNGA 333	TNGA160412								●		●	●	●	▲	●	0.047	0.375	0.187	0.150
		TNGA 334	TNGA160416										●	●	●	▲		0.063	0.375	0.187	0.150
		TNGA 432	TNGA220408										●					0.031	0.500	0.187	0.203



● : Line up
▲ : To be discontinued

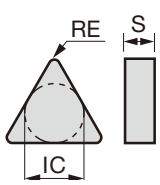
Reference pages: External toolholder → C088 - Internal toolholder → D063 -
J-Series toolholder → G056 - TungCap → K013 -

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

TN

Triangular without hole

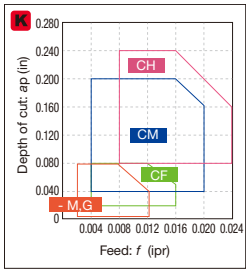
		TH10	TZ120	FX105	LX10	LX11	LX21
P	Steel	●					
M	Stainless	●					
K	Cast iron	●	●	◐			
N	Non-ferrous	●					
S	Superalloy						
H	Hard material				◐	◐	◐



Application	Chipbreaker	Designation Inch	Designation Metric	Uncoated TH10	Ceramic TZ120	FX105	LX10	LX11	LX21	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	-	TNGN 222	TNGN110308	●						0.031	0.250	0.125	-
		TNGN 331	TNGN160404				●	▲	●	0.016	0.375	0.187	-
		TNGN 332	TNGN160408	●			●	▲	●	0.031	0.375	0.187	-
		TNGN 333	TNGN160412	●	●	●	●	▲	●	0.047	0.375	0.187	-
		TNGN 334	TNGN160416			●	●	▲		0.063	0.375	0.187	-
		TNGN 335	TNGN160420			●				0.078	0.375	0.187	-
		TNGN 352	TNGN160708				●	▲		0.031	0.375	0.313	-
		TNGN 353	TNGN160712					▲		0.047	0.375	0.313	-

● : Line up
▲ : To be discontinued

Chip control range



*-M,G: Without chipbreaker

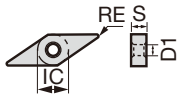
Insert NEGATIVE TYPE

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

VN

Rhombic, 35° with hole

		T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	GT720	AT9530	NS9530	NS520
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ			ⓒ✠	✠	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ
M	Stainless		●ⓒ			●	●	ⓒ	●ⓒ	✠	●ⓒ	●ⓒ					
K	Cast iron	●ⓒ	●ⓒ								●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous																
S	Superalloy						●	ⓒ			●ⓒ						
H	Hard material																



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	GT720	AT9530	NS9530	NS520	RE	IC	S	D1
				Coated											Coated cermet			Cermet		Dimension (in)			
Finishing	TF	VNMG 2.330.5E TF	VNMG120402E-TF		●	●		●		●	●							●		0.008	0.281	0.187	0.150
		VNMG 2.331E TF	VNMG120404E-TF		●	●		●		●	●							●		0.016	0.281	0.187	0.150
		VNMG 2.332E TF	VNMG120408E-TF		●	●		●		●	●							●		0.031	0.281	0.187	0.150
		VNMG 330.5 TF	VNMG160402-TF		●	●		●		●	●							●		0.008	0.375	0.187	0.150
		VNMG 331 TF	VNMG160404-TF		●	●		●		●	●							●		0.016	0.375	0.187	0.150
		VNMG 332 TF	VNMG160408-TF		●	●		●		●	●					●		●		0.031	0.375	0.187	0.150
	TSF	VNMG 2.330.5E TSF	VNMG120402E-TSF		●	●		●		●	●				●		●	●		0.008	0.281	0.187	0.150
		VNMG 2.331E TSF	VNMG120404E-TSF		●	●		●		●	●				●		●	●		0.016	0.281	0.187	0.150
		VNMG 2.332E TSF	VNMG120408E-TSF		●	●		●		●	●				●		●	●		0.031	0.281	0.187	0.150
		VNMG 330.5 TSF	VNMG160402-TSF		●	●		●		●	●		●		●		●	●		0.008	0.375	0.187	0.150
		VNMG 331 TSF	VNMG160404-TSF	●	●	●	●	●		●	●		●		●		●	●		0.016	0.375	0.187	0.150
		VNMG 332 TSF	VNMG160408-TSF	●	●	●	●	●		●	●		●		●		●	●		0.031	0.375	0.187	0.150
		VNMG 333 TSF	VNMG160412-TSF	●	●	●	●	●		●	●									0.047	0.375	0.187	0.150
	PS	VNMG 2.330.5E PS	VNMG120402E-PS		●	●		●		●	●							●		0.008	0.281	0.187	0.150
		VNMG 2.331E PS	VNMG120404E-PS		●	●		●		●	●							●		0.016	0.281	0.187	0.150
		VNMG 2.332E PS	VNMG120408E-PS		●	●		●		●	●							●		0.031	0.281	0.187	0.150
		VNMG 330.5 PS	VNMG160402-PS		●	●		●		●	●							●		0.008	0.375	0.187	0.150
		VNMG 331 PS	VNMG160404-PS		●	●		●		●	●							●		0.016	0.375	0.187	0.150
		VNMG 332 PS	VNMG160408-PS		●	●		●		●	●							●		0.031	0.375	0.187	0.150
		VNMG 333 PS	VNMG160412-PS		●	●		●		●	●							●		0.047	0.375	0.187	0.150
Finishing for mild steel	ZF	VNMG 2.330.5E ZF	VNMG120402E-ZF		●	●		●		●	●							●		0.008	0.281	0.187	0.150
		VNMG 2.331E ZF	VNMG120404E-ZF		●	●		●		●	●							●		0.016	0.281	0.187	0.150
		VNMG 2.332E ZF	VNMG120408E-ZF		●	●		●		●	●							●		0.031	0.281	0.187	0.150
		VNMG 330.5 ZF	VNMG160402-ZF		●	●		●		●	●							●		0.008	0.375	0.187	0.150
		VNMG 331 ZF	VNMG160404-ZF		●	●	●	●		●	●				●		●	●		0.016	0.375	0.187	0.150
		VNMG 332 ZF	VNMG160408-ZF		●	●	●	●		●	●				●		●	●		0.031	0.375	0.187	0.150
		VNMG 333 ZF	VNMG160412-ZF		●	●	●	●		●	●							●		0.047	0.375	0.187	0.150
Finishing	TS	VNMG 2.330.5E TS	VNMG120402E-TS		●	●		●		●	●							●		0.008	0.281	0.187	0.150
		VNMG 2.331E TS	VNMG120404E-TS		●	●		●		●	●							●		0.016	0.281	0.187	0.150
		VNMG 2.332E TS	VNMG120408E-TS		●	●		●		●	●							●		0.031	0.281	0.187	0.150
		VNMG 330.5 TS	VNMG160402-TS		●	●		●		●	●							●		0.008	0.375	0.187	0.150
		VNMG 331 TS	VNMG160404-TS		●	●	●	●		●	●				●		●	●	●	0.016	0.375	0.187	0.150
		VNMG 332 TS	VNMG160408-TS		●	●	●	●		●	●				●		●	●	●	0.031	0.375	0.187	0.150
		VNMG 333 TS	VNMG160412-TS		●	●	●	●		●	●							●		0.047	0.375	0.187	0.150
	SF	VNMG 331 SF	VNMG160404-SF					●			●									0.016	0.375	0.187	0.150
		VNMG 332 SF	VNMG160408-SF					●			●									0.031	0.375	0.187	0.150
	SS	VNMG 2.331E SS	VNMG120404E-SS					●			●	●								0.016	0.281	0.187	0.150
		VNMG 2.332E SS	VNMG120408E-SS					●			●	●								0.031	0.281	0.187	0.150
		VNMG 331 SS	VNMG160404-SS					●			●	●	●	●						0.016	0.375	0.187	0.150
		VNMG 332 SS	VNMG160408-SS					●			●	●	●	●						0.031	0.375	0.187	0.150
		VNMG 333 SS	VNMG160412-SS					●			●	●	●	●						0.047	0.375	0.187	0.150
	HRF	VNMG 331 HRF	VNMG160404-HRF						●	●										0.016	0.375	0.187	0.150
		VNMG 332 HRF	VNMG160408-HRF						●	●										0.031	0.375	0.187	0.150

● : Line up

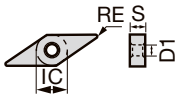
Reference pages: External toolholder → C103 - Internal toolholder → D077 -
J-Series toolholder → G068 TungCap → K014 -

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

VN

Rhombic, 35° with hole

		T9205	T9215	T9225	T9235	T6215	T5105	T5115	AH8015	AH6225	AH110	AH120	GH110	GH330	GT9530		NS9530	NS520	TH10	
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ				ⓒ✠	●	●ⓒ	●	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●	
M	Stainless		●ⓒ			●			ⓒ	●ⓒ	●	●ⓒ	●	●ⓒ					●	
K	Cast iron	●ⓒ	●ⓒ				●	ⓒ			●	●ⓒ	●	●ⓒ	●ⓒ		●ⓒ	●ⓒ	●	
N	Non-ferrous																		●	
S	Superalloy								ⓒ		●	●ⓒ	●							
H	Hard material																			



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T5105	T5115	AH8015	AH6225	AH110	AH120	GH110	GH330	GT9530		NS9530	NS520	TH10		RE	IC	S	D1
				Coated													Coated cermet		Cermet		Uncoated		Dimension (in)			
Finishing	CF	VNMG 331 CF	VNMG160404-CF						●	●													0.016	0.375	0.187	0.150
		VNMG 332 CF	VNMG160408-CF						●	●													0.031	0.375	0.187	0.150
	01	VNGG 330.5-01	VNGG160402-01												●				●	●	●		0.008	0.375	0.187	0.150
		VNGG 331-01	VNGG160404-01																●	●	●		0.016	0.375	0.187	0.150
		VNGG 332-01	VNGG160408-01																●	●			0.031	0.375	0.187	0.150
	11	VNMG 331-11	VNMG160404-11													●			●		●		0.016	0.375	0.187	0.150
		VNMG 332-11	VNMG160408-11		●														●				0.031	0.375	0.187	0.150
		VNMG 333-11	VNMG160412-11														●		●				0.047	0.375	0.187	0.150
Finishing to medium cutting	P	VNGG 331 R-P	VNGG160404R-P																		●		0.016	0.375	0.187	0.150
		VNGG 332 R-P	VNGG160408R-P																		●		0.031	0.375	0.187	0.150
Medium cutting	TM	VNMG 2.331E TM	VNMG120404E-TM		●	●		●			●	●											0.016	0.281	0.187	0.150
		VNMG 2.332E TM	VNMG120408E-TM		●	●		●			●	●											0.031	0.281	0.187	0.150
		VNMG 2.333E TM	VNMG120412E-TM		●	●		●			●	●											0.047	0.281	0.187	0.150
		VNMG 331 TM	VNMG160404-TM	●	●	●	●	●			●	●	●	●									0.016	0.375	0.187	0.150
		VNMG 332 TM	VNMG160408-TM	●	●	●	●	●			●	●	●	●									0.031	0.375	0.187	0.150
		VNMG 333 TM	VNMG160412-TM	●	●	●	●	●			●	●	●										0.047	0.375	0.187	0.150
	PM	VNMG 2.331E PM	VNMG120404E-PM		●	●		●			●	●											0.016	0.281	0.187	0.150
		VNMG 2.332E PM	VNMG120408E-PM		●	●		●			●	●											0.031	0.281	0.187	0.150
		VNMG 2.333E PM	VNMG120412E-PM		●	●		●			●	●											0.047	0.281	0.187	0.150
		VNMG 331 PM	VNMG160404-PM		●	●		●			●	●											0.016	0.375	0.187	0.150
		VNMG 332 PM	VNMG160408-PM		●	●		●			●	●											0.031	0.375	0.187	0.150
		VNMG 333 PM	VNMG160412-PM		●	●		●			●	●											0.047	0.375	0.187	0.150
Medium cutting for mild steel	ZM	VNMG 2.331E ZM	VNMG120404E-ZM		●	●		●			●	●											0.016	0.281	0.187	0.150
		VNMG 2.332E ZM	VNMG120408E-ZM		●	●		●			●	●											0.031	0.281	0.187	0.150
		VNMG 2.333E ZM	VNMG120412E-ZM		●	●		●			●	●											0.047	0.281	0.187	0.150
		VNMG 331 ZM	VNMG160404-ZM		●	●		●			●	●											0.016	0.375	0.187	0.150
		VNMG 332 ZM	VNMG160408-ZM		●	●	●	●			●	●											0.031	0.375	0.187	0.150
		VNMG 333 ZM	VNMG160412-ZM		●	●	●	●			●	●											0.047	0.375	0.187	0.150

● : Line up

Reference pages: External toolholder → C103 - Internal toolholder → D077 -
J-Series toolholder → G068 TungCap → K014 -

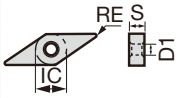
Insert NEGATIVE TYPE

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

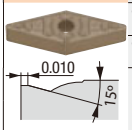
VN

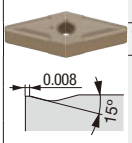
Rhombic, 35° with hole

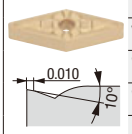
		T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH905	AH110	AH120	GT9530	AT9530	NS9530	TH10
		Coated																	Coated cermet		Cermet	Uncoated
P	Steel	●	●ⓒ	●ⓒ✠	✠	ⓒ								ⓒ✠	✠		●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●						●	ⓒ	●ⓒ	✠		●	●ⓒ				●
K	Cast iron	●ⓒ	●ⓒ				●	●ⓒ	●	ⓒ	✠						●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous																					●
S	Superalloy											●	ⓒ			ⓒ	●	●ⓒ				
H	Hard material																					

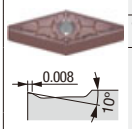


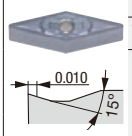
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH905	AH110	AH120	GT9530	AT9530	NS9530	TH10	RE	IC	S	D1
Medium cutting	**DM**	VNMG 331 DM	VNMG160404-DM		●	●		●							●	●									0.031	0.375	0.187	0.150
		VNMG 332 DM	VNMG160408-DM	●	●	●	●	●							●	●									0.031	0.375	0.187	0.150
		VNMG 333 DM	VNMG160412-DM		●	●	●	●							●	●									0.047	0.375	0.187	0.150
Medium cutting	**All-round**	VNMG 331	VNMG160404	●	●	●	●		●	●	●	●	●						●	●			●	●	0.016	0.375	0.187	0.150
		VNMG 332	VNMG160408	●	●	●	●		●	●	●	●	●						●	●			●	●	0.031	0.375	0.187	0.150
		VNMG 333	VNMG160412		●	●			●	●	●	●	●										●		0.047	0.375	0.187	0.150
	SM	VNMG 2.331E SM	VNMG120404E-SM					●								●	●								0.016	0.281	0.187	0.150
		VNMG 2.332E SM	VNMG120408E-SM					●								●	●								0.031	0.281	0.187	0.150
		VNMG 331 SM	VNMG160404-SM					●								●	●								0.016	0.375	0.187	0.150
		VNMG 332 SM	VNMG160408-SM					●								●	●								0.031	0.375	0.187	0.150
		VNMG 333 SM	VNMG160412-SM					●								●	●								0.047	0.375	0.187	0.150
	SDM	VNMG 331 SDM	VNMG160404-SDM					●								●	●								0.016	0.375	0.187	0.150
		VNMG 332 SDM	VNMG160408-SDM					●								●	●								0.031	0.375	0.187	0.150
		VNMG 333 SDM	VNMG160412-SDM					●								●	●								0.047	0.375	0.187	0.150
	HRM	VNMG 331 HRM	VNMG160404-HRM											●	●										0.016	0.375	0.187	0.150
		VNMG 332 HRM	VNMG160408-HRM											●	●										0.031	0.375	0.187	0.150
		VNMG 333 HRM	VNMG160412-HRM											●	●										0.047	0.375	0.187	0.150
	CM	VNMG 332 CM	VNMG160408-CM	●	●			●	●	●	●	●	●												0.031	0.375	0.187	0.150
		VNMG 333 CM	VNMG160412-CM	●	●			●	●	●	●	●	●												0.047	0.375	0.187	0.150
	TQ	VNMG 331 TQ	VNMG160404-TQ		●	●															●	●	●		0.016	0.375	0.187	0.150
		VNMG 332 TQ	VNMG160408-TQ		●	●															●	●	●		0.031	0.375	0.187	0.150
	HMM	VNMG 331 HMM	VNMG160404-HMM															●							0.016	0.375	0.187	0.150
		VNMG 332 HMM	VNMG160408-HMM															●							0.031	0.375	0.187	0.150
		VNMG 333 HMM	VNMG160412-HMM															●							0.047	0.375	0.187	0.150

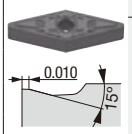


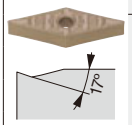


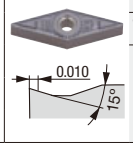










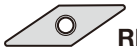


● : Line up

Reference pages: External toolholder → C103 - Internal toolholder → D077 -
J-Series toolholder → G068 TungCap → K014 -

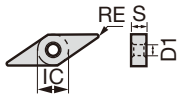
● : Continuous cutting
⊂ : Light interrupted cutting
✠ : Heavy interrupted cutting

VN

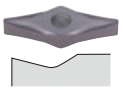


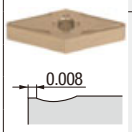
Rhombic, 35° with hole

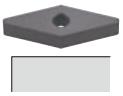
		T9215	T9225	T515	T5105	T5115	T5125	AH8005	AH8015	AH110	AH120	NS520	KS05F	TH10	LX10	LX11
		Coated										Cermet	Uncoated		Ceramic	
P	Steel	●⊂	●⊂✠							●	●⊂	●⊂		●		
M	Stainless	●⊂						●	⊂	●	●⊂			●		
K	Cast iron	●⊂		●⊂	●	⊂	✠			●	●⊂	●⊂	●	●		
N	Non-ferrous												●	●		
S	Superalloy							●	⊂	●	●⊂		●			
H	Hard material														●⊂	●⊂



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T515	T5105	T5115	T5125	AH8005	AH8015	AH110	AH120	NS520	KS05F	TH10	LX10	LX11	RE	IC	S	D1
				Coated										Cermet	Uncoated		Ceramic		Dimension (in)			
Medium cutting	28	VNMG 331-28	VNMG160404-28							●	●		●		●				0.016	0.375	0.187	0.150
		VNMG 332-28	VNMG160408-28							●	●		●		●				0.031	0.375	0.187	0.150
	33	VNMG 331-33	VNMG160404-33		●							●				●			0.016	0.375	0.187	0.150
		VNMG 332-33	VNMG160408-33	●	●											●			0.031	0.375	0.187	0.150
Finishing to medium cutting	-	VNMA 2.331E	VNMA120404E			●													0.016	0.281	0.187	0.150
		VNMA 2.332E	VNMA120408E			●													0.031	0.281	0.187	0.150
		VNMA 330.5	VNMA160402													●			0.008	0.375	0.187	0.150
		VNMA 331	VNMA160404				●	●	●					●		●			0.016	0.375	0.187	0.150
		VNMA 332	VNMA160408				●	●	●					●		●			0.031	0.375	0.187	0.150
		VNGA 331	VNGA160404														●	▲	0.016	0.375	0.187	0.150
		VNGA 332	VNGA160408														●	▲	0.031	0.375	0.187	0.150





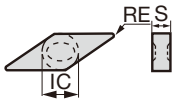


● : Line up
▲ : To be discontinued

VN

Rhombic, 35° without hole

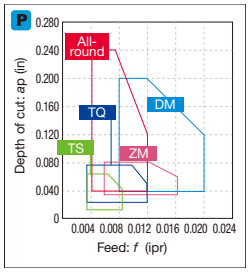
		FX105
		Ceramic
P	Steel	
M	Stainless	
K	Cast iron	●⊂
N	Non-ferrous	
S	Superalloy	
H	Hard material	

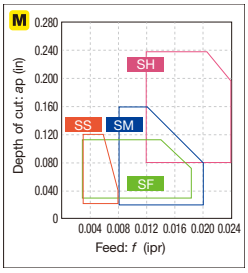


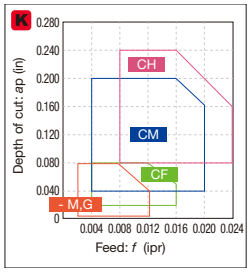
Application	Chipbreaker	Designation Inch	Designation Metric	FX105	RE	IC	S	D1
				Ceramic	Dimension (in)			
Finishing to medium cutting	-	VNGD 353	VNGD160712	●	0.047	0.375	0.313	-

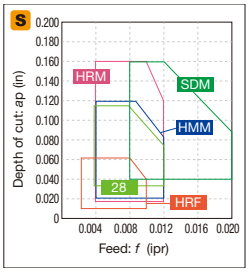
● : Line up

Chip control range









*-M,G: Without chipbreaker

Reference pages: VNMG..., VNMA..., VNGA...:
External toolholder → C103 -, Internal toolholder → D077 -
J-Series toolholder → G068, TungCap → K014 -
VNGD...: External toolholder → C109

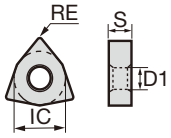
Insert NEGATIVE TYPE

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

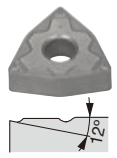
WN

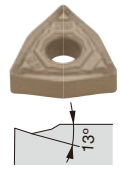
Trigon, 80°
with hole

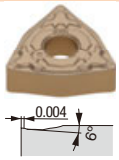
		T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH905	AH120	GT9530	AT9530	NS9530
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ			ⓒ✠		●ⓒ	●ⓒ	●ⓒ	●ⓒ
M	Stainless		●ⓒ			●		ⓒ	●ⓒ		●ⓒ			
K	Cast iron	●ⓒ	●ⓒ				●ⓒ				●ⓒ	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous													
S	Superalloy							ⓒ		ⓒ	●ⓒ			
H	Hard material													

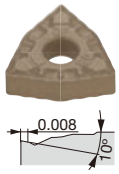


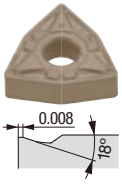
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH905	AH120	GT9530	AT9530	NS9530	RE	IC	S	D1
				Coated										Coated cermet		Cermet	Dimension (in)			
Finishing	TF	WNMG 330.5E TF	WNMG060402E-TF		●	●		●		●	●					●	0.008	0.375	0.187	0.150
		WNMG 331E TF	WNMG060404E-TF		●	●		●		●	●					●	0.016	0.375	0.187	0.150
		WNMG 332E TF	WNMG060408E-TF		●	●		●		●	●					●	0.031	0.375	0.187	0.150
		WNMG 430.5 TF	WNMG080402-TF		●	●		●		●	●					●	0.008	0.500	0.187	0.203
		WNMG 431 TF	WNMG080404-TF		●	●		●		●	●					●	0.016	0.500	0.187	0.203
		WNMG 432 TF	WNMG080408-TF		●	●		●		●	●					●	0.031	0.500	0.187	0.203
	TSF	WNMG 330.5E TSF	WNMG060402E-TSF		●	●		●		●	●		●	●		●	0.008	0.375	0.187	0.150
		WNMG 331E TSF	WNMG060404E-TSF		●	●		●		●	●		●	●	●	●	0.016	0.375	0.187	0.150
		WNMG 332E TSF	WNMG060408E-TSF		●	●		●		●	●	●	●	●	●	●	0.031	0.375	0.187	0.150
		WNMG 333E TSF	WNMG060412E-TSF		●	●				●			●	●		●	0.047	0.375	0.187	0.150
		WNMG 331 TSF	WNMG060404-TSF		●	●											0.016	0.375	0.187	0.150
		WNMG 332 TSF	WNMG060408-TSF		●	●											0.031	0.375	0.187	0.150
		WNMG 430.5 TSF	WNMG080402-TSF		●	●		●		●	●					●	0.008	0.500	0.187	0.203
		WNMG 431 TSF	WNMG080404-TSF		●	●	●	●	●	●	●		●	●	●	●	0.016	0.500	0.187	0.203
		WNMG 432 TSF	WNMG080408-TSF		●	●	●	●	●	●	●		●	●	●	●	0.031	0.500	0.187	0.203
		WNMG 433 TSF	WNMG080412-TSF	●	●	●	●	●	●	●	●		●			●	0.047	0.500	0.187	0.203
Finishing	PS	WNMG 330.5E PS	WNMG060402E-PS		●	●		●		●	●					●	0.008	0.375	0.187	0.150
		WNMG 331E PS	WNMG060404E-PS		●	●		●		●	●					●	0.016	0.375	0.187	0.150
		WNMG 332E PS	WNMG060408E-PS		●	●		●		●	●					●	0.031	0.375	0.187	0.150
		WNMG 430.5 PS	WNMG080402-PS		●	●		●		●	●					●	0.008	0.500	0.187	0.203
		WNMG 431 PS	WNMG080404-PS		●	●		●		●	●					●	0.016	0.500	0.187	0.203
		WNMG 432 PS	WNMG080408-PS		●	●		●		●	●					●	0.031	0.500	0.187	0.203
		WNMG 433 PS	WNMG080412-PS		●	●		●		●	●					●	0.047	0.500	0.187	0.203
Finishing for mild steel	ZF	WNMG 330.5E ZF	WNMG060402E-ZF		●	●		●		●	●					●	0.008	0.375	0.187	0.150
		WNMG 331E ZF	WNMG060404E-ZF		●	●		●		●	●					●	0.016	0.375	0.187	0.150
		WNMG 332E ZF	WNMG060408E-ZF		●	●		●		●	●					●	0.031	0.375	0.187	0.150
		WNMG 333E ZF	WNMG060412E-ZF		●	●											0.047	0.375	0.187	0.150
		WNMG 331 ZF	WNMG060404-ZF		●	●											0.016	0.375	0.187	0.150
		WNMG 332 ZF	WNMG060408-ZF		●	●											0.031	0.375	0.187	0.150
		WNMG 430.5 ZF	WNMG080402-ZF		●	●		●		●	●					●	0.008	0.500	0.187	0.203
		WNMG 431 ZF	WNMG080404-ZF		●	●	●	●		●	●			●	●	●	0.016	0.500	0.187	0.203
		WNMG 432 ZF	WNMG080408-ZF		●	●	●	●		●	●			●	●	●	0.031	0.500	0.187	0.203
		WNMG 433 ZF	WNMG080412-ZF		●	●		●		●	●					●	0.047	0.500	0.187	0.203
Finishing	AS	WNMG 431 AS	WNMG080404-AS	●												●	0.016	0.500	0.187	0.203
		WNMG 432 AS	WNMG080408-AS	●	●	●	●									●	0.031	0.500	0.187	0.203
		WNMG 433 AS	WNMG080412-AS	●	●	●	●										0.047	0.500	0.187	0.203
	NS	WNMG 431 NS	WNMG080404-NS		●	●										●	0.016	0.500	0.187	0.203
		WNMG 432 NS	WNMG080408-NS		●	●										●	0.031	0.500	0.187	0.203

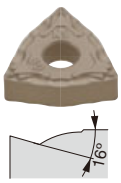












● : Line up

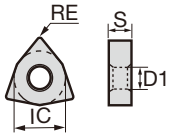
Reference pages: External toolholder → C121 - Internal toolholder → D083 -
TungCap → K010

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

WN

Trigon, 80° with hole

		T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530	NS9530	NS520
P	Steel	●◐	◐✠	✠	◐			◐✠	✠	●◐	●◐	●◐	●◐	●◐	●◐
M	Stainless	●◐			●	●	◐	●◐	✠	●◐	●◐				
K	Cast iron	●◐								●◐	●◐	●◐	●◐	●◐	●◐
N	Non-ferrous														
S	Superalloy					●	◐			●◐					
H	Hard material														

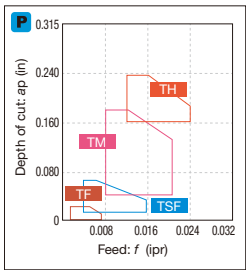


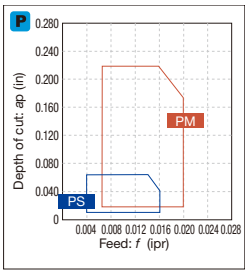
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T9235	T6215	AH8005	AH8015	AH6225	AH6235	AH120	GH330	GT9530	AT9530	NS9530	NS520	RE	IC	S	D1
Finishing	TS	WNMG 330.5E TS	WNMG060402E-TS	●	●		●		●	●				●		●		0.008	0.375	0.187	0.150
		WNMG 331E TS	WNMG060404E-TS	●	●		●		●	●				●		●		0.016	0.375	0.187	0.150
		WNMG 332E TS	WNMG060408E-TS	●	●		●		●	●				●		●		0.031	0.375	0.187	0.150
		WNMG 330.5 TS	WNMG080402-TS	●	●		●		●	●						●		0.008	0.500	0.187	0.203
		WNMG 431 TS	WNMG080404-TS	●	●	●	●		●	●				●	●	●	●	0.016	0.500	0.187	0.203
		WNMG 432 TS	WNMG080408-TS	●	●	●	●		●	●				●	●	●	●	0.031	0.500	0.187	0.203
		WNMG 433 TS	WNMG080412-TS	●	●	●	●		●	●						●		0.047	0.500	0.187	0.203
	SF	WNMG 331 SF	WNMG060404-SF				●			●								0.016	0.375	0.187	0.150
		WNMG 332 SF	WNMG060408-SF				●			●								0.031	0.375	0.187	0.150
		WNMG 431 SF	WNMG080404-SF				●			●								0.016	0.500	0.187	0.203
		WNMG 432 SF	WNMG080408-SF				●			●								0.031	0.500	0.187	0.203
	SS	WNMG 331E SS	WNMG060404E-SS							●	●							0.016	0.375	0.187	0.150
		WNMG 332E SS	WNMG060408E-SS							●	●							0.031	0.375	0.187	0.150
		WNMG 333E SS	WNMG060412E-SS							●	●							0.047	0.375	0.187	0.150
		WNMG 431 SS	WNMG080404-SS				●			●	●	●	●					0.016	0.500	0.187	0.203
		WNMG 432 SS	WNMG080408-SS				●			●	●	●	●					0.031	0.500	0.187	0.203
		WNMG 433 SS	WNMG080412-SS				●			●	●	●						0.047	0.500	0.187	0.203
	HRF	WNMG 431 HRF	WNMG080404-HRF					●	●									0.016	0.500	0.187	0.203
		WNMG432 HRF	WNMG080408-HRF					●	●									0.031	0.500	0.187	0.203

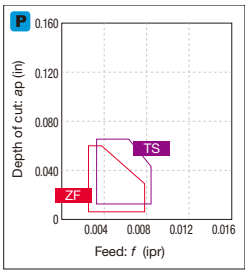
Coated | Coated cermet | Cermet | Dimension (in)

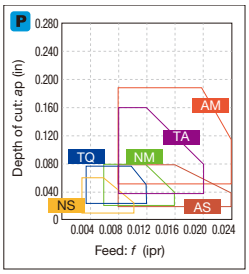
● : Line up

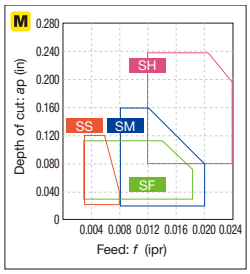
Chip control range

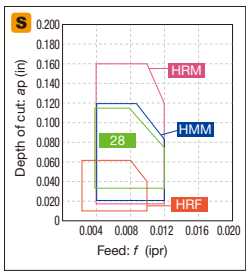












Reference pages: External toolholder → C121 - Internal toolholder → D083 -
TungCap → K010

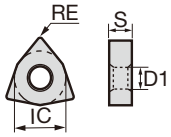
Insert NEGATIVE TYPE

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

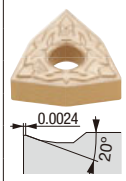
WN

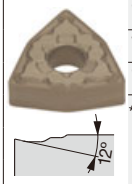
Trigon, 80° with hole

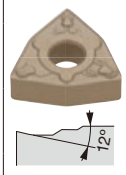
		T9205	T9215	T9225	T9235	T5105	T5115	GT9530	GT720	NS9530	NS520
P	Steel	●	●◐	◐✠	✠			●◐	●◐	●◐	●◐
M	Stainless		●◐								
K	Cast iron	●◐	●◐			●	◐	●◐	●◐	●◐	●◐
N	Non-ferrous										
S	Superalloy										
H	Hard material										

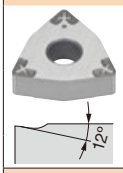


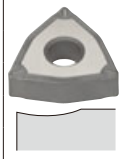
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T5105	T5115	GT9530	GT720	NS9530	NS520	RE	IC	S	D1
				Coated						Coated cermet		Cermet		Dimension (in)			
Finishing	CF	WNMG 431 CF	WNMG080404-CF					●	●					0.016	0.500	0.187	0.203
		WNMG 432 CF	WNMG080408-CF					●	●					0.031	0.500	0.187	0.203
		WNMG 433 CF	WNMG080412-CF					●	●					0.047	0.500	0.187	0.203
Finishing (wiper)	FW	WNMG 331E FW	WNMG060404E-FW	●	●	●				●		●		0.016	0.375	0.187	0.150
		WNMG 332E FW	WNMG060408E-FW	●	●	●				●		●		0.031	0.375	0.187	0.150
		WNMG 431 FW	WNMG080404-FW		●	●				●		●		0.016	0.500	0.187	0.203
		WNMG 432 FW	WNMG080408-FW	●	●	●				●		●		0.031	0.500	0.187	0.203
		*Wiper															
	AFW	WNMG 331 AFW	WNMG060404-AFW		●	●						●		0.016	0.375	0.187	0.150
		WNMG 332 AFW	WNMG060408-AFW	●	●	●	●					●		0.031	0.375	0.187	0.150
		WNMG 431 AFW	WNMG080404-AFW		●	●						●		0.016	0.500	0.187	0.203
		WNMG 432 AFW	WNMG080408-AFW	●	●	●	●					●		0.031	0.500	0.187	0.203
		*Wiper															
Finishing	01	WNGG 430.5-01	WNGG080402-01									●	●	0.008	0.500	0.187	0.203
		WNGG 431-01	WNGG080404-01								●	●	●	0.016	0.500	0.187	0.203
		WNGG 432-01	WNGG080408-01								●	●		0.031	0.500	0.187	0.203
	11	WNMG 431-11	WNMG080404-11									●		0.016	0.500	0.187	0.203
		WNMG 432-11	WNMG080408-11									●		0.031	0.500	0.187	0.203
Finishing for mild steel	17	WNMG 431-17	WNMG080404-17									●		0.016	0.500	0.187	0.203
		WNMG 432-17	WNMG080408-17									●		0.031	0.500	0.187	0.203
Boring (double sided)	CB	WNMG 331 CB	WNMG060404-CB			●						●		0.016	0.375	0.187	0.150
		WNMG 332 CB	WNMG060408-CB			●						●		0.031	0.375	0.187	0.150

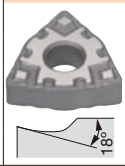


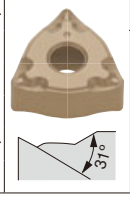












* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

● : Line up

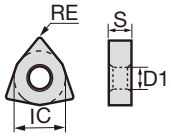
Reference pages: External toolholder → C121 - Internal toolholder → D083 -
TungCap → K010

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

WN

Trigon, 80° with hole

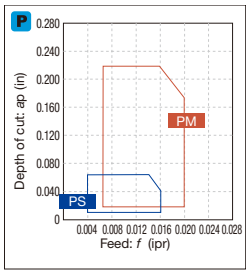
		T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH6235	AH725	AH110	AH120	GT9530	NS9530
P	Steel	●	●⊂	⊂✠	✠	⊂			⊂✠	✠	⊂	●	●⊂	●⊂	●⊂
M	Stainless		●⊂			●		⊂	●⊂	✠	⊂	●	●⊂		
K	Cast iron	●⊂	●⊂				●⊂				⊂	●	●⊂	●⊂	●⊂
N	Non-ferrous														
S	Superalloy							⊂			●	●	●⊂		
H	Hard material														

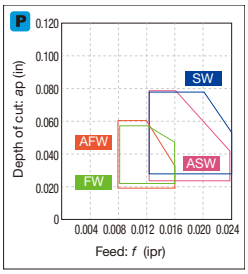


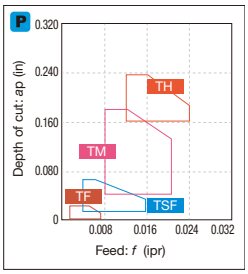
Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH6235	AH725	AH110	AH120	Coated cermet GT9530	Cermet NS9530	Dimension (in) RE	IC	S	D1
Medium cutting	TM	WNMG 331E TM	WNMG060404E-TM		●	●		●		●	●				●			0.016	0.375	0.187	0.150
		WNMG 332E TM	WNMG060408E-TM		●	●		●		●	●				●			0.031	0.375	0.187	0.150
		WNMG 333E TM	WNMG060412E-TM		●	●		●		●	●				●			0.047	0.375	0.187	0.150
		WNMG 331 TM	WNMG060404-TM		●	●	●											0.016	0.375	0.187	0.150
		WNMG 332 TM	WNMG060408-TM	●	●	●	●								●			0.031	0.375	0.187	0.150
		WNMG 431 TM	WNMG080404-TM	●	●	●	●	●	●	●	●	●	●		●			0.016	0.500	0.187	0.203
		WNMG 432 TM	WNMG080408-TM	●	●	●	●	●	●	●	●	●	●	●	●			0.031	0.500	0.187	0.203
		WNMG 433 TM	WNMG080412-TM	●	●	●	●	●	●	●	●	●		●	●			0.047	0.500	0.187	0.203
		WNMG 434 TM	WNMG080416-TM	●	●	●		●	●	●	●	●			●			0.063	0.500	0.187	0.203
	PM	WNMG 331E PM	WNMG060404E-PM		●	●		●		●	●							0.016	0.375	0.187	0.150
		WNMG 332E PM	WNMG060408E-PM		●	●		●		●	●							0.031	0.375	0.187	0.150
		WNMG 333E PM	WNMG060412E-PM		●	●		●		●	●							0.047	0.375	0.187	0.150
		WNMG 431 PM	WNMG080404-PM		●	●		●		●	●							0.016	0.500	0.187	0.203
		WNMG 432 PM	WNMG080408-PM		●	●		●		●	●							0.031	0.500	0.187	0.203
		WNMG 433 PM	WNMG080412-PM		●	●		●		●	●							0.047	0.500	0.187	0.203
		WNMG 434 PM	WNMG080416-PM		●	●		●		●	●							0.063	0.500	0.187	0.203
Medium cutting for mild steel	ZM	WNMG 331E ZM	WNMG060404E-ZM		●	●		●		●	●							0.016	0.375	0.187	0.150
		WNMG 332E ZM	WNMG060408E-ZM		●	●		●		●	●							0.031	0.375	0.187	0.150
		WNMG 333E ZM	WNMG060412E-ZM		●	●		●		●	●							0.047	0.375	0.187	0.150
		WNMG 332 ZM	WNMG060408-ZM		●	●	●											0.031	0.375	0.187	0.150
		WNMG 333 ZM	WNMG060412-ZM		●	●	●											0.047	0.375	0.187	0.150
		WNMG 431 ZM	WNMG080404-ZM		●	●		●		●	●							0.016	0.500	0.187	0.203
		WNMG 432 ZM	WNMG080408-ZM		●	●	●	●		●	●					●	●	0.031	0.500	0.187	0.203
		WNMG 433 ZM	WNMG080412-ZM	●	●	●	●	●		●	●							0.047	0.500	0.187	0.203
		WNMG 434 ZM	WNMG080416-ZM		●	●		●		●	●							0.063	0.500	0.187	0.203

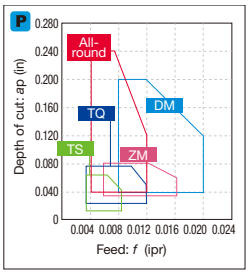
● : Line up

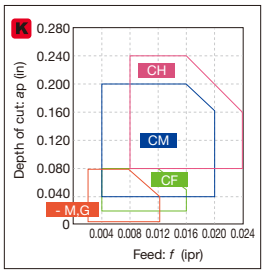
Chip control range



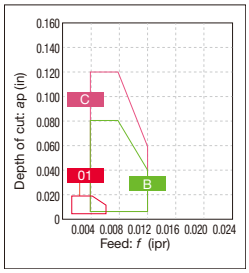








*-M,G: Without chipbreaker



Reference pages: External toolholder → C121 - Internal toolholder → D083 -
TungCap → K010

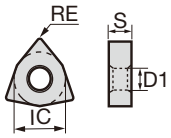
Insert NEGATIVE TYPE

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

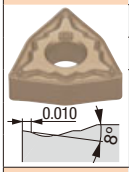
WN

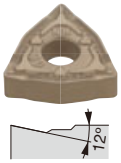
Trigon, 80° with hole

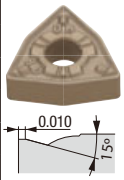
		T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120	NS9530	NS520	TH10
		Coated																	Cermet		Uncoated
P	Steel	●	●ⓒ	●ⓒ	✠	✠	ⓒ							ⓒ✠	✠	ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless		●ⓒ			●						●	ⓒ	●ⓒ	✠	ⓒ	●	●ⓒ			●
K	Cast iron	●ⓒ	●ⓒ				●	●ⓒ	●	ⓒ	✠					ⓒ	●	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous																				●
S	Superalloy											●	ⓒ			●	●	●ⓒ			
H	Hard material																				

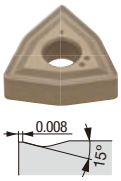


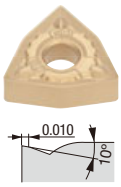
Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	AH8005	AH8015	AH6225	AH6235	AH725	AH110	AH120	NS9530	NS520	TH10	RE	IC	S	D1
Medium cutting	**AM**	**WNMG 432 AM**	**WNMG080408-AM**		●	●																		0.031	0.500	0.187	0.203
		WNMG 433 AM	**WNMG080412-AM**		●	●																		0.047	0.500	0.187	0.203
		WNMG 434 AM	**WNMG080416-AM**		●	●																		0.063	0.500	0.187	0.203
	NM	**WNMG 333E NM**	**WNMG060412E-NM**			●																		0.047	0.375	0.187	0.150
		WNMG 432 NM	**WNMG080408-NM**	●	●	●																		0.031	0.500	0.187	0.203
		WNMG 433 NM	**WNMG080412-NM**	●	●	●	●																	0.047	0.500	0.187	0.203
	DM	**WNMG 431 DM**	**WNMG080404-DM**		●	●		●							●	●								0.016	0.500	0.187	0.203
		WNMG 432 DM	**WNMG080408-DM**	●	●	●	●	●							●	●								0.031	0.500	0.187	0.203
		WNMG 433 DM	**WNMG080412-DM**	●	●	●	●	●							●	●								0.047	0.500	0.187	0.203
		WNMG 434 DM	**WNMG080416-DM**		●	●		●							●	●								0.063	0.500	0.187	0.203
	All-round	**WNMG 331**	**WNMG060404**		●	●					●	●	●											0.016	0.375	0.187	0.150
		WNMG 332	**WNMG060408**		●	●				●	●	●	●											0.031	0.375	0.187	0.150
		WNMG 431	**WNMG080404**	●	●	●	●		●	●	●	●	●						●	●	●		●	0.016	0.500	0.187	0.203
		WNMG 432	**WNMG080408**	●	●	●	●		●	●	●	●	●						●	●	●	●	●	0.031	0.500	0.187	0.203
		WNMG 433	**WNMG080412**	●	●	●	●		●	●	●	●	●						●	●			●	0.047	0.500	0.187	0.203
		WNMG 434	**WNMG080416**	●	●	●	●		●	●	●	●												0.063	0.500	0.187	0.203
	SM	**WNMG 331E SM**	**WNMG060404E-SM**					●								●								0.016	0.375	0.187	0.150
		WNMG 332E SM	**WNMG060408E-SM**					●								●								0.031	0.375	0.187	0.150
		WNMG 333E SM	**WNMG060412E-SM**					●								●								0.047	0.375	0.187	0.150
		WNMG 332 SM	**WNMG060408-SM**															●						0.031	0.375	0.187	0.150
		WNMG 431 SM	**WNMG080404-SM**					●								●	●							0.016	0.500	0.187	0.203
		WNMG 432 SM	**WNMG080408-SM**					●								●	●	●						0.031	0.500	0.187	0.203
		WNMG 433 SM	**WNMG080412-SM**					●								●	●	●						0.047	0.500	0.187	0.203
	SDM	**WNMG 431 SDM**	**WNMG080404-SDM**					●								●	●							0.016	0.500	0.187	0.203
		WNMG 432 SDM	**WNMG080408-SDM**					●								●	●							0.031	0.500	0.187	0.203
		WNMG 433 SDM	**WNMG080412-SDM**					●								●	●							0.047	0.500	0.187	0.203
	HRM	**WNMG 431 HRM**	**WNMG080404-HRM**											●	●									0.016	0.500	0.187	0.203
		WNMG 432 HRM	**WNMG080408-HRM**											●	●									0.031	0.500	0.187	0.203
		WNMG 433 HRM	**WNMG080412-HRM**											●	●									0.047	0.500	0.187	0.203

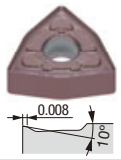


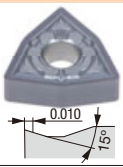












● : Line up

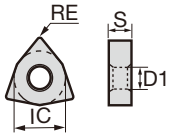
Reference pages: External toolholder → C121 - Internal toolholder → D083 -
TungCap → K010

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

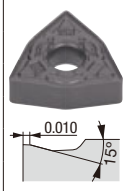
WN

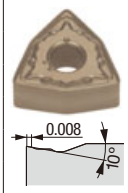
Trigon, 80° with hole

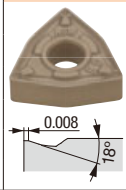
		T9205	T9215	T9225	T9235	T6215	T505	T515	T5105	T5115	T5125	GT9530	AT9530	NS9530
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ						●ⓒ	●ⓒ	●ⓒ
M	Stainless		●ⓒ			●								
K	Cast iron	●ⓒ	●ⓒ				●	●ⓒ	●	ⓒ	✠	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous													
S	Superalloy													
H	Hard material													

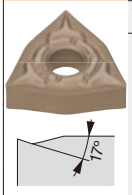


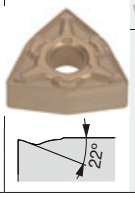
Application	Chipbreaker	Designation Inch	Designation Metric	Coated										Coated cermet		Cermet			Dimension (in) RE	IC	S	D1
Medium cutting	CM	WNMG 431 CM	WNMG080404-CM	●	●			●	●	●		●							0.016	0.500	0.187	0.203
		WNMG 432 CM	WNMG080408-CM	●	●			●	●	●	●	●	●						0.031	0.500	0.187	0.203
		WNMG 433 CM	WNMG080412-CM	●	●			●	●	●	●	●	●						0.047	0.500	0.187	0.203
Finishing cutting (wiper)	SW	WNMG 332E SW	WNMG060408E-SW	●	●	●						●							0.031	0.375	0.187	0.150
		WNMG 333E SW	WNMG060412E-SW	●	●	●						●							0.047	0.375	0.187	0.150
		WNMG 432 SW	WNMG080408-SW	●	●	●				●		●							0.031	0.500	0.187	0.203
		WNMG 433 SW	WNMG080412-SW		●	●				●		●							0.047	0.500	0.187	0.203
		*Wiper																				
	ASW	WNMG 332 ASW	WNMG060408-ASW	●	●	●													0.031	0.375	0.187	0.150
		WNMG 333 ASW	WNMG060412-ASW	●	●	●	●												0.047	0.375	0.187	0.150
		WNMG 432 ASW	WNMG080408-ASW	●	●	●	●												0.031	0.500	0.187	0.203
		WNMG 433 ASW	WNMG080412-ASW	●	●	●	●												0.047	0.500	0.187	0.203
		*Wiper																				
Medium cutting	TQ	WNMG 431 TQ	WNMG080404-TQ		●	●								●	●	●			0.016	0.500	0.187	0.203
		WNMG 432 TQ	WNMG080408-TQ		●	●								●	●	●			0.031	0.500	0.187	0.203
	TA	WNMG 432 TA	WNMG080408-TA		●	●													0.031	0.500	0.187	0.203
		WNMG 433 TA	WNMG080412-TA		●	●													0.047	0.500	0.187	0.203







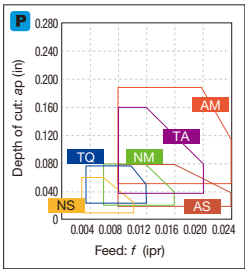


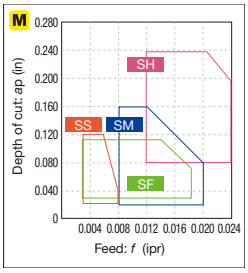


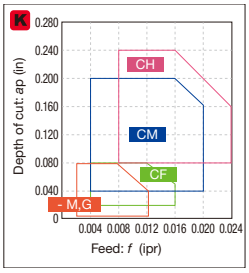
* Please see **L011 - L015** about the adjustment of the machining program for rounding or taper machining when using SW/FW.
Please contact our sales representatives if you have any questions.

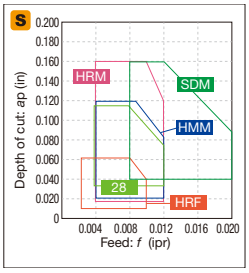
● : Line up

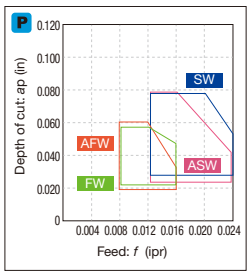
Chip control range











*-M,G: Without chipbreaker

Reference pages: External toolholder → C121 - Internal toolholder → D083 -
TungCap → K010

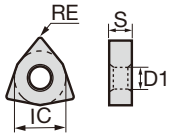
Insert NEGATIVE TYPE

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

WN

Trigon, 80° with hole

		T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH330	GT720	NS9530	TH10	KS20
		Coated													Coated cermet	Cermet	Uncoated	
P	Steel	●	●ⓒ	ⓒ✠	✠	ⓒ			ⓒ✠	✠		ⓒ	●ⓒ	●ⓒ	●ⓒ			
M	Stainless		●ⓒ			●		ⓒ	●ⓒ	✠		ⓒ	●ⓒ	●ⓒ			●	
K	Cast iron	●ⓒ	●ⓒ				●ⓒ					ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●	ⓒ✠
N	Non-ferrous																●	ⓒ✠
S	Superalloy							ⓒ			ⓒ	●	●ⓒ					ⓒ✠
H	Hard material																	



Application	Chipbreaker	Designation Inch	Designation Metric	T9205	T9215	T9225	T9235	T6215	T515	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH330	GT720	NS9530	TH10	KS20	RE	IC	S	D1
Medium cutting	**SA**	**WNMG 432 SA**	**WNMG080408-SA**					●			●	●		●	●					●	0.031	0.500	0.187	0.203
		WNMG 433 SA	**WNMG080412-SA**					●			●	●			●						0.047	0.500	0.187	0.203
	HMM	**WNMG 431 HMM**	**WNMG080404-HMM**										●								0.016	0.500	0.187	0.203
		WNMG 432 HMM	**WNMG080408-HMM**										●								0.031	0.500	0.187	0.203
		WNMG 433 HMM	**WNMG080412-HMM**										●								0.047	0.500	0.187	0.203
	27	**WNMG 432-27**	**WNMG080408-27**			●															0.031	0.500	0.187	0.203
	33	**WNMG 431-33**	**WNMG080404-33**														●				0.016	0.500	0.187	0.203
		WNMG 432-33	**WNMG080408-33**																●		0.031	0.500	0.187	0.203
	37	**WNMG 431-37**	**WNMG080404-37**															●			0.016	0.500	0.187	0.203
		WNMG 432-37	**WNMG080408-37**		●											●		●			0.031	0.500	0.187	0.203
Medium to heavy cutting	**TH**	**WNMG 432 TH**	**WNMG080408-TH**	●	●	●	●		●	●	●				●						0.031	0.500	0.187	0.203
		WNMG 433 TH	**WNMG080412-TH**	●	●	●	●		●	●					●						0.047	0.500	0.187	0.203
		WNMG 434 TH	**WNMG080416-TH**	●	●	●			●	●					●						0.063	0.500	0.187	0.203
		WNMG 543 TH	**WNMG100612-TH**		●	●															0.047	0.625	0.250	0.250
		WNMG 544 TH	**WNMG100616-TH**		●	●															0.063	0.625	0.250	0.250
	THS	**WNMG 432 THS**	**WNMG080408-THS**	●	●	●	●														0.031	0.500	0.187	0.203
		WNMG 433 THS	**WNMG080412-THS**	●	●	●	●														0.047	0.500	0.187	0.203
		WNMG 434 THS	**WNMG080416-THS**		●	●															0.063	0.500	0.187	0.203
		WNMG 543 THS	**WNMG100612-THS**		●	●	●														0.047	0.625	0.250	0.250
		WNMG 544 THS	**WNMG100616-THS**		●	●	●														0.063	0.625	0.250	0.250

● : Line up

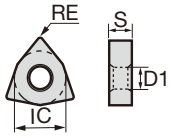
Reference pages: External toolholder → C121 - Internal toolholder → D083 -
TungCap → K010

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

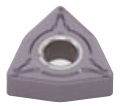
WN

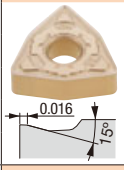
Trigon, 80° with hole

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



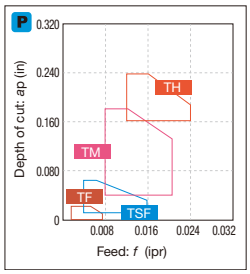
Application	Chipbreaker	Designation Inch	Designation Metric	Coated T505	T515	T5105	T5115	T5125	AH6225	AH6235	Cermet NS520	Uncoated TH10	Ceramic LX10	LX11	Dimension (in) RE	IC	S	D1
Medium to heavy cutting	**SH**	**WNMG 432 SH**	**WNMG080408-SH**						●	●					0.031	0.500	0.187	0.203
		WNMG 433 SH	**WNMG080412-SH**						●	●					0.047	0.500	0.187	0.203
	CH	**WNMG 432 CH**	**WNMG080408-CH**			●	●	●							0.031	0.500	0.187	0.203
		WNMG 433 CH	**WNMG080412-CH**			●	●	●							0.047	0.500	0.187	0.203
Finishing to medium cutting	**-**	**WNMA 331E**	**WNMA060404E**		●										0.016	0.375	0.187	0.150
		WNMA 332E	**WNMA060408E**		●										0.031	0.375	0.187	0.150
		WNMA 333E	**WNMA060412E**		●										0.047	0.375	0.187	0.150
		WNMA 334E	**WNMA060416E**		●										0.063	0.375	0.187	0.150
		WNMA 431	**WNMA080404**			●	●	●				●			0.016	0.500	0.187	0.203
		WNMA 432	**WNMA080408**	●	●	●	●	●			●	●			0.031	0.500	0.187	0.203
		WNMA 433	**WNMA080412**	●	●	●	●	●							0.047	0.500	0.187	0.203
		WNMA 434	**WNMA080416**	●	●	●	●	●							0.063	0.500	0.187	0.203
		WNGA 431	**WNGA080404**										●	▲	0.016	0.500	0.187	0.203
		WNGA 432	**WNGA080408**										●	▲	0.031	0.500	0.187	0.203
		WNGA 433	**WNGA080412**										●	▲	0.047	0.500	0.187	0.203

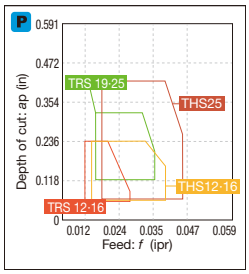


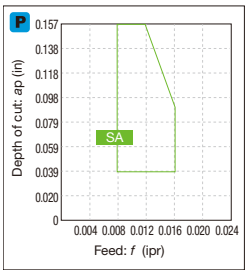


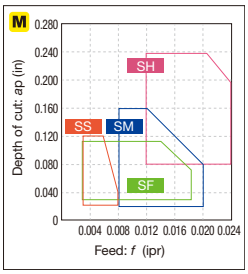
● : Line up
▲ : To be discontinued

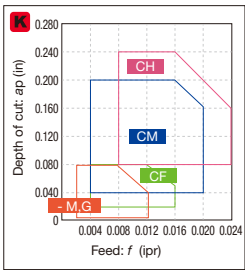
Chip control range



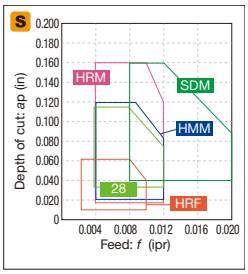








*-M,G: Without chipbreaker



Reference pages: External toolholder → C121 - Internal toolholder → D083 -
TungCap → K010

Insert NEGATIVE TYPE

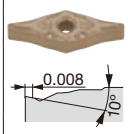
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

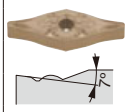
YN

Rhombic, 25° with hole

		T9215	T9225	T9235	T6215	AH8015	AH6225	GT9530	NS9530
P	Steel	●◐	◐✠	✠	◐		◐✠	●◐	●◐
M	Stainless	●◐			●	◐	●◐		
K	Cast iron	●◐						●◐	●◐
N	Non-ferrous								
S	Superalloy					◐			
H	Hard material								

Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T9235	T6215	AH8015	AH6225	GT9530	NS9530	RE	IC	S	D1
				Coated						Coated cermet	Cermet	Dimension (in)			
Finishing for mild steel	ZF	YNMG 330.5 ZF	YNMG160402-ZF	●	●	●	●	●	●	●	●	0.008	0.375	0.187	0.150
		YNMG 331 ZF	YNMG160404-ZF	●	●	●	●	●	●	●	●	0.016	0.375	0.187	0.150
		YNMG 332 ZF	YNMG160408-ZF	●	●	●	●	●	●	●	●	0.031	0.375	0.187	0.150
Medium cutting for mild steel	ZM	YNMG 331 ZM	YNMG160404-ZM	●	●	●	●	●	●	●	●	0.016	0.375	0.187	0.150
		YNMG 332 ZM	YNMG160408-ZM	●	●	●	●	●	●	●	●	0.031	0.375	0.187	0.150



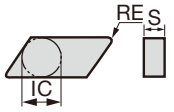


● : Line up

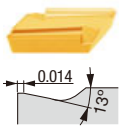
KN

Parallelogram, 55° without hole

		GH330
P	Steel	●◐
M	Stainless	●◐
K	Cast iron	●◐
N	Non-ferrous	
S	Superalloy	
H	Hard material	

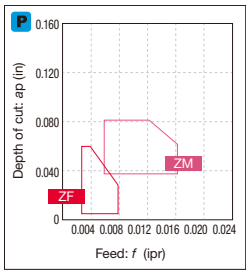


Application	Chipbreaker	Designation Inch	Designation Metric	GH330	RE	IC	S	D1
				Coated	Dimension (in)			
Finishing	S1	-	KNMX160405R-S1	●	0.020	0.375	0.187	-
		-	KNMX160405L-S1	●	0.020	0.375	0.187	-



● : Line up

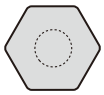
Chip control range



Reference pages: YNMG...: External toolholder → C103 -, Internal toolholder → D077 -
TungCap → K014 -

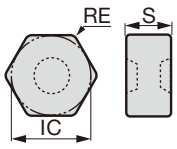
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

HN



Hexagonal, 120° without hole

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



Application	Chipbreaker	Designation Inch	Designation Metric	FX105	RE	IC	S	D1
Finishing to medium cutting	-	HNGD 453	HNGD050712	●	0.047	0.500	0.313	-
		HNGD 454	HNGD050716	●	0.063	0.500	0.313	-

Dimension (in)

● : Line up

Reference pages: HNGD...: External toolholder → C059

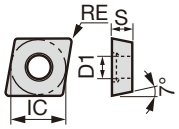
Insert POSITIVE TYPE

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

CC

Rhombic, 80°
with hole
Positive 7°

		AH725	SH7025	SH725	SH730	J740
P	Steel	ᴄ	●ᴄ	●ᴄ	●ᴄ	●ᴄ
M	Stainless	ᴄ	●ᴄ	●ᴄ	●ᴄ	●ᴄ
K	Cast iron	ᴄ				
N	Non-ferrous					
S	Superalloy	●		●ᴄ		
H	Hard material					



Application	Chipbreaker	Designation Inch	Designation Metric	AH725	SH7025	SH725	SH730	J740	RE	IC	S	D1
				Coated					Dimension (in)			
Precision finishing (sharp edge)	JP	CCGT 21.5V FN-JP	CCGT060200FN-JP		●	●			<0.001	0.250	0.094	0.109
		CCGT 21.50 FN-JP	CCGT060201FN-JP		●	●			<0.004	0.250	0.094	0.109
		CCGT 21.50.5 FN-JP	CCGT060202FN-JP		●	●			<0.008	0.250	0.094	0.109
		CCGT 32.5V FN-JP	CCGT09T300FN-JP		●	●			<0.002	0.375	0.156	0.173
		CCGT 32.50 FN-JP	CCGT09T301FN-JP		●	●			<0.004	0.375	0.156	0.173
		CCGT 32.50.5 FN-JP	CCGT09T302FN-JP		●	●			<0.008	0.375	0.156	0.173
	01	CCGT 21.50.5 F-01	CCGT060202F-01		●	●			<0.008	0.250	0.094	0.109
		CCGT 21.51 F-01	CCGT060204F-01		●	●			<0.016	0.250	0.094	0.109
		CCGT 32.50.5 F-01	CCGT09T302F-01		●	●			<0.008	0.375	0.156	0.173
		CCGT 32.51 F-01	CCGT09T304F-01		●	●			<0.016	0.375	0.156	0.173
Precision finishing	01	CCGT 21.50.5-01	CCGT060202-01					●	0.008	0.250	0.094	0.109
		CCGT 32.50.5-01	CCGT09T302-01					●	0.008	0.375	0.156	0.173
Finishing (sharp edge)	JS	CCGT 4.51.80 F-JS	CCGT03X101F-JS		●	●			<0.004	0.141	0.055	0.075
		CCGT 4.51.80.5 F-JS	CCGT03X102F-JS		●	●			<0.008	0.141	0.055	0.075
		CCGT 4.51.81 F-JS	CCGT03X104F-JS		●	●			<0.016	0.141	0.055	0.075
		CCGT 5.52.20 F-JS	CCGT04T101F-JS		●	●			<0.004	0.172	0.070	0.087
		CCGT 5.52.20.5 F-JS	CCGT04T102F-JS		●	●			<0.008	0.172	0.070	0.087
		CCGT 5.52.21 F-JS	CCGT04T104F-JS		●	●			<0.016	0.172	0.070	0.087
	JS	CCGT 21.5V FN-JS	CCGT060200FN-JS		●	●	●		<0.001	0.250	0.094	0.109
		CCGT 21.50 FN-JS	CCGT060201FN-JS		●	●	●		<0.004	0.250	0.094	0.109
		CCGT 21.50.5 FN-JS	CCGT060202FN-JS		●	●	●		<0.008	0.250	0.094	0.109
		CCGT 21.51 FN-JS	CCGT060204FN-JS		●	●	●		<0.016	0.250	0.094	0.109
		CCGT 32.5V FN-JS	CCGT09T300FN-JS		●	●	●		<0.001	0.375	0.156	0.173
		CCGT 32.50 FN-JS	CCGT09T301FN-JS		●	●	●		<0.004	0.375	0.156	0.173
		CCGT 32.50.5 FN-JS	CCGT09T302FN-JS		●	●	●		<0.008	0.375	0.156	0.173
		CCGT 32.51 FN-JS	CCGT09T304FN-JS		●	●	●		<0.016	0.375	0.156	0.173
Finishing	JS	CCGT 4.51.80 JS	CCGT03X101-JS				●		<0.004	0.141	0.055	0.075
		CCGT 4.51.80.5 JS	CCGT03X102-JS				●		<0.008	0.141	0.055	0.075
		CCGT 4.51.81 JS	CCGT03X104-JS				●		<0.016	0.141	0.055	0.075
		CCGT 5.52.20 JS	CCGT04T101-JS				●		<0.004	0.172	0.070	0.087
		CCGT 5.52.20.5 JS	CCGT04T102-JS				●		<0.008	0.172	0.070	0.087
		CCGT 5.52.21 JS	CCGT04T104-JS				●		<0.016	0.172	0.070	0.087
	JS	CCGT 21.50 N-JS	CCGT060201N-JS	●					0.004	0.250	0.094	0.109
		CCGT 21.50.5 N-JS	CCGT060202N-JS	●					0.008	0.250	0.094	0.109
		CCGT 21.51 N-JS	CCGT060204N-JS	●					0.016	0.250	0.094	0.109
		CCGT 32.50 N-JS	CCGT09T301N-JS	●					0.004	0.375	0.156	0.173
		CCGT 32.50.5 N-JS	CCGT09T302N-JS	●					0.008	0.375	0.156	0.173
		CCGT 32.51 N-JS	CCGT09T304N-JS	●					0.016	0.375	0.156	0.173

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

●: Line up

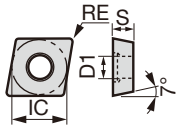
Reference pages: External toolholder → C034 - Internal toolholder → D018 -
J-Series toolholder → G030 - TungCap → K011 -

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

CC

Rhombic, 80°
with hole
Positive 7°

		T9215	T9225	T6215	AH8005	AH8015	AH6225	AH725	SH7025	SH725	GH730	J740	GT9530	NS9530	TH10
P	Steel	●⊂	⊂✠	⊂			⊂✠	⊂	●⊂	●⊂	⊂	●⊂	●⊂	●⊂	●
M	Stainless	●⊂		●	●	⊂	●⊂	⊂	●⊂	●⊂	⊂	●⊂			●
K	Cast iron	●⊂						⊂			⊂		●⊂	●⊂	●
N	Non-ferrous														●
S	Superalloy				●	⊂		●							
H	Hard material														

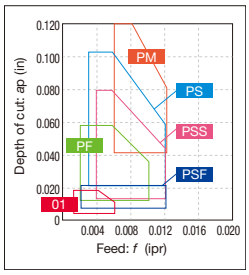


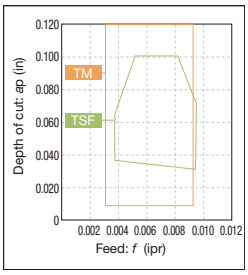
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH8005	AH8015	AH6225	AH725	SH7025	SH725	GH730	J740	GT9530	NS9530	TH10	RE	IC	S	D1
Finishing	PSF	CCMT 21.50.5 PSF	CCMT060202-PSF							●					●	●		0.008	0.250	0.094	0.109
		CCMT 21.51 PSF	CCMT060204-PSF	●	●		●	●		●					●	●		0.016	0.250	0.094	0.109
		CCMT 32.50.5 PSF	CCMT09T302-PSF							●						●		0.008	0.375	0.156	0.173
		CCMT 32.51 PSF	CCMT09T304-PSF	●	●		●	●		●					●	●		0.016	0.375	0.156	0.173
		CCMT 32.52 PSF	CCMT09T308-PSF	●	●					●					●	●		0.031	0.375	0.156	0.173
	PF	CCMT 21.50.5 PF	CCMT060202-PF										●		●	●		0.008	0.250	0.094	0.109
		CCMT 21.51 PF	CCMT060204-PF						●				●		●	●		0.016	0.250	0.094	0.109
		CCMT 21.52 PF	CCMT060208-PF												●	●		0.031	0.250	0.094	0.109
		CCMT 32.50.5 PF	CCMT09T302-PF										●			●		0.008	0.375	0.156	0.173
		CCMT 32.51 PF	CCMT09T304-PF										●		●	●		0.016	0.375	0.156	0.173
		CCMT 32.52 PF	CCMT09T308-PF		●										●	●		0.031	0.375	0.156	0.173
	TSF	CCMT 21.50.5 TSF	CCMT060202-TSF	●	●	●		●	●							●		0.008	0.250	0.094	0.109
		CCMT 21.51 TSF	CCMT060204-TSF	●	●	●		●	●							●		0.016	0.250	0.094	0.109
		CCMT 21.52 TSF	CCMT060208-TSF	●	●	●		●	●							●		0.031	0.250	0.094	0.109
		CCMT 32.50.5 TSF	CCMT09T302-TSF	●	●	●		●	●							●		0.008	0.375	0.156	0.173
		CCMT 32.51 TSF	CCMT09T304-TSF	●	●	●		●	●							●		0.016	0.375	0.156	0.173
		CCMT 32.52 TSF	CCMT09T308-TSF	●	●	●		●	●							●		0.031	0.375	0.156	0.173
Finishing (sharp edge)	J10	CCGT 21.5V FR-J10	CCGT060200FR-J10								●	●		●			●	0.001	0.250	0.094	0.109
		CCGT 21.5V FL-J10	CCGT060200FL-J10									●		●			●	0.001	0.250	0.094	0.109
		CCGT 21.50 FR-J10	CCGT060201FR-J10								●	●		●		●	●	0.004	0.250	0.094	0.109
		CCGT 21.50 FL-J10	CCGT060201FL-J10									●		●			●	0.004	0.250	0.094	0.109
		CCGT 21.50.5 FR-J10	CCGT060202FR-J10								●	●		●		●	●	0.008	0.250	0.094	0.109
		CCGT 21.50.5 FL-J10	CCGT060202FL-J10								●	●		●		●	●	0.008	0.250	0.094	0.109
		CCGT 32.5V FR-J10	CCGT09T300FR-J10								●	●		●			●	0.001	0.375	0.156	0.173
		CCGT 32.5V FL-J10	CCGT09T300FL-J10									●		●			●	0.001	0.375	0.156	0.173
		CCGT 32.50 FR-J10	CCGT09T301FR-J10								●	●		●			●	0.004	0.375	0.156	0.173
		CCGT 32.50 FL-J10	CCGT09T301FL-J10									●		●			●	0.004	0.375	0.156	0.173
		CCGT 32.50.5 FR-J10	CCGT09T302FR-J10								●	●		●			●	0.008	0.375	0.156	0.173
		CCGT 32.50.5 FL-J10	CCGT09T302FL-J10								●	●		●			●	0.008	0.375	0.156	0.173
		CCGT 32.51 FR-J10	CCGT09T304FR-J10									●						0.016	0.375	0.156	0.173

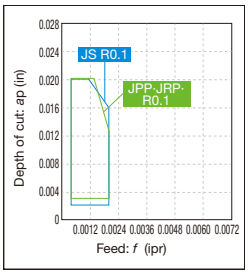
*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

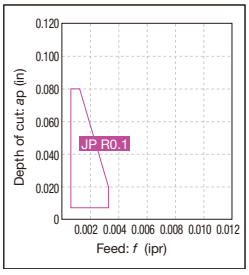
● : Line up

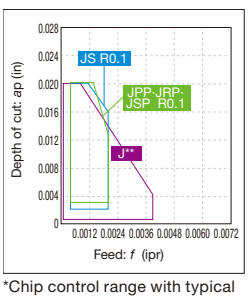
Chip control range











*Chip control range with typical R0.1

Reference pages: External toolholder → C034 - Internal toolholder → D018 -
J-Series toolholder → G030 - TungCap → K011 -

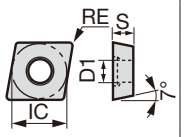
Insert POSITIVE TYPE

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

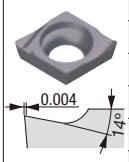
CC

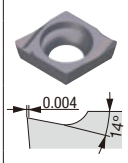
Rhombic, 80°
with hole
Positive 7°

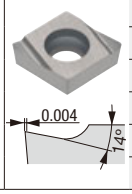
		SH7205	SH725	SH730	GH330	GH110	GT9530	NS9530	TH10	UX30
P	Steel	●◐	●◐	●◐	●◐	●	●◐	●◐	●	◐
M	Stainless	●◐	●◐	●◐	●◐	●			●	◐
K	Cast iron				●◐	●	●◐	●◐	●	
N	Non-ferrous								●	
S	Superalloy			●◐		●				
H	Hard material									



Application	Chipbreaker	Designation Inch	Designation Metric	SH7205	SH725	SH730	GH330	GH110	GT9530	NS9530	TH10	UX30	RE	IC	S	D1
				Coated					Coated cermet	Cermet	Uncoated		Dimension (in)			
Finishing (sharp edge)	W08	CCGT 4.51.8V FR-W08	CCGT03X100FL-W08	●	●								0.001	0.141	0.055	0.075
		CCGT 4.51.8V FL-W08	CCGT03X100FR-W08		●								0.001	0.141	0.055	0.075
		CCGT 4.51.80 FR-W08	CCGT03X101FL-W08	●	●								0.004	0.141	0.055	0.075
		CCGT 4.51.80 FL-W08	CCGT03X101FR-W08		●								0.004	0.141	0.055	0.075
		CCGT4.51.80.5FR-W08	CCGT03X102FL-W08	●	●								0.008	0.141	0.055	0.075
		CCGT4.51.80.5FL-W08	CCGT03X102FR-W08	●	●								0.008	0.141	0.055	0.075
		CCGT 4.51.81 FR-W08	CCGT03X104FL-W08	●	●								0.016	0.141	0.055	0.075
		CCGT 4.51.81 FL-W08	CCGT03X104FR-W08	●	●								0.016	0.141	0.055	0.075
		CCGT 5.52.2V FR-W08	CCGT04T100FL-W08	●	●								0.001	0.172	0.070	0.087
		CCGT 5.52.2V FL-W08	CCGT04T100FR-W08		●								0.001	0.172	0.070	0.087
		CCGT 5.52.20 FR-W08	CCGT04T101FL-W08	●	●								0.004	0.172	0.070	0.087
		CCGT 5.52.20 FL-W08	CCGT04T101FR-W08		●								0.004	0.172	0.070	0.087
		CCGT5.52.20.5FR-W08	CCGT04T102FL-W08	●	●								0.008	0.172	0.070	0.087
		CCGT5.52.20.5FL-W08	CCGT04T102FR-W08	●	●								0.008	0.172	0.070	0.087
		CCGT 5.52.21 FR-W08	CCGT04T104FL-W08	●	●								0.016	0.172	0.070	0.087
		CCGT 5.52.21 FL-W08	CCGT04T104FR-W08	●	●								0.016	0.172	0.070	0.087
Finishing	W08	CCGT 4.51.8V R-W08	CCGT03X100R-W08			●					●		0.001	0.141	0.055	0.075
		CCGT 4.51.8V L-W08	CCGT03X100L-W08			●					●		0.001	0.141	0.055	0.075
		CCGT 4.51.80 R-W08	CCGT03X101R-W08			●					●		0.004	0.141	0.055	0.075
		CCGT 4.51.80 L-W08	CCGT03X101L-W08			●					●		0.004	0.141	0.055	0.075
		CCGT 4.51.80.5 R-W08	CCGT03X102R-W08			●					●		0.008	0.141	0.055	0.075
		CCGT 4.51.80.5 L-W08	CCGT03X102L-W08			●					●		0.008	0.141	0.055	0.075
		CCGT 4.51.81 R-W08	CCGT03X104R-W08			●					●		0.016	0.141	0.055	0.075
		CCGT 4.51.81 L-W08	CCGT03X104L-W08			●					●		0.016	0.141	0.055	0.075
		CCGT 5.52.2V R-W08	CCGT04T100R-W08			●					●		0.001	0.172	0.070	0.087
		CCGT 5.52.2V L-W08	CCGT04T100L-W08			●					●		0.001	0.172	0.070	0.087
		CCGT 5.52.20 R-W08	CCGT04T101R-W08			●					●		0.004	0.172	0.070	0.087
		CCGT 5.52.20 L-W08	CCGT04T101L-W08			●					●		0.004	0.172	0.070	0.087
		CCGT 5.52.20.5 R-W08	CCGT04T102R-W08			●					●		0.008	0.172	0.070	0.087
		CCGT 5.52.20.5 L-W08	CCGT04T102L-W08			●					●		0.008	0.172	0.070	0.087
		CCGT 5.52.21 R-W08	CCGT04T104R-W08			●					●		0.016	0.172	0.070	0.087
		CCGT 5.52.21 L-W08	CCGT04T104L-W08			●					●		0.016	0.172	0.070	0.087
	W15	CCGT 21.5V R-W15	CCGT060200R-W15								●		0.001	0.250	0.094	0.109
		CCGT 21.5V L-W15	CCGT060200L-W15							●	●		0.001	0.250	0.094	0.109
		CCGT 21.50.5 R-W15	CCGT060202R-W15							●	●		0.008	0.250	0.094	0.109
		CCGT 21.50.5 L-W15	CCGT060202L-W15						●	●	●		0.008	0.250	0.094	0.109
		CCGT 21.51 R-W15	CCGT060204R-W15				●			●	●		0.016	0.250	0.094	0.109
		CCGT 21.51 L-W15	CCGT060204L-W15				●	●	●	●	●	●	0.016	0.250	0.094	0.109







●: Line up

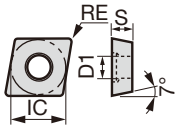
Reference pages: External toolholder → C034 - Internal toolholder → D018 -
J-Series toolholder → G030 - TungCap → K011 -

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

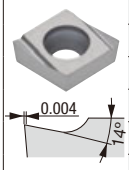
CC

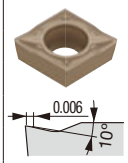
Rhombic, 80° with hole Positive 7°

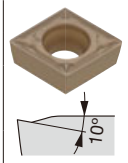
		T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GH730	GH330	GH110	GT9530	AT9530	NS9530	TH10
P	Steel	●⊂	●⊂	✠⊂	⊂					⊂✠	✠	⊂	●⊂	⊂	●⊂	●	●⊂	●⊂	●⊂	●
M	Stainless	●⊂		●				●	⊂	●⊂	✠	⊂	●⊂	⊂	●⊂	●				●
K	Cast iron	●⊂			●	●⊂	⊂					⊂	●⊂	⊂	●⊂	●	●⊂	●⊂	●⊂	●
N	Non-ferrous																			●
S	Superalloy							●	⊂			●	●⊂			●				
H	Hard material																			

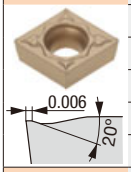


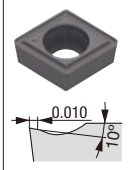
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GH730	GH330	GH110	GT9530	AT9530	NS9530	TH10	RE	IC	S	D1
				Coated															Coated cermet		Cermet	Uncoated	Dimension (in)			
Finishing	W20	CCGT 32.50.5 R-W20	CCGT09T302R-W20																		●	●	0.008	0.375	0.156	0.173
		CCGT 32.50.5 L-W20	CCGT09T302L-W20																●		●	●	0.008	0.375	0.156	0.173
		CCGT 32.51 L-W20	CCGT09T304R-W20																		●		0.016	0.375	0.156	0.173
		CCGT 32.51 R-W20	CCGT09T304L-W20														●	●	●		●	●	0.016	0.375	0.156	0.173
		CCGT 32.52 R-W20	CCGT09T308R-W20																		●		0.031	0.375	0.156	0.173
		CCGT 32.52 L-W20	CCGT09T308L-W20																●		●		0.031	0.375	0.156	0.173
Finishing to medium cutting	PSS	CCMT 21.51 PSS	CCMT060204-PSS	●	●	●				●	●	●	●	●					●		●		0.016	0.250	0.094	0.109
		CCMT 21.52 PSS	CCMT060208-PSS	●	●	●				●	●	●	●	●					●		●		0.031	0.250	0.094	0.109
		CCMT 32.51 PSS	CCMT09T304-PSS	●	●	●				●	●	●	●	●					●		●		0.016	0.375	0.156	0.173
		CCMT 32.52 PSS	CCMT09T308-PSS	●	●	●				●	●	●	●	●					●		●		0.031	0.375	0.156	0.173
		CCMT 431 PSS	CCMT120404-PSS	●	●	●						●	●	●									0.016	0.500	0.187	0.217
		CCMT 432 PSS	CCMT120408-PSS	●	●	●						●	●	●									0.031	0.500	0.187	0.217
		CCMT 433 PSS	CCMT120412-PSS	●	●	●						●	●	●									0.047	0.500	0.187	0.217
	PS	CCMT 21.50.5 PS	CCMT060202-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.008	0.250	0.094	0.109
		CCMT 21.51 PS	CCMT060204-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.016	0.250	0.094	0.109
		CCMT 21.52 PS	CCMT060208-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.031	0.250	0.094	0.109
		CCMT 32.50.5 PS	CCMT09T302-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.008	0.375	0.156	0.173
		CCMT 32.51 PS	CCMT09T304-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.016	0.375	0.156	0.173
		CCMT 32.52 PS	CCMT09T308-PS	●	●	●				●	●	●	●	●	●	●			●	●	●		0.031	0.375	0.156	0.173
		CCMT 431 PS	CCMT120404-PS	●	●	●				●	●	●	●	●									0.016	0.500	0.187	0.217
		CCMT 432 PS	CCMT120408-PS	●	●	●				●	●	●	●	●									0.031	0.500	0.187	0.217
		CCMT 433 PS	CCMT120412-PS	●	●	●						●	●	●									0.047	0.500	0.187	0.217
	TM	CCMT 21.50.5 TM	CCMT060202-TM	●	●	●					●	●									●		0.008	0.250	0.094	0.109
		CCMT 21.51 TM	CCMT060204-TM	●	●	●					●	●									●		0.016	0.250	0.094	0.109
		CCMT 21.52 TM	CCMT060208-TM	●	●	●					●	●									●		0.031	0.250	0.094	0.109
		CCMT 32.50.5 TM	CCMT09T302-TM	●	●	●					●	●									●		0.008	0.375	0.156	0.173
		CCMT 32.51 TM	CCMT09T304-TM	●	●	●					●	●									●		0.016	0.375	0.156	0.173
		CCMT 32.52 TM	CCMT09T308-TM	●	●	●					●	●									●		0.031	0.375	0.156	0.173
	CM	CCMT 21.51 CM	CCMT060204-CM				●	●	●														0.016	0.250	0.094	0.109
		CCMT 21.52 CM	CCMT060208-CM				●	●	●														0.031	0.250	0.094	0.109
		CCMT 32.51 CM	CCMT09T304-CM				●	●	●														0.016	0.375	0.156	0.173
		CCMT 32.52 CM	CCMT09T308-CM				●	●	●														0.031	0.375	0.156	0.173
		CCMT 32.53 CM	CCMT09T312-CM						●														0.047	0.375	0.156	0.173
		CCMT 431 CM	CCMT120404-CM						●														0.016	0.500	0.187	0.217
		CCMT 432 CM	CCMT120408-CM						●														0.031	0.500	0.187	0.217





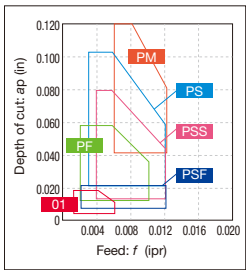


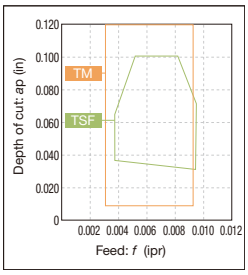


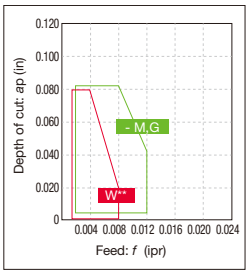


● : Line up

Chip control range







*-M,G: Without chipbreaker

Reference pages: External toolholder → C034 - Internal toolholder → D018 -
J-Series toolholder → G030 - TungCap → K011 -

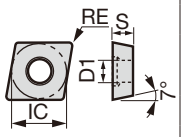
Insert POSITIVE TYPE

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

CC

Rhombic, 80°
with hole
Positive 7°

		T9215	T9225	T5115	SH725	NS9530	TH10	KS05F
P	Steel	●ⓒ	ⓒ✠		●ⓒ	●ⓒ	●	
M	Stainless	●ⓒ			●ⓒ		●	
K	Cast iron	●ⓒ		ⓒ		●ⓒ	●	●
N	Non-ferrous						●	●
S	Superalloy							●
H	Hard material							



Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	Coated T9225	Coated T5115	Coated SH725	Cermet NS9530	Uncoated TH10	Uncoated KS05F	Dimension (in) RE	IC	S	D1
Finishing to light cutting for non-ferrous metal	**AL**	CCGT060201-AL	CCGT060201-AL				●			●	0.004	0.250	0.094	0.109
		CCGT 21.50.5 AL	CCGT060202-AL				●			●	0.008	0.250	0.094	0.109
		CCGT 21.51 AL	CCGT060204-AL							●	0.016	0.250	0.094	0.109
		CCGT 32.50.5 AL	CCGT09T302-AL				●			●	0.008	0.375	0.156	0.173
		CCGT 32.51 AL	CCGT09T304-AL				●			●	0.016	0.375	0.156	0.173
		CCGT 32.52 AL	CCGT09T308-AL							●	0.031	0.375	0.156	0.173
		CCGT 430.5 AL	CCGT120402-AL							●	0.008	0.500	0.187	0.217
		CCGT 431 AL	CCGT120404-AL							●	0.016	0.500	0.187	0.217
		CCGT 432 AL	CCGT120408-AL							●	0.031	0.500	0.187	0.217
Finishing to medium cutting	**SW**	CCMT 21.51 SW	CCMT060204-SW	●	●			●			0.016	0.250	0.094	0.109
		CCMT 21.52 SW	CCMT060208-SW	●	●			●			0.031	0.250	0.094	0.109
		CCMT 32.51 SW	CCMT09T304-SW	●	●			●			0.016	0.375	0.156	0.173
		CCMT 32.52 SW	CCMT09T308-SW	●	●			●			0.031	0.375	0.156	0.173
		*Wiper												
	All-round	CCGT 21.50.5	CCGT060202					●			0.008	0.250	0.094	0.109
		CCGT 21.51	CCGT060204					●			0.016	0.250	0.094	0.109
		CCGT 32.50.5	CCGT09T302					●			0.008	0.375	0.156	0.173
		CCGT 32.51	CCGT09T304					●			0.016	0.375	0.156	0.173
		CCGT 32.52	CCGT09T308					●			0.031	0.375	0.156	0.173
	Angular	CCGT 21.5V R	CCGT060200R						●		0.001	0.250	0.094	0.109
		CCGT 21.50.5 R	CCGT060202R						●		0.008	0.250	0.094	0.109
		CCGT 21.50.5 L	CCGT060202L						●		0.008	0.250	0.094	0.109
		CCGT 21.51 L	CCGT060204L						●		0.016	0.250	0.094	0.109
		CCGT 32.50.5 R	CCGT09T302R						●		0.008	0.375	0.156	0.173
		CCGT 32.50.5 L	CCGT09T302L						●		0.008	0.375	0.156	0.173
		CCGT 32.51 R	CCGT09T304R						●		0.016	0.375	0.156	0.173
		CCGT 32.51 L	CCGT09T304L						●		0.016	0.375	0.156	0.173
	23	CCMT 21.50.5-23	CCMT060202-23					●			0.008	0.250	0.094	0.109
		CCMT 21.51-23	CCMT060204-23		●			●			0.016	0.250	0.094	0.109
		CCMT 21.52-23	CCMT060208-23		●						0.031	0.250	0.094	0.109
		CCMT 32.51-23	CCMT09T304-23		●			●			0.016	0.375	0.156	0.173
		CCMT 32.52-23	CCMT09T308-23		●			●			0.031	0.375	0.156	0.173
	-	CCMW 21.51	CCMW060204			●					0.016	0.250	0.094	0.109
		CCMW 21.52	CCMW060208			●					0.031	0.250	0.094	0.109
		CCMW 32.51	CCMW09T304			●					0.016	0.375	0.156	0.173
		CCMW 32.52	CCMW09T308			●					0.031	0.375	0.156	0.173

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

●: Line up

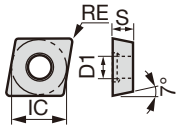
Reference pages: External toolholder → C034 - Internal toolholder → D018 -
J-Series toolholder → G030 - TungCap → K011 -

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

CC

Rhombic, 80°
with hole
Positive 7°

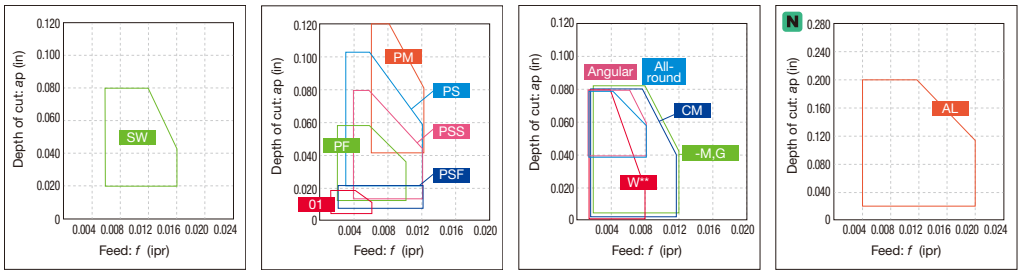
		T9215	T9225	T6215	AH6225	AH6235	AH725	AH110	AH120	GH730	GH110	GT9530	NS9530	TH10
P	Steel	●◐	◐✠	◐	◐✠	✠	◐	●	●◐	◐	●	●◐	●◐	●
M	Stainless	●◐		●	●◐	✠	◐	●	●◐	◐	●			●
K	Cast iron	●◐					◐	●	●◐	◐	●	●◐	●◐	●
N	Non-ferrous													●
S	Superalloy						●	●	●◐		●			
H	Hard material													



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH6225	AH6235	AH725	AH110	AH120	GH730	GH110	GT9530	NS9530	TH10	RE	IC	S	D1
				Coated										Coated cermet	Cermet	Uncoated	Dimension (in)			
Finishing to medium cutting	-	CCGW 21.50.5	CCGW060202													●	0.008	0.250	0.094	0.109
		CCGW 21.51	CCGW060204													●	0.016	0.250	0.094	0.109
		CCGW 32.50.5	CCGW09T302													●	0.008	0.375	0.156	0.173
		CCGW 32.51	CCGW09T304									●				●	0.016	0.375	0.156	0.173
		CCGW 32.52	CCGW09T308													●	0.031	0.375	0.156	0.173
Medium cutting	PM	CCMT 21.51 PM	CCMT060204-PM	●	●	●	●	●	●	●	●	●	●	●	●		0.016	0.250	0.094	0.109
		CCMT 21.52 PM	CCMT060208-PM	●	●	●	●	●	●	●	●	●	●	●	●		0.031	0.250	0.094	0.109
		CCMT 32.51 PM	CCMT09T304-PM	●	●	●	●	●	●	●	●	●	●	●	●		0.016	0.375	0.156	0.173
		CCMT 32.52 PM	CCMT09T308-PM	●	●	●	●	●	●	●	●	●	●	●	●		0.031	0.375	0.156	0.173
		CCMT 32.53 PM	CCMT09T312-PM	●	●	●	●	●	●								0.047	0.375	0.156	0.173
		CCMT 432 PM	CCMT120408-PM			●	●	●	●								0.031	0.500	0.187	0.217
		CCMT 433 PM	CCMT120412-PM			●	●	●	●								0.047	0.500	0.187	0.217
	24	CCMT 21.50.5-24	CCMT060202-24		●										●		0.008	0.250	0.094	0.109
		CCMT 21.51-24	CCMT060204-24	●	●						●				●		0.016	0.250	0.094	0.109
		CCMT 21.52-24	CCMT060208-24	●	●		●				●				●		0.031	0.250	0.094	0.109
		CCMT 32.50.5-24	CCMT09T302-24		●										●		0.008	0.375	0.156	0.173
		CCMT 32.51-24	CCMT09T304-24	●	●						●				●		0.016	0.375	0.156	0.173
		CCMT 32.52-24	CCMT09T308-24	●	●		●				●				●		0.031	0.375	0.156	0.173
		CCMT 432-24	CCMT120408-24	●	●						●				●		0.031	0.500	0.187	0.217

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: External toolholder → C034 - Internal toolholder → D018 -
J-Series toolholder → G030 - TungCap → K011 -

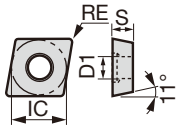
Insert POSITIVE TYPE

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

CP

Rhombic, 80°
with hole
Positive 11°

		T9215	T9225	T6215	AH8015	AH6225	AH6235	AH725	GT9530	NS9530	TH10
P	Steel	●ⓒ	ⓒ✠	ⓒ		ⓒ✠	✠	ⓒ	●ⓒ	●ⓒ	●
M	Stainless	●ⓒ		●	ⓒ	●ⓒ	✠	ⓒ			●
K	Cast iron	●ⓒ						ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous										●
S	Superalloy				ⓒ			●			
H	Hard material										



Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	T9225	T6215	AH8015	AH6225	AH6235	AH725	Coated cermet GT9530	Cermet NS9530	Uncoated TH10	RE	IC	S	D1
Finishing	PSF	CPMT 21.50.5 PSF	CPMT060202-PSF							●				0.008	0.250	0.094	0.109
		CPMT 21.51 PSF	CPMT060204-PSF	●	●					●				0.016	0.250	0.094	0.109
		CPMT 2.51.50.5 PSF	CPMT080202-PSF							●				0.008	0.313	0.094	0.134
		CPMT 2.51.51 PSF	CPMT080204-PSF	●	●					●				0.016	0.313	0.094	0.134
		CPMT 320.5 PSF	CPMT090302-PSF							●	●	●		0.008	0.375	0.125	0.173
		CPMT 321 PSF	CPMT090304-PSF	●	●					●	●	●		0.016	0.375	0.125	0.173
		CPMT 32.50.5 PSF	CPMT09T302-PSF							●				0.008	0.375	0.156	0.173
		CPMT 32.51 PSF	CPMT09T304-PSF	●	●					●				0.016	0.375	0.156	0.173
	PF	CPMT 320.5 PF	CPMT090302-PF								●	●		0.008	0.375	0.125	0.173
		CPMT 321 PF	CPMT090304-PF								●	●		0.016	0.375	0.125	0.173
	TSF	CPMT 21.50.5 TSF	CPMT060202-TSF	●	●	●	●	●				●		0.008	0.250	0.094	0.109
		CPMT 21.51 TSF	CPMT060204-TSF	●	●	●	●	●				●		0.016	0.250	0.094	0.109
		CPMT 21.52 TSF	CPMT060208-TSF	●	●	●	●	●				●		0.031	0.250	0.094	0.109
		CPMT 32.50.5 TSF	CPMT09T302-TSF	●	●	●	●	●				●		0.008	0.375	0.156	0.173
		CPMT 32.51 TSF	CPMT09T304-TSF	●	●	●	●	●				●		0.016	0.375	0.156	0.173
		CPMT 32.52 TSF	CPMT09T308-TSF	●	●	●	●	●				●		0.031	0.375	0.156	0.173
	W15	CPGT 730.5 L-W15	CPGT050202L-W15									●		0.008	0.219	0.094	0.098
		CPGT 731 L-W15	CPGT050204L-W15									●		0.016	0.219	0.094	0.098
		CPGT 2.51.50.5 R-W15	CPGT080202R-W15										●	0.008	0.313	0.094	0.134
		CPGT 2.51.50.5 L-W15	CPGT080202L-W15									●	●	0.008	0.313	0.094	0.134
		CPGT 2.51.51 R-W15	CPGT080204R-W15										●	0.016	0.313	0.094	0.134
		CPGT 2.51.51 L-W15	CPGT080204L-W15									●	●	0.016	0.313	0.094	0.134
	W20	CPGT 320.5 R-W20	CPGT090302R-W20									●	●	0.008	0.375	0.125	0.173
		CPGT 320.5 L-W20	CPGT090302L-W20									●	●	0.008	0.375	0.125	0.173
		CPGT 321 R-W20	CPGT090304R-W20									●	●	0.016	0.375	0.125	0.173
		CPGT 321 L-W20	CPGT090304L-W20									●	●	0.016	0.375	0.125	0.173
Finishing to medium cutting	PSS	CPMT 21.51 PSS	CPMT060204-PSS	●	●					●	●	●		0.016	0.250	0.094	0.109
		CPMT 2.51.51 PSS	CPMT080204-PSS	●	●	●		●	●	●	●	●		0.016	0.313	0.094	0.134
		CPMT 2.51.52 PSS	CPMT080208-PSS	●	●	●		●	●	●	●	●		0.031	0.313	0.094	0.134
		CPMT 321 PSS	CPMT090304-PSS	●	●	●		●	●	●	●	●		0.016	0.375	0.125	0.173
		CPMT 322 PSS	CPMT090308-PSS	●	●	●		●	●	●	●	●		0.031	0.375	0.125	0.173
		CPMT 32.51 PSS	CPMT09T304-PSS	●	●					●				0.016	0.375	0.156	0.173
		CPMT 32.52 PSS	CPMT09T308-PSS	●	●					●				0.031	0.375	0.156	0.173

● : Line up

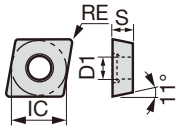
Reference pages: Internal toolholder → D022 -

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

CP

Rhombic, 80° with hole Positive 11°

		T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH730	GT9530	AT9530	NS9530	TH10
P	Steel	●ⓒ	ⓒ✠	ⓒ						ⓒ✠	✠		ⓒ	●ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless	●ⓒ		●				●	ⓒ	●ⓒ	✠		ⓒ	●ⓒ	ⓒ				●
K	Cast iron	●ⓒ			●	●ⓒ	ⓒ						ⓒ	●ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous																		●
S	Superalloy							●	ⓒ			ⓒ	●	●ⓒ					
H	Hard material																		

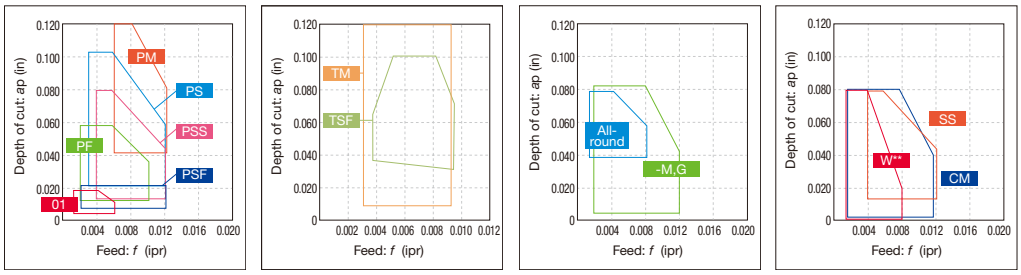


Application	Chipbreaker	Designation Inch	Designation Metric	RE	IC	S	D1
Finishing to medium cutting	PS	CPMT 21.50.5 PS	CPMT060202-PS	0.008	0.250	0.094	0.109
		CPMT 21.51 PS	CPMT060204-PS	0.016	0.250	0.094	0.109
		CPMT 21.52 PS	CPMT060208-PS	0.031	0.250	0.094	0.109
		CPMT 2.51.50.5 PS	CPMT080202-PS	0.008	0.313	0.094	0.134
		CPMT 2.51.51 PS	CPMT080204-PS	0.016	0.313	0.094	0.134
		CPMT 2.51.52 PS	CPMT080208-PS	0.031	0.313	0.094	0.134
		CPMT 321 PS	CPMT090304-PS	0.016	0.375	0.125	0.173
		CPMT 322 PS	CPMT090308-PS	0.031	0.375	0.125	0.173
		CPMT 32.50.5 PS	CPMT09T302-PS	0.008	0.375	0.156	0.173
		CPMT 32.51 PS	CPMT09T304-PS	0.016	0.375	0.156	0.173
		CPMT 32.52 PS	CPMT09T308-PS	0.031	0.375	0.156	0.173
	TM	CPMT 21.50.5 TM	CPMT060202-TM	0.008	0.250	0.094	0.109
		CPMT 21.51 TM	CPMT060204-TM	0.016	0.250	0.094	0.109
		CPMT 21.52 TM	CPMT060208-TM	0.031	0.250	0.094	0.109
		CPMT 32.50.5 TM	CPMT09T302-TM	0.008	0.375	0.156	0.173
		CPMT 32.51 TM	CPMT09T304-TM	0.016	0.375	0.156	0.173
		CPMT 32.52 TM	CPMT09T308-TM	0.031	0.375	0.156	0.173
	CM	CPMT 21.51 CM	CPMT060204-CM	0.016	0.250	0.094	0.109
		CPMT 21.52 CM	CPMT060208-CM	0.031	0.250	0.094	0.109
		CPMT 2.51.51 CM	CPMT080204-CM	0.016	0.313	0.094	0.134
		CPMT 2.51.52 CM	CPMT080208-CM	0.031	0.313	0.094	0.134
		CPMT 321 CM	CPMT090304-CM	0.016	0.375	0.125	0.173
		CPMT 322 CM	CPMT090308-CM	0.031	0.375	0.125	0.173
		CPMT 32.51 CM	CPMT09T304-CM	0.016	0.375	0.156	0.173
		CPMT 32.52 CM	CPMT09T308-CM	0.031	0.375	0.156	0.173
		CPMT 32.53 CM	CPMT09T312-CM	0.047	0.375	0.156	0.173
		CPMT 432 CM	CPMT120408-CM	0.031	0.500	0.187	0.217
		CPMT 433 CM	CPMT120412-CM	0.047	0.500	0.187	0.217
	All-round	CPMT 432	CPMT120408	0.031	0.500	0.187	0.217

Designation Metric	T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH730	GT9530	AT9530	NS9530	TH10
CPMT060202-PS	●	●	●				●	●	●			●	●	●			●	
CPMT060204-PS	●	●	●				●	●	●			●	●	●	●	●	●	
CPMT060208-PS	●	●	●					●	●								●	
CPMT080202-PS	●	●	●						●	●		●			●	●	●	
CPMT080204-PS	●	●	●						●	●		●			●	●	●	
CPMT080208-PS	●	●	●						●	●		●			●	●	●	
CPMT090304-PS	●	●	●						●	●		●			●	●	●	
CPMT090308-PS	●	●	●						●	●		●			●	●	●	●
CPMT09T302-PS	●	●	●				●	●	●			●					●	
CPMT09T304-PS	●	●	●				●	●	●			●					●	
CPMT09T308-PS	●	●	●				●	●	●			●	●				●	
CPMT060202-TM	●	●	●					●	●								●	
CPMT060204-TM	●	●	●					●	●								●	
CPMT060208-TM	●	●	●					●	●								●	
CPMT09T302-TM	●	●	●					●	●								●	
CPMT09T304-TM	●	●	●					●	●								●	
CPMT09T308-TM	●	●	●					●	●								●	
CPMT060204-CM						●												
CPMT060208-CM						●												
CPMT080204-CM						●												
CPMT080208-CM						●												
CPMT090304-CM				●	●	●												
CPMT090308-CM				●	●	●												
CPMT09T304-CM				●	●	●												
CPMT09T308-CM				●	●	●												
CPMT09T312-CM						●												
CPMT120408-CM						●												
CPMT120412-CM						●												
CPMT120408							●	●			●							

● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: Internal toolholder → D022 -

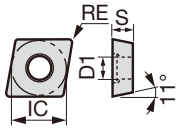
Insert POSITIVE TYPE / DOUBLE SIDED

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

CP

Rhombic, 80° with hole Positive 11°

		T9215	T9225	T6215	T5115	AH6225	AH6235	AH725	NS9530
P	Steel	●ⓒ	ⓒ✠	ⓒ		ⓒ✠	✠	ⓒ	●ⓒ
M	Stainless	●ⓒ		●		●ⓒ	✠	ⓒ	
K	Cast iron	●ⓒ			ⓒ			ⓒ	●ⓒ
N	Non-ferrous								
S	Superalloy							●	
H	Hard material								



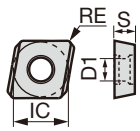
Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	Coated T9225	Coated T6215	Coated T5115	Coated AH6225	Coated AH6235	Coated AH725	Cermet NS9530	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	-	CPMW 2.51.51	CPMW080204				●					0.016	0.313	0.094	0.134
		CPMW 2.51.52	CPMW080208				●					0.031	0.313	0.094	0.134
		CPMW 321	CPMW090304				●					0.016	0.375	0.125	0.173
		CPMW 322	CPMW090308				●					0.031	0.375	0.125	0.173
Medium cutting	PM	CPMT 21.51 PM	CPMT060204-PM			●		●	●	●		0.016	0.250	0.094	0.109
		CPMT 21.52 PM	CPMT060208-PM		●	●		●	●	●		0.031	0.250	0.094	0.109
		CPMT 321 PM	CPMT090304-PM		●	●		●	●	●	●	0.016	0.375	0.125	0.173
		CPMT 322 PM	CPMT090308-PM		●	●		●	●	●	●	0.031	0.375	0.125	0.173
	24	CPMT 2.51.51-24	CPMT080204-24	●								0.016	0.313	0.094	0.134
		CPMT 2.51.52-24	CPMT080208-24		●							0.031	0.313	0.094	0.134
		CPMT 322-24	CPMT090308-24		●							0.031	0.375	0.125	0.173
		CPMT 432-24	CPMT120408-24								●	0.031	0.500	0.187	0.217
		CPMT 53.52-24	CPMT160508-24		●						●	0.031	0.625	0.219	0.217
		CPMT 53.53-24	CPMT160512-24								●	0.047	0.625	0.219	0.217

● : Line up

CX

Rhombic, 80° with hole

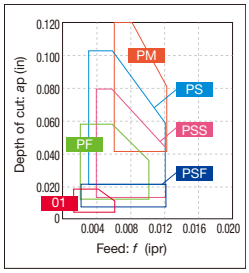
		T9215	T9225	AH8015	AH725
P	Steel	●ⓒ	ⓒ✠		ⓒ
M	Stainless	●ⓒ		ⓒ	ⓒ
K	Cast iron	●ⓒ			ⓒ
N	Non-ferrous				
S	Superalloy			ⓒ	●
H	Hard material				

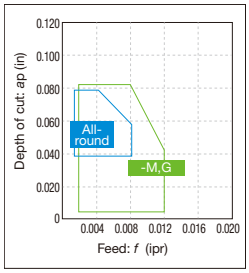


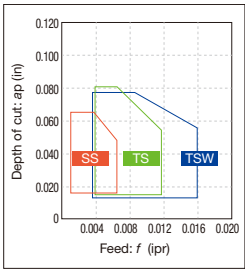
Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	Coated T9225	Coated AH8015	Coated AH725	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	TS	CXMU 220.5R TS	CXMU060302R-TS	●	●	●	●	0.008	0.250	0.125	0.106
		CXMU 220.5L TS	CXMU060302L-TS	●	●	●	●	0.008	0.250	0.125	0.106
		CXMU 221R TS	CXMU060304R-TS	●	●	●	●	0.016	0.250	0.125	0.106
		CXMU 221L TS	CXMU060304L-TS	●	●	●	●	0.016	0.250	0.125	0.106
		CXMU 222R TS	CXMU060308R-TS	●	●	●	●	0.031	0.250	0.125	0.106
		CXMU 222L TS	CXMU060308L-TS	●	●	●	●	0.031	0.250	0.125	0.106

● : Line up

Chip control range







*-M,G: Without chipbreaker

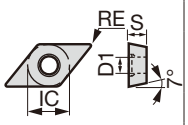
Reference pages: CPM*... : Internal toolholder → D022 -
CXMU...: Internal toolholder → D025 -

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

DC

Rhombic, 55°
with hole
Positive 7°

		T9215	T9225	AH8005	AH8015	AH905	AH725	SH7025	SH725	SH730	J740	GT9530	J9530	NS9530
		Coated										Coated cermet		Cermet
P	Steel	●◐	◐✠				◐	●◐	●◐	●◐	●◐		●◐	●◐
M	Stainless	●◐		●	◐		◐	●◐	●◐	●◐	●◐			
K	Cast iron	●◐					◐					●◐	●◐	●◐
N	Non-ferrous													
S	Superalloy			●	◐	◐	●			●◐				
H	Hard material													

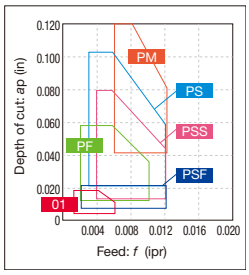


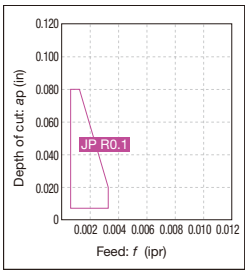
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	AH8005	AH8015	AH905	AH725	SH7025	SH725	SH730	J740	GT9530	J9530	NS9530	RE	IC	S	D1
Precision finishing (sharp edge)	JP	DCGT 21.5V FN-JP	DCGT070200FN-JP							●	●						<0.0012	0.250	0.094	0.109
		DCGT 21.50 FN-JP	DCGT070201FN-JP							●	●						<0.004	0.250	0.094	0.109
		DCGT 21.50.5 FN-JP	DCGT070202FN-JP							●	●						<0.008	0.250	0.094	0.109
		DCGT 32.5V FN-JP	DCGT11T300FN-JP							●	●						<0.0012	0.375	0.156	0.173
		DCGT 32.50 FN-JP	DCGT11T301FN-JP							●	●						<0.004	0.375	0.156	0.173
		DCGT 32.50.5 FN-JP	DCGT11T302FN-JP							●	●						<0.008	0.375	0.156	0.173
	01	DCGT 21.50.5 F-01	DCGT070202F-01							●	●						<0.008	0.250	0.094	0.109
		DCGT 21.51 F-01	DCGT070204F-01							●	●						<0.016	0.250	0.094	0.109
		DCGT 32.50.5 F-01	DCGT11T302F-01							●	●						<0.008	0.375	0.156	0.173
		DCGT 32.51 F-01	DCGT11T304F-01							●	●						<0.016	0.375	0.156	0.173
Precision finishing	01	DCGT 21.50.5-01	DCGT070202-01										●		●		0.008	0.250	0.094	0.109
		DCGT 32.50.5 01	DCGT11T302-01										●				0.008	0.375	0.156	0.173
Finishing (sharp edge)	JS	DCGT 21.5V FN-JS	DCGT070200FN-JS							●	●	●					<0.0012	0.250	0.094	0.109
		DCGT 21.50 FN-JS	DCGT070201FN-JS							●	●	●					<0.004*	0.250	0.094	0.109
		DCGT 21.50.5 FN-JS	DCGT070202FN-JS							●	●	●					<0.008*	0.250	0.094	0.109
		DCGT 32.5V FN-JS	DCGT11T300FN-JS							●	●	●					<0.0012	0.375	0.156	0.173
		DCGT 32.50 FN-JS	DCGT11T301FN-JS							●	●	●					<0.004*	0.375	0.156	0.173
		DCGT 32.50.5 FN-JS	DCGT11T302FN-JS							●	●	●					<0.008*	0.375	0.156	0.173
		DCGT 32.51 FN-JS	DCGT11T304FN-JS							●	●	●					<0.016*	0.375	0.156	0.173
Finishing	JS	DCGT 21.50 N-JS	DCGT070201N-JS						●								0.004	0.250	0.094	0.109
		DCGT 21.50.5 N-JS	DCGT070202N-JS						●								0.008	0.250	0.094	0.109
		DCGT 32.50 N-JS	DCGT11T301N-JS						●								0.004	0.375	0.156	0.173
		DCGT 32.50.5 N-JS	DCGT11T302N-JS						●								0.008	0.375	0.156	0.173
		DCGT 32.51 N-JS	DCGT11T304N-JS						●								0.016	0.375	0.156	0.173
	PSF	DCMT 21.50.5 PSF	DCMT070202-PSF						●					●		●	0.008	0.250	0.094	0.109
		DCMT 21.51 PSF	DCMT070204-PSF	●	●				●					●		●	0.016	0.250	0.094	0.109
		DCMT 32.50.5 PSF	DCMT11T302-PSF						●					●		●	0.008	0.375	0.156	0.173
		DCMT 32.51 PSF	DCMT11T304-PSF	●	●	●	●	●	●					●		●	0.016	0.375	0.156	0.173
		DCMT 32.52 PSF	DCMT11T308-PSF	●	●	●	●	●	●								0.031	0.375	0.156	0.173

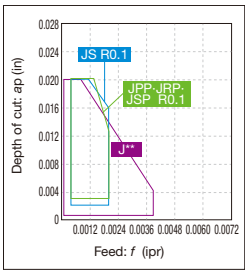
*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : Line up

Chip control range







*Chip control range with typical R0.1

Reference pages: External toolholder → C052 - Internal toolholder → D032 -
J-Series toolholder → G037 - TungCap → K015 -

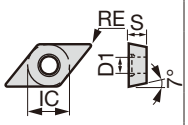
Insert POSITIVE TYPE

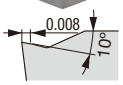
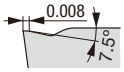
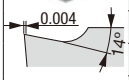
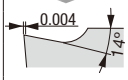
● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC

Rhombic, 55°
with hole
Positive 7°

		T9215	T9225	T6215	AH8015	AH6225	SH7025	SH725	J740	GH730	GH330	GT9530	J9530	NS9530			TH10		
		Coated										Coated cermet		Cermet			Uncoated		
P	Steel	●ⓒ	ⓒ✠	ⓒ		ⓒ✠	●ⓒ	●ⓒ	●ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ				●		
M	Stainless	●ⓒ		●	ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	ⓒ	●ⓒ						●		
K	Cast iron	●ⓒ								ⓒ	●ⓒ	●ⓒ	●ⓒ		●ⓒ		●		
N	Non-ferrous																●		
S	Superalloy				ⓒ														
H	Hard material																		



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH8015	AH6225	SH7025	SH725	J740	GH730	GH330	GT9530	J9530	NS9530			TH10			RE	IC	S	D1
Finishing	**PF**	DCMT 21.50.5 PF	DCMT070202-PF									●		●		●						0.008	0.250	0.094	0.109
		DCMT 21.51 PF	DCMT070204-PF					●				●		●		●						0.016	0.250	0.094	0.109
		DCMT 21.52 PF	DCMT070208-PF					●						●		●						0.031	0.250	0.094	0.109
		DCMT 32.50.5 PF	DCMT11T302-PF									●		●		●						0.008	0.375	0.156	0.173
		DCMT 32.51 PF	DCMT11T304-PF									●		●		●						0.016	0.375	0.156	0.173
		DCMT 32.52 PF	DCMT11T308-PF											●								0.031	0.375	0.156	0.173
	TSF	DCMT 21.50.5 TSF	DCMT070202-TSF	●	●	●	●	●								●						0.008	0.250	0.094	0.109
		DCMT 21.51 TSF	DCMT070204-TSF	●	●	●	●	●								●						0.016	0.250	0.094	0.109
		DCMT 21.52 TSF	DCMT070208-TSF	●	●	●	●	●								●						0.031	0.250	0.094	0.109
		DCMT 32.50.5 TSF	DCMT11T302-TSF	●	●	●	●	●								●						0.008	0.375	0.156	0.173
		DCMT 32.51 TSF	DCMT11T304-TSF	●	●	●	●	●								●						0.016	0.375	0.156	0.173
		DCMT 32.52 TSF	DCMT11T308-TSF	●	●	●	●	●								●						0.031	0.375	0.156	0.173
Finishing (sharp edge)	**J10**	DCGT 21.5V FR-J10	DCGT070200FR-J10						●	●	●								●			0.0012	0.250	0.094	0.109
		DCGT 21.5V FL-J10	DCGT070200FL-J10							●	●								●			0.0012	0.250	0.094	0.109
		DCGT 21.50 FR-J10	DCGT070201FR-J10						●	●	●					●			●			0.004	0.250	0.094	0.109
		DCGT 21.50 FL-J10	DCGT070201FL-J10							●	●					●			●			0.004	0.250	0.094	0.109
		DCGT 21.50.5 FR-J10	DCGT070202FR-J10						●	●	●					●			●			0.008	0.250	0.094	0.109
		DCGT 21.50.5 FL-J10	DCGT070202FL-J10						●	●	●					●			●			0.008	0.250	0.094	0.109
		DCGT 21.51 FR-J10	DCGT070204FR-J10						●	●												0.016	0.250	0.094	0.109
		DCGT 21.51 FL-J10	DCGT070204FL-J10						●	●												0.016	0.250	0.094	0.109
		DCGT 32.5V FR-J10	DCGT11T300FR-J10						●	●	●								●			0.0012	0.375	0.156	0.173
		DCGT 32.5V FL-J10	DCGT11T300FL-J10							●	●								●			0.0012	0.375	0.156	0.173
		DCGT 32.50 FR-J10	DCGT11T301FR-J10						●	●	●					●			●			0.004	0.375	0.156	0.173
		DCGT 32.50 FL-J10	DCGT11T301FL-J10							●	●					●			●			0.004	0.375	0.156	0.173
		DCGT 32.50.5 FR-J10	DCGT11T302FR-J10						●	●	●					●			●			0.008	0.375	0.156	0.173
		DCGT 32.50.5 FL-J10	DCGT11T302FL-J10						●	●	●					●			●			0.008	0.375	0.156	0.173
Finishing	**J10**	DCGT 21.50.5 R-J10	DCGT070202R-J10												●							0.008	0.250	0.094	0.109
		DCGT 32.50.5 R-J10	DCGT11T302R-J10												●							0.008	0.375	0.156	0.173
	W10	DCGT 21.5V R-W10	DCGT070200R-W10																●			0.0012	0.250	0.094	0.109
		DCGT 21.5V L-W10	DCGT070200L-W10																●			0.0012	0.250	0.094	0.109
		DCGT 21.50.5 R-W10	DCGT070202R-W10													●			●			0.008	0.250	0.094	0.109
		DCGT 21.50.5 L-W10	DCGT070202L-W10											●		●						0.008	0.250	0.094	0.109
		DCGT 21.51 R-W10	DCGT070204R-W10										●			●			●			0.016	0.250	0.094	0.109
		DCGT 21.51 L-W10	DCGT070204L-W10										●	●		●			●			0.016	0.250	0.094	0.109
	W15	DCGT 32.50.5 R-W15	DCGT11T302R-W15													●			●			0.008	0.375	0.156	0.173
		DCGT 32.50.5 L-W15	DCGT11T302L-W15											●		●						0.008	0.375	0.156	0.173
		DCGT 32.51 R-W15	DCGT11T304R-W15													●						0.016	0.375	0.156	0.173
		DCGT 32.51 L-W15	DCGT11T304L-W15										●	●		●			●			0.016	0.375	0.156	0.173
		DCGT 32.52 R-W15	DCGT11T308R-W15													●			●			0.031	0.375	0.156	0.173
		DCGT 32.52 L-W15	DCGT11T308L-W15													●			●			0.031	0.375	0.156	0.173

● : Line up

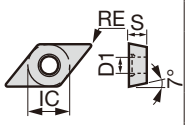
Reference pages: External toolholder → C052 - Internal toolholder → D032 -
J-Series toolholder → G037 - TungCap → K015 -

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

DC

Rhombic, 55°
with hole
Positive 7°

		SH725	SH730
P	Steel	●◐	●◐
M	Stainless	●◐	●◐
K	Cast iron		
N	Non-ferrous		
S	Superalloy		●◐
H	Hard material		

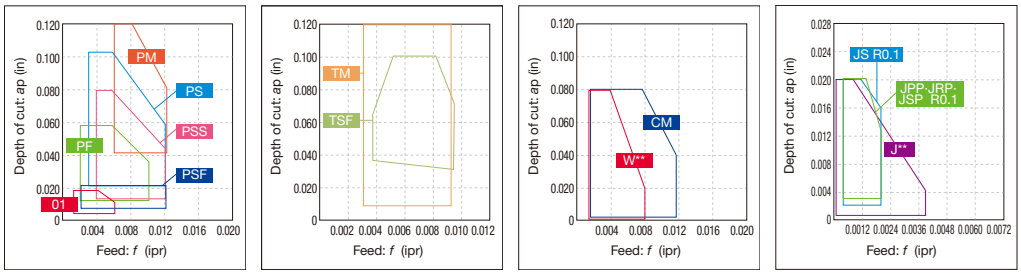


Application	Chipbreaker	Designation Inch	Designation Metric	Coated SH725	Coated SH730	RE	IC	S	D1
Finishing (sharp edge)	JPP	DCET 21.5X MFR-JPP	DCET0702008MFR-JPP	●	●	<0.0031*	0.250	0.094	0.109
		DCET 21.50 MFR-JPP	DCET070201MFR-JPP	●	●	<0.004*	0.250	0.094	0.109
		DCET21.50.2 MFL-JPP	DCET070201MFL-JPP	●	●	<0.004*	0.250	0.094	0.109
		DCET21.50.5 MFR-JPP	DCET070202MFR-JPP	●	●	<0.008*	0.250	0.094	0.109
		DCET21.50.5 MFL-JPP	DCET070202MFL-JPP	●	●	<0.008*	0.250	0.094	0.109
		DCET 32.5X MFR-JPP	DCET11T3008MFR-JPP	●	●	<0.0031*	0.375	0.156	0.173
		DCET 32.50 MFR-JPP	DCET11T301MFR-JPP	●	●	<0.004*	0.375	0.156	0.173
		DCET 32.50 MFL-JPP	DCET11T301MFL-JPP	●	●	<0.004*	0.375	0.156	0.173
		DCET32.50.4 MFR-JPP	DCET11T3018MFR-JPP	●	●	<0.007*	0.375	0.156	0.173
		DCET32.50.4 MFL-JPP	DCET11T3018MFL-JPP	●		<0.007*	0.375	0.156	0.173
		DCET32.50.5 MFR-JPP	DCET11T302MFR-JPP	●	●	<0.008*	0.375	0.156	0.173
		DCET32.50.5 MFL-JPP	DCET11T302MFL-JPP	●	●	<0.008*	0.375	0.156	0.173
	JRP	DCET 21.5X MFR-JRP	DCET0702008MFR-JRP	●	●	<0.0031*	0.250	0.094	0.109
		DCET 21.50 MFR-JRP	DCET070201MFR-JRP	●	●	<0.004*	0.250	0.094	0.109
		DCET 21.50 MFL-JRP	DCET070201MFL-JRP	●		<0.004*	0.250	0.094	0.109
		DCET21.50.4 MFR-JRP	DCET0702018MFR-JRP		●	<0.007*	0.250	0.094	0.109
		DCET21.50.4 MFL-JRP	DCET0702018MFL-JRP	●	●	<0.007*	0.250	0.094	0.109
		DCET21.50.5 MFR-JRP	DCET070202MFR-JRP	●	●	<0.008*	0.250	0.094	0.109
		DCET21.50.5 MFL-JRP	DCET070202MFL-JRP	●	●	<0.008*	0.250	0.094	0.109
		DCET 32.5X MFR-JRP	DCET11T3008MFR-JRP	●	●	<0.0031*	0.375	0.156	0.173
		DCET 32.50 MFR-JRP	DCET11T301MFR-JRP	●	●	<0.004*	0.375	0.156	0.173
		DCET32.50.4 MFR-JRP	DCET11T3018MFR-JRP		●	<0.007*	0.375	0.156	0.173
		DCET32.50.4 MFL-JRP	DCET11T3018MFL-JRP	●		<0.007*	0.375	0.156	0.173
		DCET32.50.5 MFR-JRP	DCET11T302MFR-JRP	●	●	<0.008*	0.375	0.156	0.173
		DCET32.50.5 MFL-JRP	DCET11T302MFL-JRP	●	●	<0.008*	0.375	0.156	0.173
	JSP	DCET 21.5X MFN-JSP	DCET0702008MFN-JSP	●	●	<0.0031*	0.250	0.094	0.109
		DCET 21.50 MFN-JSP	DCET070201MFN-JSP	●	●	<0.004*	0.250	0.094	0.109
		DCET21.50.5 MFN-JSP	DCET070202MFN-JSP	●	●	<0.008*	0.250	0.094	0.109
		DCET 32.5X MFN-JSP	DCET11T3008MFN-JSP	●	●	<0.0031*	0.375	0.156	0.173
		DCET 32.50 MFN-JSP	DCET11T301MFN-JSP	●	●	<0.004*	0.375	0.156	0.173
		DCET32.50.4 MFN-JSP	DCET11T3018MFN-JSP	●	●	<0.007*	0.375	0.156	0.173
		DCET32.50.5 MFN-JSP	DCET11T302MFN-JSP	●	●	<0.008*	0.375	0.156	0.173

*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 → C052 - Internal toolholder → D032 -
J-Series toolholder → G037 - TungCap → K015 -

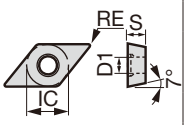
Insert POSITIVE TYPE

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

DC

Rhombic, 55°
with hole
Positive 7°

		T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH730	GT9530	AT9530	NS9530	KS05F	TH10
P	Steel	●ⓒ	ⓒ✠	ⓒ						ⓒ✠	✠		ⓒ	●ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ		●
M	Stainless	●ⓒ		●				●	ⓒ	●ⓒ	✠		ⓒ	●ⓒ	ⓒ					●
K	Cast iron	●ⓒ			●	●ⓒ	ⓒ						ⓒ	●ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ	●	●
N	Non-ferrous																		●	●
S	Superalloy							●	ⓒ			ⓒ	●	●ⓒ					●	
H	Hard material																			



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	GH730	GT9530	AT9530	NS9530	KS05F	TH10	RE	IC	S	D1
				Coated														Coated cermet		Cer-met	Uncoated		Dimension (in)			
Finishing to medium cutting	**PSS**	**DCMT 21.51 PSS**	**DCMT070204-PSS**	●	●	●						●	●		●			●		●			0.016	0.250	0.094	0.109
		DCMT 21.52 PSS	DCMT070208-PSS	●	●	●						●	●		●			●		●			0.031	0.250	0.094	0.109
		DCMT 32.51 PSS	**DCMT11T304-PSS**	●	●	●				●	●	●	●	●	●			●		●			0.016	0.375	0.156	0.173
		DCMT 32.52 PSS	DCMT11T308-PSS	●	●	●				●	●	●	●	●	●			●		●			0.031	0.375	0.156	0.173
		DCMT 32.53 PSS	DCMT11T312-PSS	●	●	●				●	●	●	●	●	●								0.047	0.375	0.156	0.173
	PS	**DCMT 21.50.5 PS**	**DCMT070202-PS**	●	●	●				●	●	●	●		●	●	●	●	●	●			0.008	0.250	0.094	0.109
		DCMT 21.51 PS	DCMT070204-PS	●	●	●				●	●	●	●		●	●	●	●	●	●			0.016	0.250	0.094	0.109
		DCMT 21.52 PS	DCMT070208-PS	●	●	●				●	●	●			●		●	●	●	●			0.031	0.250	0.094	0.109
		DCMT 32.50.5 PS	**DCMT11T302-PS**	●	●	●				●	●	●	●		●	●	●	●	●	●			0.008	0.375	0.156	0.173
		DCMT 32.51 PS	DCMT11T304-PS	●	●	●				●	●	●	●	●	●	●	●	●	●	●			0.016	0.375	0.156	0.173
		DCMT 32.52 PS	DCMT11T308-PS	●	●	●				●	●	●	●	●	●	●	●	●	●	●			0.031	0.375	0.156	0.173
		DCMT 32.53 PS	DCMT11T312-PS	●	●	●				●	●	●	●	●	●								0.047	0.375	0.156	0.173
	TM	**DCMT 21.50.5 TM**	**DCMT070202-TM**	●	●	●					●	●								●			0.008	0.250	0.094	0.109
		DCMT 21.51 TM	DCMT070204-TM	●	●	●					●	●								●			0.016	0.250	0.094	0.109
		DCMT 21.52 TM	DCMT070208-TM	●	●	●					●	●								●			0.031	0.250	0.094	0.109
		DCMT 32.50.5 TM	**DCMT11T302-TM**	●	●	●					●	●								●			0.008	0.375	0.156	0.173
		DCMT 32.51 TM	DCMT11T304-TM	●	●	●					●	●								●			0.016	0.375	0.156	0.173
		DCMT 32.52 TM	DCMT11T308-TM	●	●	●					●	●								●			0.031	0.375	0.156	0.173
	CM	**DCMT 21.51 CM**	**DCMT070204-CM**						●														0.016	0.250	0.094	0.109
		DCMT 21.52 CM	DCMT070208-CM						●														0.031	0.250	0.094	0.109
		DCMT 32.51 CM	**DCMT11T304-CM**				●	●	●														0.016	0.375	0.156	0.173
		DCMT 32.52 CM	DCMT11T308-CM				●	●	●														0.031	0.375	0.156	0.173
		DCMT 32.53 CM	DCMT11T312-CM						●														0.047	0.375	0.156	0.173
Finishing to medium cutting for non-ferrous alloys	**AL**	**DCGT 21.50.5 AL**	**DCGT070202-AL**																		●		0.008	0.250	0.094	0.109
		DCGT 21.51 AL	DCGT070204-AL																		●		0.016	0.250	0.094	0.109
		DCGT 32.50.5 AL	**DCGT11T302-AL**																		●		0.008	0.375	0.156	0.173
		DCGT 32.51 AL	DCGT11T304-AL																		●		0.016	0.375	0.156	0.173
		DCGT 32.52 AL	DCGT11T308-AL																		●		0.031	0.375	0.156	0.173
Finishing to medium cutting	**All-round**	**DCGT 21.50.5**	**DCGT070202**																	●			0.008	0.250	0.094	0.109
		DCGT 21.51	DCGT070204																	●			0.016	0.250	0.094	0.109
		DCGT 32.50.5	**DCGT11T302**																	●			0.008	0.375	0.156	0.173
		DCGT 32.51	DCGT11T304																	●			0.016	0.375	0.156	0.173
		DCGT 32.52	DCGT11T308																	●			0.031	0.375	0.156	0.173
	Angular	**DCGT 21.50.5 R**	**DCGT070202R**																			●	0.008	0.250	0.094	0.109
		DCGT 21.50.5 L	DCGT070202L																			●	0.008	0.250	0.094	0.109
		DCGT 21.51 R	DCGT070204R																			●	0.016	0.250	0.094	0.109
		DCGT 21.51 L	DCGT070204L																			●	0.016	0.250	0.094	0.109
		DCGT 32.50.5 R	**DCGT11T302R**																			●	0.008	0.375	0.156	0.173
		DCGT 32.50.5 L	DCGT11T302L																			●	0.008	0.375	0.156	0.173
		DCGT 32.51 R	DCGT11T304R																			●	0.016	0.375	0.156	0.173
		DCGT 32.51 L	DCGT11T304L																			●	0.016	0.375	0.156	0.173

● : Line up

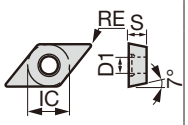
Reference pages: External toolholder → C052 - Internal toolholder → D032 -
J-Series toolholder → G037 - TungCap → K015 -

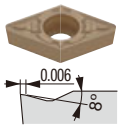
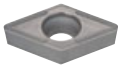
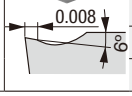
● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

DC

Rhombic, 55°
with hole
Positive 7°

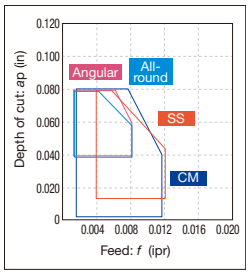
		T9215	T9225	T6215	T5115	AH6225	AH6235	AH725	AH110	AH120	GH730	GH110	GT9530			NS9530			TH10	
		Coated											Coated cermet			Cermet			Un-coated	
P	Steel	●ⓒ	ⓒ✠	ⓒ		ⓒ✠	✠	ⓒ	●	●ⓒ	ⓒ	●	●ⓒ			●ⓒ			●	
M	Stainless	●ⓒ		●		●ⓒ	✠	ⓒ	●	●ⓒ	ⓒ	●							●	
K	Cast iron	●ⓒ			ⓒ			ⓒ	●	●ⓒ	ⓒ	●	●ⓒ			●ⓒ			●	
N	Non-ferrous																		●	
S	Superalloy							●	●	●ⓒ		●								
H	Hard material																			

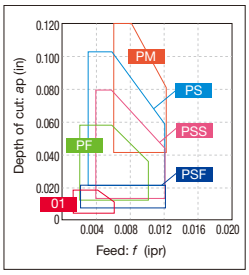


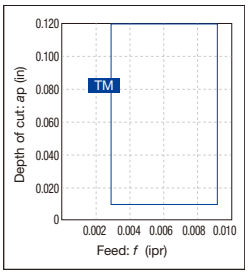
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	T5115	AH6225	AH6235	AH725	AH110	AH120	GH730	GH110	GT9530			NS9530			TH10		RE	IC	S	D1
Finishing to medium cutting	23	DCMT 21.51-23	DCMT070204-23															●					0.016	0.250	0.094	0.109
		DCMT 32.51-23	DCMT11T304-23															●					0.016	0.375	0.156	0.173
		DCMT 32.52-23	DCMT11T308-23															●					0.031	0.375	0.156	0.173
	-	DCMW 21.51	DCMW070204				●																0.016	0.250	0.094	0.109
		DCMW 21.52	DCMW070208				●																0.031	0.250	0.094	0.109
		DCMW 32.51	DCMW11T304				●																0.016	0.375	0.156	0.173
		DCMW 32.52	DCMW11T308				●																0.031	0.375	0.156	0.173
	-	DCGW 21.50.5	DCGW070202																		●		0.008	0.250	0.094	0.109
		DCGW 21.51	DCGW070204											●							●		0.016	0.250	0.094	0.109
		DCGW 32.50.5	DCGW11T302																		●		0.008	0.375	0.156	0.173
		DCGW 32.51	DCGW11T304																		●		0.016	0.375	0.156	0.173
		DCGW 32.52	DCGW11T308																		●		0.031	0.375	0.156	0.173
Medium cutting	PM	DCMT 21.51 PM	DCMT070204-PM	●	●	●		●	●	●	●	●	●		●			●					0.016	0.250	0.094	0.109
		DCMT 21.52 PM	DCMT070208-PM	●	●	●		●	●	●	●	●	●		●			●					0.031	0.250	0.094	0.109
		DCMT 32.51 PM	DCMT11T304-PM	●	●	●		●	●	●	●	●	●		●			●					0.016	0.375	0.156	0.173
		DCMT 32.52 PM	DCMT11T308-PM	●	●	●		●	●	●	●	●	●		●			●					0.031	0.375	0.156	0.173
		DCMT 32.53 PM	DCMT11T312-PM		●	●		●	●	●													0.047	0.375	0.156	0.173
	24	DCMT 21.50.5-24	DCMT070202-24															●					0.008	0.250	0.094	0.109
		DCMT 21.51-24	DCMT070204-24	●	●							●						●					0.016	0.250	0.094	0.109
		DCMT 21.52-24	DCMT070208-24		●							●						●					0.031	0.250	0.094	0.109
		DCMT 32.50.5-24	DCMT11T302-24		●							●						●					0.008	0.375	0.156	0.173
		DCMT 32.51-24	DCMT11T304-24	●	●							●						●					0.016	0.375	0.156	0.173
		DCMT 32.52-24	DCMT11T308-24	●	●			●				●						●					0.031	0.375	0.156	0.173

● : Line up

Chip control range







Reference pages: External toolholder → C052 - Internal toolholder → D032 -
J-Series toolholder → G037 - TungCap → K015 -

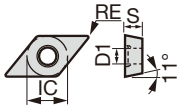
Insert POSITIVE TYPE

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

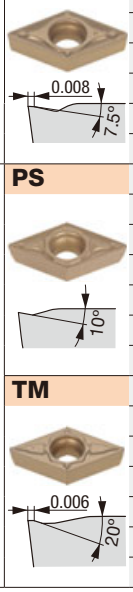
DP

Rhombic, 55° with hole Positive 11°

		T9215	T9225	T6215	AH8015	AH6225	NS9530
P	Steel	●ⓒ	ⓒ✠	ⓒ		ⓒ✠	●ⓒ
M	Stainless	●ⓒ		●	ⓒ	●ⓒ	
K	Cast iron	●ⓒ					●ⓒ
N	Non-ferrous						
S	Superalloy				ⓒ		
H	Hard material						



Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	Coated T9225	Coated T6215	Coated AH8015	Coated AH6225	Cermet NS9530	Dimension (in) RE	IC	S	D1
Finishing	TSF	DPMT 21.50.5 TSF	DPMT070202-TSF	●	●	●	●	●	●	0.008	0.250	0.094	0.109
		DPMT 21.51 TSF	DPMT070204-TSF	●	●	●	●	●	●	0.016	0.250	0.094	0.109
		DPMT 21.52 TSF	DPMT070208-TSF	●	●	●	●	●	●	0.031	0.250	0.094	0.109
		DPMT 32.50.5 TSF	DPMT11T302-TSF	●	●	●	●	●	●	0.008	0.375	0.156	0.173
		DPMT 32.51 TSF	DPMT11T304-TSF	●	●	●	●	●	●	0.016	0.375	0.156	0.173
		DPMT 32.52 TSF	DPMT11T308-TSF	●	●	●	●	●	●	0.031	0.375	0.156	0.173
Finishing to medium cutting	PS	DPMT 21.50.5 PS	DPMT070202-PS	●	●	●	●	●	●	0.008	0.250	0.094	0.109
		DPMT 21.51 PS	DPMT070204-PS	●	●	●	●	●	●	0.016	0.250	0.094	0.109
		DPMT 21.52 PS	DPMT070208-PS	●	●	●	●	●	●	0.031	0.250	0.094	0.109
		DPMT 32.50.5 PS	DPMT11T302-PS	●	●	●	●	●	●	0.008	0.375	0.156	0.173
		DPMT 32.51 PS	DPMT11T304-PS	●	●	●	●	●	●	0.016	0.375	0.156	0.173
		DPMT 32.52 PS	DPMT11T308-PS	●	●	●	●	●	●	0.031	0.375	0.156	0.173
	TM	DPMT 21.50.5 TM	DPMT070202-TM	●	●	●	●	●	●	0.008	0.250	0.094	0.109
		DPMT 21.51 TM	DPMT070204-TM	●	●	●	●	●	●	0.016	0.250	0.094	0.109
		DPMT 21.52 TM	DPMT070208-TM	●	●	●	●	●	●	0.031	0.250	0.094	0.109
		DPMT 32.50.5 TM	DPMT11T302-TM	●	●	●	●	●	●	0.008	0.375	0.156	0.173
		DPMT 32.51 TM	DPMT11T304-TM	●	●	●	●	●	●	0.016	0.375	0.156	0.173
		DPMT 32.52 TM	DPMT11T308-TM	●	●	●	●	●	●	0.031	0.375	0.156	0.173



● : Line up

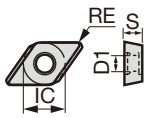
Insert POSITIVE TYPE / DOUBLE SIDED

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

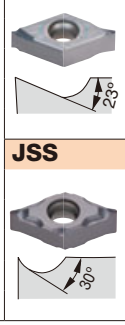
DX

Rhombic, 55° with hole

		SH725
P	Steel	●ⓒ
M	Stainless	●ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Designation Inch	Designation Metric	Coated SH725	Dimension (in) RE	IC	S	D1
Finishing (sharp edge)	JRP	DXGU 220MFRE JRP	DXGU070301MFRE-JRP**	●	<0.004*	0.250	0.125	0.106
		DXGU 220MFLE JRP	DXGU070301MFLE-JRP**	●	<0.004*	0.250	0.125	0.106
		DXGU 220.5MFRE JRP	DXGU070302MFRE-JRP**	●	<0.008*	0.250	0.125	0.106
		DXGU 220.5MFLE JRP	DXGU070302MFLE-JRP**	●	<0.008*	0.250	0.125	0.106
	JSS	DXGU 220MFR JSS	DXGU070301MFR-JSS	●	<0.004*	0.250	0.125	0.106
		DXGU 220MFL JSS	DXGU070301MFL-JSS	●	<0.004*	0.250	0.125	0.106
		DXGU 220.5MFR JSS	DXGU070302MFR-JSS	●	<0.008*	0.250	0.125	0.106
		DXGU 220.5MFL JSS	DXGU070302MFL-JSS	●	<0.008*	0.250	0.125	0.106



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

● : Line up

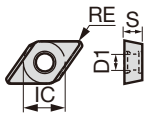
Reference pages: DPMT...: Internal toolholder → D038 -
DXGU...: External toolholder → C057 -, Internal toolholder → D040 -
J-Series toolholder → G046 -, TungCap → K026

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

DX

Rhombic, 55° with hole

		T9215	T9225	AH8015	AH725	SH725	GT9530	NS9530	KS05F
		Coated					Coated cermet	Cermet	Uncoated
P	Steel	●◐	◐✠		◐	●◐	●◐	●◐	
M	Stainless	●◐		◐	◐	●◐			
K	Cast iron	●◐			◐		●◐	●◐	●
N	Non-ferrous								●
S	Superalloy			◐	●				●
H	Hard material								

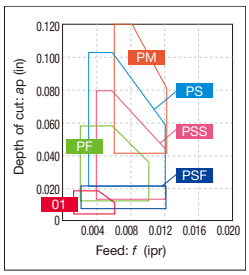


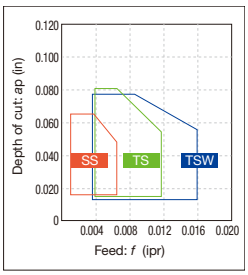
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	AH8015	AH725	SH725	GT9530	NS9530	KS05F	RE	IC	S	D1
Finishing	JSS	DXGU 220MR JSS	DXGU070301MR-JSS				●					<0.004*	0.250	0.125	0.106
		DXGU 220ML JSS	DXGU070301ML-JSS				●					<0.004*	0.250	0.125	0.106
		DXGU 220.5MR JSS	DXGU070302MR-JSS				●					<0.008*	0.250	0.125	0.106
		DXGU 220.5ML JSS	DXGU070302ML-JSS				●					<0.008*	0.250	0.125	0.106
	SS	DXGU 220.5R SS	DXGU070302R-SS			●	●		●	●	●	0.008	0.250	0.125	0.106
		DXGU 220.5L SS	DXGU070302L-SS			●	●		●	●	●	0.008	0.250	0.125	0.106
		DXGU 221R SS	DXGU070304R-SS			●	●		●	●	●	0.016	0.250	0.125	0.106
		DXGU 221L SS	DXGU070304L-SS			●	●		●	●	●	0.016	0.250	0.125	0.106
Finishing to medium cutting (sharp edge)	JS	DXGU 220MFR JS	DXGU070301MFR-JS(1)					●				<0.004*	0.250	0.125	0.106
		DXGU 220MFL JS	DXGU070301MFL-JS(1)					●				<0.004*	0.250	0.125	0.106
		DXGU 220.5MFR JS	DXGU070302MFR-JS(1)					●				<0.008*	0.250	0.125	0.106
		DXGU 220.5MFL JS	DXGU070302MFL-JS(1)					●				<0.008*	0.250	0.125	0.106
		DXGU 221MFR JS	DXGU070304MFR-JS(1)					●				<0.016*	0.250	0.125	0.106
		DXGU 221MFL JS	DXGU070304MFL-JS(1)					●				<0.016*	0.250	0.125	0.106
	JTS	DXGU 220MFR JTS	DXGU070301MFR-JTS					●				<0.004*	0.250	0.125	0.106
		DXGU 220MFL JTS	DXGU070301MFL-JTS					●				<0.004*	0.250	0.125	0.106
		DXGU 220.5MFR JTS	DXGU070302MFR-JTS					●				<0.008*	0.250	0.125	0.106
		DXGU 220.5MFL JTS	DXGU070302MFL-JTS					●				<0.008*	0.250	0.125	0.106
Finishing to medium cutting	JTS	DXGU 220MR JTS	DXGU070301MR-JTS				●					<0.004*	0.250	0.125	0.106
		DXGU 220ML JTS	DXGU070301ML-JTS				●					<0.004*	0.250	0.125	0.106
		DXGU 220.5MR JTS	DXGU070302MR-JTS				●					<0.008*	0.250	0.125	0.106
		DXGU 220.5ML JTS	DXGU070302ML-JTS				●					<0.008*	0.250	0.125	0.106
	TS	DXGU 220.5R TS	DXGU070302R-TS			●	●		●	●	●	0.008	0.250	0.125	0.106
		DXGU 220.5L TS	DXGU070302L-TS			●	●		●	●	●	0.008	0.250	0.125	0.106
		DXGU 221R TS	DXGU070304R-TS			●	●		●	●	●	0.016	0.250	0.125	0.106
		DXGU 221L TS	DXGU070304L-TS			●	●		●	●	●	0.016	0.250	0.125	0.106
		DXGU 222R TS	DXGU070308R-TS			●	●		●	●	●	0.031	0.250	0.125	0.106
		DXGU 222L TS	DXGU070308L-TS			●	●		●	●	●	0.031	0.250	0.125	0.106
	TS	DXMU 220.5R TS	DXMU070302R-TS	●	●	●	●					0.008	0.250	0.125	0.106
		DXMU 220.5L TS	DXMU070302L-TS	●	●	●	●					0.008	0.250	0.125	0.106
		DXMU 221R TS	DXMU070304R-TS	●	●	●	●					0.016	0.250	0.125	0.106
		DXMU 221L TS	DXMU070304L-TS	●	●	●	●					0.016	0.250	0.125	0.106
		DXMU 222R TS	DXMU070308R-TS	●	●	●	●					0.031	0.250	0.125	0.106
		DXMU 222L TS	DXMU070308L-TS	●	●	●	●					0.031	0.250	0.125	0.106

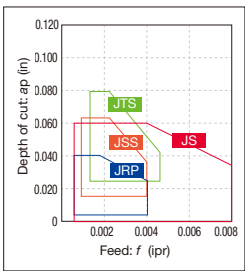
* Corner radius (RE) with a sign of inequality (<) means minus tolerance.
(1) Due to chipbreaker profile, max ap for face or ID turning is 0.040".

● : Line up

Chip control range







Reference pages:
External toolholder → C057 -
Internal toolholder → D040 -
J-Series toolholder → G046 -
TungCap → K026

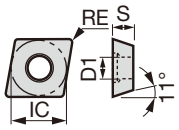
Insert POSITIVE TYPE

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

EP

Rhombic, 75° with hole Positive 11°

		SH7025	SH725	SH730	J740
P	Steel	◐	◐	◐	◐
M	Stainless	◐	◐	◐	◐
K	Cast iron				
N	Non-ferrous				
S	Superalloy			◐	
H	Hard material				

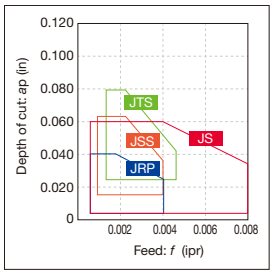


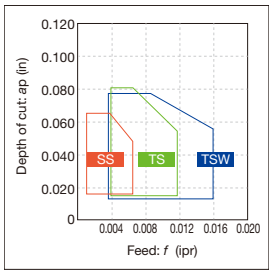
Application	Chipbreaker	Designation Inch	Designation Metric	SH7025	SH725	SH730	J740	RE	IC	S	D1
				Coated				Dimension (in)			
Finishing (sharp edge)	JS	EPGT 4.51.80 F-JS	EPGT03X101F-JS	●	●			<0.004	0.141	0.055	0.075
		EPGT 4.51.80.5 F-JS	EPGT03X102F-JS	●	●			<0.008	0.141	0.055	0.075
		EPGT 4.51.81 F-JS	EPGT03X104F-JS	●	●			<0.016	0.141	0.055	0.075
		EPGT 520 F-JS	EPGT040101F-JS	●	●			<0.004	0.156	0.063	0.091
		EPGT 520.5 F-JS	EPGT040102F-JS	●	●			<0.008	0.156	0.063	0.091
		EPGT 521 F-JS	EPGT040104F-JS	●	●			<0.016	0.156	0.063	0.091
Finishing	JS	EPGT 4.51.80 JS	EPGT03X101-JS			●		<0.004	0.141	0.055	0.075
		EPGT 4.51.80.5 JS	EPGT03X102-JS			●		<0.008	0.141	0.055	0.075
		EPGT 4.51.81 JS	EPGT03X104-JS			●		<0.016	0.141	0.055	0.075
		EPGT 520 JS	EPGT040101-JS			●		<0.004	0.156	0.063	0.091
		EPGT 520.5 JS	EPGT040102-JS			●		<0.008	0.156	0.063	0.091
		EPGT 521 JS	EPGT040104-JS			●		<0.016	0.156	0.063	0.091
Finishing (sharp edge)	J08	EPGT 52V FL-J08	EPGT040100FL-J08		●			0.0012	0.156	0.063	0.091
		EPGT 520.5 FL-J08	EPGT040102FL-J08	●	●			0.008	0.156	0.063	0.091
		EPGT 521 FL-J08	EPGT040104FL-J08	●	●			0.016	0.156	0.063	0.091
Finishing	J08	EPGT 52V L-J08	EPGT040100L-J08			●	●	0.0012	0.156	0.063	0.091
		EPGT 520.5 L-J08	EPGT040102L-J08			●	●	0.008	0.156	0.063	0.091
		EPGT 521 L-J08	EPGT040104L-J08			●	●	0.016	0.156	0.063	0.091

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

● : Line up

Chip control range





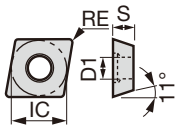
Reference pages: Internal toolholder → D048 -

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

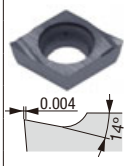
EP

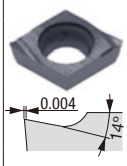
Rhombic, 75° with hole Positive 11°

		GH110	SH7025	SH725	SH730	GT9530	NS9530	TH10	UX30
		Coated				Coated cermet	Cermet	Uncoated	
P	Steel	●	◐	◐	◐	◐	◐	●	◐
M	Stainless	●	◐	◐	◐			●	◐
K	Cast iron	●				◐	◐	●	
N	Non-ferrous							●	
S	Superalloy	●			◐				
H	Hard material								



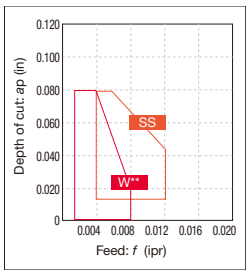
Application	Chipbreaker	Designation Inch	Designation Metric	GH110	SH7025	SH725	SH730	GT9530	NS9530	TH10	UX30	RE	IC	S	D1
Finishing (sharp edge)	W08	EPGT 4.51.8V FR-W08	EPGT03X100FL-W08		●	●						0.0012	0.141	0.055	0.075
		EPGT 4.51.8V FL-W08	EPGT03X100FR-W08			●						0.0012	0.141	0.055	0.075
		EPGT 4.51.80 FR-W08	EPGT03X101FL-W08		●	●						0.004	0.141	0.055	0.075
		EPGT 4.51.80 FL-W08	EPGT03X101FR-W08			●						0.004	0.141	0.055	0.075
		EPGT4.51.80.5FR-W08	EPGT03X102FL-W08		●	●						0.008	0.141	0.055	0.075
		EPGT4.51.80.5FL-W08	EPGT03X102FR-W08		●	●						0.008	0.141	0.055	0.075
		EPGT 4.51.81 FR-W08	EPGT03X104FL-W08		●	●						0.016	0.141	0.055	0.075
		EPGT 4.51.81 FL-W08	EPGT03X104FR-W08		●	●						0.016	0.141	0.055	0.075
		EPGT 52V FR-W08	EPGT040100FL-W08		●	●						0.0012	0.156	0.063	0.091
		EPGT 52V FL-W08	EPGT040100FR-W08			●						0.0012	0.156	0.063	0.091
		EPGT 520 FR-W08	EPGT040101FL-W08		●	●						0.004	0.156	0.063	0.091
		EPGT 520 FL-W08	EPGT040101FR-W08			●						0.004	0.156	0.063	0.091
		EPGT 520.5 FR-W08	EPGT040102FL-W08		●	●						0.008	0.156	0.063	0.091
		EPGT 520.5 FL-W08	EPGT040102FR-W08		●	●						0.008	0.156	0.063	0.091
		EPGT 521 FR-W08	EPGT040104FL-W08		●	●						0.016	0.156	0.063	0.091
		EPGT 521 FL-W08	EPGT040104FR-W08		●	●						0.016	0.156	0.063	0.091
Finishing	W08	EPGT 4.51.8V R-W08	EPGT03X100R-W08				●			●		0.0012	0.141	0.055	0.075
		EPGT 4.51.8V L-W08	EPGT03X100L-W08				●			●		0.0012	0.141	0.055	0.075
		EPGT 4.51.80 R-W08	EPGT03X101R-W08				●			●		0.004	0.141	0.055	0.075
		EPGT 4.51.80 L-W08	EPGT03X101L-W08				●			●		0.004	0.141	0.055	0.075
		EPGT 4.51.80.5 R-W08	EPGT03X102R-W08				●			●		0.008	0.141	0.055	0.075
		EPGT 4.51.80.5 L-W08	EPGT03X102L-W08				●			●		0.008	0.141	0.055	0.075
		EPGT 4.51.81 R-W08	EPGT03X104R-W08				●			●		0.016	0.141	0.055	0.075
		EPGT 4.51.81 L-W08	EPGT03X104L-W08				●			●		0.016	0.141	0.055	0.075
		EPGT 52V R-W08	EPGT040100R-W08				●			●		0.0012	0.156	0.063	0.091
		EPGT 52V L-W08	EPGT040100L-W08	●			●		●	●		0.0012	0.156	0.063	0.091
		EPGT 520 R-W08	EPGT040101R-W08				●			●		0.004	0.156	0.063	0.091
		EPGT 520 L-W08	EPGT040101L-W08				●			●		0.004	0.156	0.063	0.091
		EPGT 520.5 R-W08	EPGT040102R-W08	●			●		●	●		0.008	0.156	0.063	0.091
		EPGT 520.5 L-W08	EPGT040102L-W08	●			●	●	●	●	●	0.008	0.156	0.063	0.091
		EPGT 521 R-W08	EPGT040104R-W08	●			●		●	●		0.016	0.156	0.063	0.091
		EPGT 521 L-W08	EPGT040104L-W08	●			●	●	●	●	●	0.016	0.156	0.063	0.091





● : Line up

Chip control range



Reference pages: Internal toolholder → D048 -

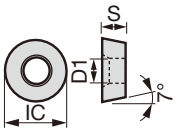
Insert POSITIVE TYPE

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

RC

Round, with hole Positive 7°

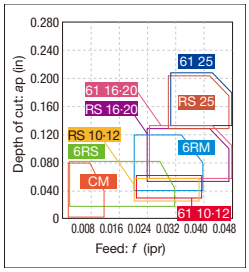
		T9215	T9225	T5115	AH8005	AH8015	AH905	NS9530	KS05F
P	Steel	●◐	◐✠					●◐	
M	Stainless	●◐			●	◐			
K	Cast iron	●◐		◐				●◐	●
N	Non-ferrous								●
S	Superalloy				●	◐	◐		●
H	Hard material								

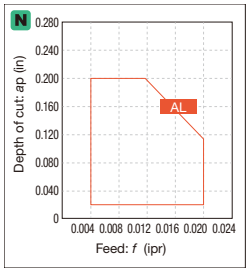


Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	Coated T9225	Coated T5115	Coated AH8005	Coated AH8015	Coated AH905	Cermet NS9530	Uncoated KS05F	RE	IC	S	D1
Finishing	RS	-	RCMT0602M0-RS				●					-	0.236	0.094	0.109
		-	RCMT0803M0-RS				●					-	0.315	0.125	0.134
		-	RCMT10T3M0-RS	●	●		●	●	●			-	0.394	0.156	0.173
		-	RCMT1204M0-RS	●	●		●	●	●			-	0.472	0.187	0.173
		-	RCMT1606M0-RS	●	●		●					-	0.630	0.250	0.217
		-	RCMT2006M0-RS		●		●					-	0.787	0.250	0.256
		-	RCMT2507M0-RS		●		●					-	0.984	0.313	0.299
	6RS	-	RCMT1204M0-6RS	●	●					●		-	0.472	0.187	0.173
Finishing to medium cutting	6RM	-	RCMT1204M0-6RM	●	●					●		-	0.472	0.187	0.173
	CM	-	RCMT0502M0-CM			●						-	0.197	0.094	0.098
		-	RCMT0602M0-CM			●						-	0.236	0.094	0.109
		-	RCMT0803M0-CM			●						-	0.315	0.125	0.134
Finishing to medium cutting for non-ferrous alloys	AL	-	RCGT0602M0-AL								●	-	0.236	0.094	0.109
		-	RCGT0803M0-AL								●	-	0.315	0.125	0.134
		-	RCGT1003M0-AL								●	-	0.394	0.125	0.173

● : Line up

Chip control range





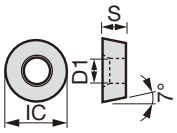
Reference pages: External toolholder → C068 -

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

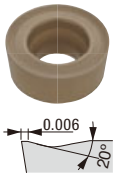
RC

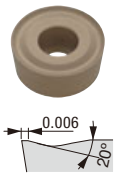
Round, with hole Positive 7°

		T9215	T9225	AH8005	AH8015	AH905	NS9530	TH10
P	Steel	●⊂	⊂✠				●⊂	●
M	Stainless	●⊂		●	⊂			●
K	Cast iron	●⊂					●⊂	●
N	Non-ferrous							●
S	Superalloy			●	⊂	⊂		
H	Hard material							



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	AH8005	AH8015	AH905	NS9530	TH10	RE	IC	S	D1
Heavy cutting	61	-	RCMT0502M0-61	●	●				●	●	-	0.197	0.094	0.098
		-	RCMT0602M0-61	●	●				●	●	-	0.236	0.094	0.109
		-	RCMT0803M0-61	●	●				●	●	-	0.315	0.125	0.134
	61	-	RCMM1003M0-61	●	●	●	●	●	●	●	-	0.394	0.125	0.142
		-	RCMM1204M0-61	●	●	●	●	●	●	●	-	0.472	0.187	0.165
		-	RCMM1606M0-61	●	●					●	-	0.630	0.250	0.205
		-	RCMM2006M0-61		●					●	-	0.787	0.250	0.256
		-	RCMM2507M0-61		●						-	0.984	0.313	0.283



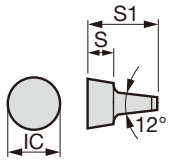


● : Line up

RT

Special round insert

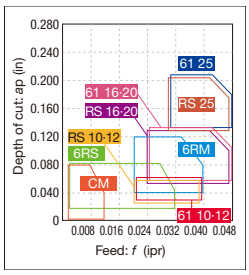
		T9215	T9225	AH8005	AH8015	AH905	NS9530	TH10
P	Steel	●						
M	Stainless	●						
K	Cast iron	●	⊂✠					
N	Non-ferrous	●	⊂✠					
S	Superalloy		⊂✠					
H	Hard material							



Application	Chipbreaker	Designation Inch	Designation Metric	TH10	KS20	RE	IC	S	S1
Medium cutting	-	-	RT05	●		-	0.197	0.098	0.256
		-	RT06	●	●	-	0.236	0.118	0.303
		-	RT08	●		-	0.315	0.165	0.406

● : Line up

Chip control range



Reference pages: RC...: External toolholder → C068 -

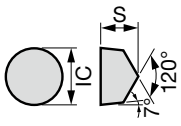
Insert POSITIVE TYPE

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

RC

Round, without hole
Positive 7°

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

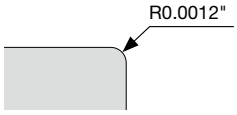


Application	Chipbreaker	Designation Inch	Designation Metric	TS200	TS300	TW43	RE	IC	S	D1
				Ceramic			Dimension (in)			
Medium cutting	-	-	RCGX070700-T1	●	●		-	0.375	0.315	-
		-	RCGX090700-E	●	●		-	0.375	0.315	-
		-	RCGX090700-T1		●		-	0.375	0.315	-
		-	RCGX090700-T6			●	-	0.375	0.315	-
		-	RCGX120700-E	●	●		-	0.500	0.315	-
		-	RCGX120700-T1	●	●		-	0.500	0.315	-

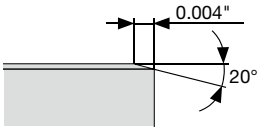
● : Line up

Edge prep

E: Low cutting force



T1/T6: Strong cutting edge



MEMO

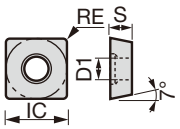
Insert POSITIVE TYPE

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

SC

Square with hole Positive 7°

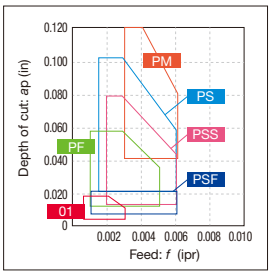
		T9215	T9225	T6215	T505	T515	T5115	AH6225	AH6235	AH725	AH120	GT9530	AT9530	NS9530
P	Steel	●⊂	⊂✠	⊂				⊂✠	✠	⊂	●⊂	●⊂	●⊂	●⊂
M	Stainless	●⊂		●				●⊂	✠	⊂	●⊂			
K	Cast iron	●⊂			●	●⊂	⊂			⊂	●⊂	●⊂	●⊂	●⊂
N	Non-ferrous													
S	Superalloy									●	●⊂			
H	Hard material													

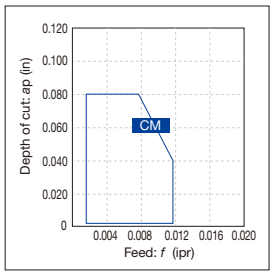


Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	T505	T515	T5115	AH6225	AH6235	AH725	AH120	GT9530	AT9530	NS9530	RE	IC	S	D1
				Coated										Coated cermet		Cermet	Dimension (in)			
Finishing to medium cutting	PS	SCMT 32.51 PS	SCMT09T304-PS	●	●	●				●	●	●		●	●	●	0.016	0.375	0.156	0.173
		SCMT 32.52 PS	SCMT09T308-PS	●	●	●				●	●	●		●	●	●	0.031	0.375	0.156	0.173
		SCMT 431 PS	SCMT120404-PS	●	●	●				●	●	●				●	0.016	0.500	0.187	0.217
		SCMT 432 PS	SCMT120408-PS	●	●	●				●	●	●				●	0.031	0.500	0.187	0.217
	CM	SCMT 32.51 CM	SCMT09T304-CM				●	●	●								0.016	0.375	0.156	0.173
		SCMT 32.52 CM	SCMT09T308-CM				●	●	●								0.031	0.375	0.156	0.173
		SCMT 32.53 CM	SCMT09T312-CM						●								0.047	0.375	0.156	0.173
		SCMT 431 CM	SCMT120404-CM				●	●	●								0.016	0.500	0.187	0.217
		SCMT 432 CM	SCMT120408-CM				●	●	●								0.031	0.500	0.187	0.217
	23	SCMT 32.50.5-23	SCMT09T302-23													●	0.008	0.375	0.156	0.173
		SCMT 32.52-23	SCMT09T308-23		●								●				0.031	0.375	0.156	0.173
		SCMT 432-23	SCMT120408-23		●							●	●				0.031	0.500	0.187	0.217
Medium cutting	PM	SCMT 32.51 PM	SCMT09T304-PM	●	●	●				●	●	●				●	0.016	0.375	0.156	0.173
		SCMT 32.52 PM	SCMT09T308-PM	●	●	●				●	●	●				●	0.031	0.375	0.156	0.173
		SCMT 432 PM	SCMT120408-PM	●	●	●				●	●	●				●	0.031	0.500	0.187	0.217
		SCMT 433 PM	SCMT120412-PM		●	●				●	●	●				●	0.047	0.500	0.187	0.217
	24	SCMT 2.51.51-24	SCMT070204-24		●											●	0.016	0.313	0.094	0.134
		SCMT 32.50.5-24	SCMT09T302-24													●	0.008	0.375	0.156	0.173
		SCMT 32.51-24	SCMT09T304-24		●											●	0.016	0.375	0.156	0.173
		SCMT 32.52-24	SCMT09T308-24	●	●								●			●	0.031	0.375	0.156	0.173
		SCMT 431-24	SCMT120404-24		●											●	0.016	0.500	0.187	0.217
		SCMT 432-24	SCMT120408-24		●								●			●	0.031	0.500	0.187	0.217

● : Line up

Chip control range





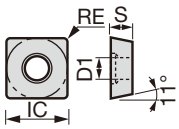
Reference pages: External toolholder → G053

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

SP

Square with hole Positive 11°

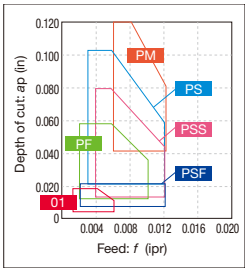
		T9215	T9225	T6215	T505	T515	T5115	AH6225	AH6235	AH725	GT9530	AT9530	NS9530	TH10
P	Steel	●⊂	⊂✠	⊂				⊂✠	✠	⊂	●⊂	●⊂	●⊂	●
M	Stainless	●⊂		●				●⊂	✠	⊂				●
K	Cast iron	●⊂			●	●⊂	⊂			⊂	●⊂	●⊂	●⊂	●
N	Non-ferrous													●
S	Superalloy									●				
H	Hard material													

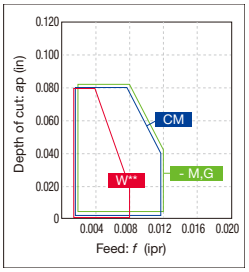


Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	T505	T515	T5115	AH6225	AH6235	AH725	GT9530	AT9530	NS9530	TH10	RE	IC	S	D1
				Coated									Coated cermet		Cermet	Uncoated	Dimension (in)			
Finishing	W15	SPGT 320.5 L-W15	SPGT090302L-W15												●		0.008	0.375	0.125	0.173
		SPGT 321 L-W15	SPGT090304L-W15												●	●	0.016	0.375	0.125	0.173
		SPGT 322 R-W15	SPGT090308R-W15													●	0.031	0.375	0.125	0.173
		SPGT 322 L-W15	SPGT090308L-W15												●	●	0.031	0.375	0.125	0.173
	W20	SPGT 431 L-W20	SPGT120404L-W20												●		0.016	0.500	0.187	0.217
Finishing to medium cutting	PS	SPMT 321 PS	SPMT090304-PS	●	●	●				●	●	●	●	●	●		0.016	0.375	0.125	0.173
		SPMT 322 PS	SPMT090308-PS	●	●	●				●	●	●	●	●	●		0.031	0.375	0.125	0.173
		SPMT 431 PS	SPMT120404-PS	●	●	●				●	●	●					0.016	0.500	0.187	0.217
		SPMT 432 PS	SPMT120408-PS	●	●	●				●	●	●					0.031	0.500	0.187	0.217
	CM	SPMT 321 CM	SPMT090304-CM						●								0.016	0.375	0.125	0.173
		SPMT 322 CM	SPMT090308-CM						●								0.031	0.375	0.125	0.173
		SPMT 431 CM	SPMT120404-CM				●	●	●								0.016	0.500	0.187	0.217
		SPMT 432 CM	SPMT120408-CM				●	●	●								0.031	0.500	0.187	0.217
	23	SPMT 321-23	SPMT090304-23		●										●		0.016	0.375	0.125	0.173
		SPMT 322-23	SPMT090308-23		●										●		0.031	0.375	0.125	0.173

● : Line up

Chip control range





*-M,G: Without chipbreaker

Reference pages: Internal toolholder → D052

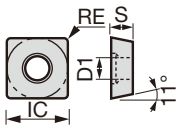
Insert POSITIVE TYPE

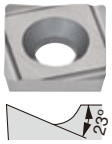
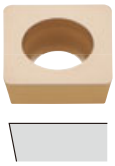
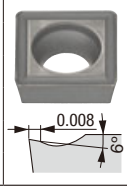
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

SP

Square with hole Positive 11°

		T9225	T5115	T5125	AH120	NS9530	TH10
P	Steel	◐✠			●◐	●◐	●
M	Stainless				●◐		●
K	Cast iron		◐	✠	●◐	●◐	●
N	Non-ferrous						●
S	Superalloy				●◐		
H	Hard material						



Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9225	Coated T5115	Coated T5125	Coated AH120	Cermet NS9530	Uncoated TH10	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	- (Tungaloy standard hole specification) 	SPGM 321 L	SPGM090304L					●		0.016	0.375	0.125	0.173
		SPGM 421 L	SPGM120304L					●		0.016	0.500	0.125	0.197
		SPGM 422 L	SPGM120308L					●		0.031	0.500	0.125	0.197
	- 	SPMW 321	SPMW090304		●	●				0.016	0.375	0.125	0.173
		SPMW 322	SPMW090308		●					0.031	0.375	0.125	0.173
		SPMW 431	SPMW120404		●					0.016	0.500	0.187	0.217
		SPMW 432	SPMW120408		●					0.031	0.500	0.187	0.217
	-	SPGW 320.5	SPGW090302						●	0.008	0.375	0.125	0.173
		SPGW 321	SPGW090304						●	0.016	0.375	0.125	0.173
		SPGW 322	SPGW090308				●			0.031	0.375	0.125	0.173
		SPGW 333	SPGW090312				●			0.047	0.375	0.125	0.173
		SPGW 431	SPGW120404				●		●	0.016	0.500	0.187	0.217
		SPGW 432	SPGW120408				●			0.031	0.500	0.187	0.217
	- (Tungaloy standard hole specification)	SPGA 321	SPGA090304					●		0.016	0.375	0.125	0.173
Medium cutting	24 	SPMT 321-24	SPMT090304-24	●				●		0.016	0.375	0.125	0.173
		SPMT 322-24	SPMT090308-24	●			●	●		0.031	0.375	0.125	0.173
		SPMT 431-24	SPMT120404-24					●		0.016	0.500	0.187	0.217
		SPMT 432-24	SPMT120408-24				●	●		0.031	0.500	0.187	0.217

● : Line up

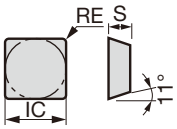
Reference pages: Internal toolholder → D052

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

SP

Square without hole Positive 11°

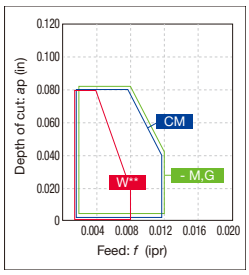
		T9225	T5115	T3130	AH110	AH120	AH330	NS9530	NS740		TH10	UX30		LX10	LX11	FX105	
P	Steel	◐✠		●◐	●	●◐	●◐	●◐	◐		●	◐					
M	Stainless			●◐	●	●◐	●◐				●	◐					
K	Cast iron		◐	●◐	●	●◐	●◐	●◐	◐		●					●◐	
N	Non-ferrous										●						
S	Superalloy			●◐	●	●◐											
H	Hard material													●◐	●◐		



Application	Chipbreaker	Designation Inch	Designation Metric	T9225	T5115	T3130	AH110	AH120	AH330	NS9530	NS740	TH10	UX30	LX10	LX11	FX105	RE	IC	S	D1
				Coated						Cermet		Uncoated		Ceramic			Dimension (in)			
Finishing to medium cutting	CM	SPMR 321 CM	SPMR090304-CM		●												0.016	0.375	0.125	-
		SPMR 322 CM	SPMR090308-CM		●												0.031	0.375	0.125	-
		SPMR 421 CM	SPMR120304-CM		●												0.016	0.500	0.125	-
		SPMR 422 CM	SPMR120308-CM		●												0.031	0.500	0.125	-
		SPMR 423 CM	SPMR120312-CM		●												0.047	0.500	0.125	-
	23	SPMR 321-23	SPMR090304-23							●							0.016	0.375	0.125	-
		SPMR 322-23	SPMR090308-23	●						●							0.031	0.375	0.125	-
		SPMR 421-23	SPMR120304-23	●						●							0.016	0.500	0.125	-
		SPMR 422-23	SPMR120308-23	●						●							0.031	0.500	0.125	-
	-	SPGR 321 L	SPGR090304L							●							0.016	0.375	0.125	-
	-	SPGN 321	SPGN090304									●			▲		0.016	0.375	0.125	-
		SPGN 322	SPGN090308									●		●	▲		0.031	0.375	0.125	-
		SPGN 324	SPGN090316											●	▲		0.063	0.375	0.125	-
		SPGN 421	SPGN120304									●		●	▲		0.016	0.500	0.125	-
		SPGN 422	SPGN120308				●					●		●	▲		0.031	0.500	0.125	-
		SPGN 423	SPGN120312							●		●		●	▲		0.047	0.500	0.125	-
		SPGN 432	SPGN120408									●					0.031	0.500	0.187	-
		SPGN 433	SPGN120412									●					0.047	0.500	0.187	-
		SPGN 433TN	SPGN120412													●	0.047	0.500	0.187	-
	-	SPMN 321	SPMN090304		●												0.016	0.375	0.125	-
		SPMN 322	SPMN090308		●				●								0.031	0.375	0.125	-
		SPMN 421	SPMN120304		●								●				0.016	0.500	0.125	-
		SPMN 422	SPMN120308		●	●				●		●	●				0.031	0.500	0.125	-
		SPMN 423	SPMN120312		●						●	●	●				0.047	0.500	0.125	-
		SPMN 432	SPMN120408		●			●			●	●	●				0.031	0.500	0.187	-
		SPMN 433	SPMN120412		●		●						●				0.047	0.500	0.187	-
		SPMN 633	SPMN190412			●		●		●		●		●	●		0.047	0.750	0.187	-

● : Line up
▲ : To be discontinued

Chip control range



*-M,G: Without chipbreaker

Reference pages: Internal toolholder → D053

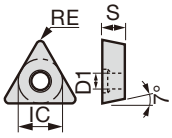
Insert POSITIVE TYPE

● : Continuous cutting
ⓒ : 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		
		Coated										Coated cermet			Cermet			Uncoated		
P	Steel	●ⓒ	ⓒ✠		ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ			●ⓒ			●		
M	Stainless	●ⓒ		ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ							●		
K	Cast iron	●ⓒ			ⓒ							●ⓒ			●ⓒ			●		
N	Non-ferrous																	●		
S	Superalloy			ⓒ	●		●ⓒ			●ⓒ										
H	Hard material																			



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH8015	AH6225	AH725	SH7025	SH725	SH730	J740	GT9530			NS9530	NS520		TH10			RE	IC	S	D1
Precision finishing (sharp edge)	JP	TCGT 21.5V FN-JP	TCGT110200FN-JP							●	●												<0.002	0.250	0.094	0.109
		TCGT 21.50 FN-JP	TCGT110201FN-JP							●	●												<0.004	0.250	0.094	0.109
		TCGT 21.50.5 FN-JP	TCGT110202FN-JP							●	●												<0.008	0.250	0.094	0.109
	01	TCGT 21.50.5 F-01	TCGT110202F-01							●	●												<0.008	0.250	0.094	0.109
		TCGT 21.51 F-01	TCGT110204F-01							●	●												<0.016	0.250	0.094	0.109
Precision finishing	01	TCGT 731-01	TCGT090204-01															●		●			0.016	0.219	0.094	0.098
		TCGT 21.50.5-01	TCGT110202-01										●										0.008	0.250	0.094	0.109
		TCGT 21.51-01	TCGT110204-01											●			●	●		●			0.016	0.250	0.094	0.109
		TCGT 21.52-01	TCGT110208-01														●						0.031	0.250	0.094	0.109
		TCGT 32.51-01	TCGT16T304-01																	●			0.016	0.375	0.156	0.173
		TCGT 32.52-01	TCGT16T308-01															●		●			0.031	0.375	0.156	0.173
Finishing (sharp edge)	JS	TCGT 21.5V FN-JS	TCGT110200FN-JS							●	●	●											<0.002	0.250	0.094	0.109
		TCGT 21.50 FN-JS	TCGT110201FN-JS							●	●	●											<0.004	0.250	0.094	0.109
		TCGT 21.50.5 FN-JS	TCGT110202FN-JS							●	●	●											<0.008	0.250	0.094	0.109
		TCGT 21.51 FN-JS	TCGT110204FN-JS							●	●	●											<0.016	0.250	0.094	0.109
Finishing	JS	TCGT 21.50 N-JS	TCGT110201N-JS						●														0.004	0.250	0.094	0.109
		TCGT 21.50.5 N-JS	TCGT110202N-JS						●														0.008	0.250	0.094	0.109
		TCGT 21.51 N-JS	TCGT110204N-JS						●														0.016	0.250	0.094	0.109
	PSF	TCMT 730.5 PSF	TCMT090202-PSF				●		●														0.008	0.219	0.094	0.098
		TCMT 731 PSF	TCMT090204-PSF	●	●		●		●														0.016	0.219	0.094	0.098
		TCMT 21.50.5 PSF	TCMT110202-PSF				●		●														0.008	0.250	0.094	0.109
		TCMT 21.51 PSF	TCMT110204-PSF	●	●		●		●														0.016	0.250	0.094	0.109
		TCMT 220.5 PSF	TCMT110302-PSF				●		●														0.008	0.250	0.125	0.109
		TCMT 221 PSF	TCMT110304-PSF	●	●		●		●														0.016	0.250	0.125	0.109
		TCMT 32.51 PSF	TCMT16T304-PSF	●	●		●		●														0.016	0.375	0.156	0.173
	TSF	TCMT 21.51 TSF	TCMT110204-TSF	●	●		●																0.016	0.250	0.094	0.109
		TCMT 21.52 TSF	TCMT110208-TSF	●	●		●																0.031	0.250	0.094	0.109
		TCMT 220.5 TSF	TCMT110302-TSF	●	●	●	●	●							●								0.008	0.250	0.125	0.109
		TCMT 221 TSF	TCMT110304-TSF	●	●	●	●	●							●								0.016	0.250	0.125	0.109
		TCMT 222 TSF	TCMT110308-TSF	●	●	●	●	●							●								0.031	0.250	0.125	0.109
		TCMT 32.51 TSF	TCMT16T304-TSF	●	●		●																0.016	0.375	0.156	0.173
		TCMT 32.52 TSF	TCMT16T308-TSF	●	●		●																0.031	0.375	0.156	0.173

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

● : Line up

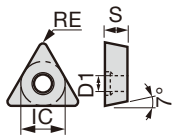
Reference pages: External toolholder → C098 - Internal toolholder → D056
J-Series toolholder → G054 -

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

TC

Triangular with hole Positive 7°

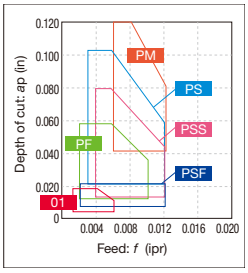
		J9530				NS9530				TH10			
P	Steel	●◐	●◐			●◐				●			
M	Stainless	●◐	●◐							●			
K	Cast iron	●◐				●◐				●			
N	Non-ferrous									●			
S	Superalloy												
H	Hard material												

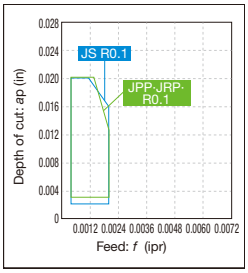


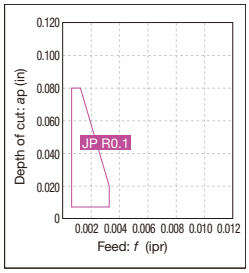
Application	Chipbreaker	Designation Inch	Designation Metric	SH7025 (Coated)	SH725 (Coated)	J740 (Coated)	J9530 (Coated cermet)	NS9530 (Cermet)	TH10 (Uncoated)	RE	IC	S	D1
Finishing (sharp edge)	J08	TCGT 63V FR-J08	TCGT080200FR-J08	●	●	●			●	0.0012	0.187	0.094	0.091
		TCGT 63V FL-J08	TCGT080200FL-J08		●	●			●	0.0012	0.187	0.094	0.091
		TCGT 630 FR-J08	TCGT080201FR-J08	●	●	●			●	0.004	0.187	0.094	0.091
		TCGT 630 FL-J08	TCGT080201FL-J08		●	●			●	0.004	0.187	0.094	0.091
		TCGT 630.5 FR-J08	TCGT080202FR-J08	●	●	●			●	0.008	0.187	0.094	0.091
		TCGT 630.5 FL-J08	TCGT080202FL-J08	●	●	●			●	0.008	0.187	0.094	0.091
		TCGT 631 FR-J08	TCGT080204FR-J08	●	●					0.016	0.187	0.094	0.091
	J10	TCGT 21.5V FR-J10	TCGT110200FR-J10	●	●	●			●	0.0012	0.250	0.094	0.109
		TCGT 21.5V FL-J10	TCGT110200FL-J10		●	●			●	0.0012	0.250	0.094	0.109
		TCGT 21.50 FR-J10	TCGT110201FR-J10	●	●	●			●	0.004	0.250	0.094	0.109
		TCGT 21.50 FL-J10	TCGT110201FL-J10		●	●			●	0.004	0.250	0.094	0.109
		TCGT 21.50.5 FR-J10	TCGT110202FR-J10	●	●	●		●	●	0.008	0.250	0.094	0.109
		TCGT 21.50.5 FL-J10	TCGT110202FL-J10	●	●	●		●	●	0.008	0.250	0.094	0.109
		TCGT 21.51 FR-J10	TCGT110204FR-J10	●	●					0.016	0.250	0.094	0.109
		TCGT 22V FR-J10	TCGT110300FR-J10	●	●	●			●	0.0012	0.250	0.125	0.109
		TCGT 22V FL-J10	TCGT110300FL-J10		●	●			●	0.0012	0.250	0.125	0.109
		TCGT 220 FR-J10	TCGT110301FR-J10	●	●	●			●	0.004	0.250	0.125	0.109
		TCGT 220 FL-J10	TCGT110301FL-J10		●	●			●	0.004	0.250	0.125	0.109
		TCGT 220.5 FR-J10	TCGT110302FR-J10	●	●	●		●	●	0.008	0.250	0.125	0.109
		TCGT 220.5 FL-J10	TCGT110302FL-J10	●	●	●		●	●	0.008	0.250	0.125	0.109
Finishing	J10	TCGT 220.5 R-J10	TCGT110302R-J10				●			0.008	0.250	0.125	0.109
		TCGT 220.5 L-J10	TCGT110302L-J10				●			0.008	0.250	0.125	0.109
	W15	TCGT 32.50.5 L-W15	TCGT16T302L-W15						●	0.008	0.375	0.156	0.173
		TCGT 32.51 L-W15	TCGT16T304L-W15					●	●	0.016	0.375	0.156	0.173
		TCGT 32.52 L-W15	TCGT16T308L-W15						●	0.031	0.375	0.156	0.173

● : Line up

Chip control range







Reference pages: External toolholder → C098 - Internal toolholder → D056
J-Series toolholder → G054 -

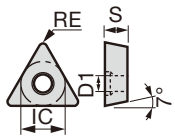
Insert POSITIVE TYPE

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

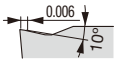
TC

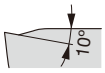
Triangular with hole Positive 7°

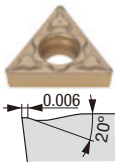
		T9215	T9225	T6215	T505	T515	T5115	AH8015	AH6225	AH6235	AH725	GH730	GT9530	AT9530	NS9530	KS05F
P	Steel	●ⓒ	ⓒ✠	ⓒ					ⓒ✠	✠	ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ	
M	Stainless	●ⓒ		●				ⓒ	●ⓒ	✠	ⓒ	ⓒ				
K	Cast iron	●ⓒ			●	●ⓒ	ⓒ				ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous															●
S	Superalloy							ⓒ			●					●
H	Hard material															

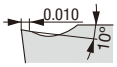


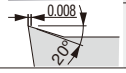
Application	Chipbreaker	Designation Inch	Designation Metric	RE	IC	S	D1
Finishing	PSS	TCMT 731 PSS	TCMT090204-PSS	0.016	0.219	0.094	0.098
		TCMT 732 PSS	TCMT090208-PSS	0.031	0.219	0.094	0.098
		TCMT 21.51 PSS	TCMT110204-PSS	0.016	0.250	0.094	0.109
		TCMT 21.52 PSS	TCMT110208-PSS	0.031	0.250	0.094	0.109
		TCMT 221 PSS	TCMT110304-PSS	0.016	0.250	0.125	0.109
		TCMT 222 PSS	TCMT110308-PSS	0.031	0.250	0.125	0.109
		TCMT 32.51 PSS	TCMT16T304-PSS	0.016	0.375	0.156	0.173
		TCMT 32.52 PSS	TCMT16T308-PSS	0.031	0.375	0.156	0.173
		TCMT 32.53 PSS	TCMT16T312-PSS	0.047	0.375	0.156	0.173
	PS	TCMT 731 PS	TCMT090204-PS	0.016	0.219	0.094	0.098
		TCMT 732 PS	TCMT090208-PS	0.031	0.219	0.094	0.098
		TCMT 21.50.5 PS	TCMT110202-PS	0.008	0.250	0.094	0.109
		TCMT 21.51 PS	TCMT110204-PS	0.016	0.250	0.094	0.109
		TCMT 21.52 PS	TCMT110208-PS	0.031	0.250	0.094	0.109
		TCMT 220.5 PS	TCMT110302-PS	0.008	0.250	0.125	0.109
		TCMT 221 PS	TCMT110304-PS	0.016	0.250	0.125	0.109
		TCMT 222 PS	TCMT110308-PS	0.031	0.250	0.125	0.109
		TCMT 32.50.5 PS	TCMT16T302-PS	0.008	0.375	0.156	0.173
		TCMT 32.51 PS	TCMT16T304-PS	0.016	0.375	0.156	0.173
		TCMT 32.52 PS	TCMT16T308-PS	0.031	0.375	0.156	0.173
	TM	TCMT 21.51 TM	TCMT110204-TM	0.016	0.250	0.094	0.109
		TCMT 21.52 TM	TCMT110208-TM	0.031	0.250	0.094	0.109
		TCMT 220.5 TM	TCMT110302-TM	0.008	0.250	0.125	0.109
		TCMT 221 TM	TCMT110304-TM	0.016	0.250	0.125	0.109
		TCMT 222 TM	TCMT110308-TM	0.031	0.250	0.125	0.109
		TCMT 32.51 TM	TCMT16T304-TM	0.016	0.375	0.156	0.173
		TCMT 32.52 TM	TCMT16T308-TM	0.031	0.375	0.156	0.173
Finishing to medium cutting	CM	TCMT 731 CM	TCMT090204-CM	0.016	0.219	0.094	0.098
		TCMT 732 CM	TCMT090208-CM	0.031	0.219	0.094	0.098
		TCMT 21.51 CM	TCMT110204-CM	0.016	0.250	0.094	0.109
		TCMT 21.52 CM	TCMT110208-CM	0.031	0.250	0.094	0.109
		TCMT 221 CM	TCMT110304-CM	0.016	0.250	0.125	0.109
		TCMT 222 CM	TCMT110308-CM	0.031	0.250	0.125	0.109
		TCMT 32.51 CM	TCMT16T304-CM	0.016	0.375	0.156	0.173
		TCMT 32.52 CM	TCMT16T308-CM	0.031	0.375	0.156	0.173
		TCMT 32.53 CM	TCMT16T312-CM	0.047	0.375	0.156	0.173
Finishing to medium cutting for aluminum cutting	AL	TCGT 21.50.5 AL	TCGT110202-AL	0.008	0.250	0.094	0.109
		TCGT 21.51 AL	TCGT110204-AL	0.016	0.250	0.094	0.109
		TCGT 32.50.5 AL	TCGT16T302-AL	0.008	0.375	0.156	0.173
		TCGT 32.51 AL	TCGT16T304-AL	0.016	0.375	0.156	0.173
		TCGT 32.52 AL	TCGT16T308-AL	0.031	0.375	0.156	0.173











● : Line up

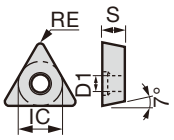
Reference pages: External toolholder → C098 - Internal toolholder → D056
J-Series toolholder → G054 -

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

TC

Triangular with hole Positive 7°

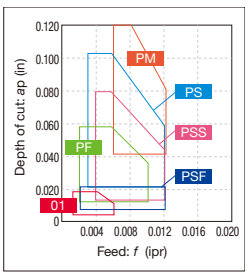
		T9215	T9225	T6215	AH6225	AH6235	AH725	NS9530	TH10	KS05F
P	Steel	●⊂	⊂✠	⊂	⊂✠	✠	⊂	●⊂	●	
M	Stainless	●⊂		●	●⊂	✠	⊂		●	
K	Cast iron	●⊂					⊂	●⊂	●	●
N	Non-ferrous								●	●
S	Superalloy						●			●
H	Hard material									

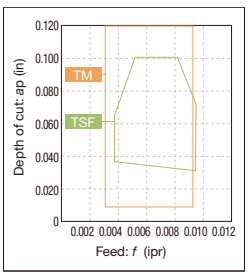


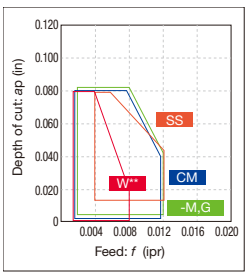
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH6225	AH6235	AH725	NS9530	TH10	KS05F	RE	IC	S	D1
				Coated						Cermet	Uncoated		Dimension (in)			
Finishing	SS	TCGT 21.50.5 SS	TCGT110202-SS							●			0.008	0.250	0.094	0.109
		TCGT 21.51 SS	TCGT110204-SS							●			0.016	0.250	0.094	0.109
		TCGT 21.52 SS	TCGT110208-SS							●			0.031	0.250	0.094	0.109
		TCGT 32.51 SS	TCGT16T304-SS							●			0.016	0.375	0.156	0.173
Finishing to medium cutting	23	TCMT 731-23	TCMT090204-23		●					●			0.016	0.219	0.094	0.098
		TCMT 21.51-23	TCMT110204-23							●			0.016	0.250	0.094	0.109
		TCMT 32.51-23	TCMT16T304-23							●			0.016	0.375	0.156	0.173
		TCMT 32.52-23	TCMT16T308-23		●								0.031	0.375	0.156	0.173
	-	TCGT 620.5 R	TCGT080102R							●	●		0.008	0.187	0.063	0.106
Medium cutting	PM	TCMT 21.50.5 PM	TCMT110202-PM			●	●	●	●				0.008	0.250	0.094	0.109
		TCMT 21.51 PM	TCMT110204-PM	●	●	●	●	●	●	●			0.016	0.250	0.094	0.109
		TCMT 21.52 PM	TCMT110208-PM	●	●	●	●	●	●	●			0.031	0.250	0.094	0.109
		TCMT 220.5 PM	TCMT110302-PM			●	●	●					0.008	0.250	0.125	0.109
		TCMT 221 PM	TCMT110304-PM			●	●	●					0.016	0.250	0.125	0.109
		TCMT 222 PM	TCMT110308-PM			●	●	●					0.031	0.250	0.125	0.109
		TCMT 32.51 PM	TCMT16T304-PM	●	●	●	●	●	●	●			0.016	0.375	0.156	0.173
		TCMT 32.52 PM	TCMT16T308-PM	●	●	●	●	●	●	●			0.031	0.375	0.156	0.173
		TCMT 32.53 PM	TCMT16T312-PM	●	●	●	●	●	●				0.047	0.375	0.156	0.173
	24	TCMT 730.5-24	TCMT090202-24							●			0.008	0.219	0.094	0.098
		TCMT 731-24	TCMT090204-24	●	●					●			0.016	0.219	0.094	0.098
		TCMT 21.50.5-24	TCMT110202-24							●			0.008	0.250	0.094	0.109
		TCMT 21.51-24	TCMT110204-24	●	●					●			0.016	0.250	0.094	0.109
		TCMT 21.52-24	TCMT110208-24		●								0.031	0.250	0.094	0.109
		TCMT 32.51-24	TCMT16T304-24	●	●					●			0.016	0.375	0.156	0.173
		TCMT 32.52-24	TCMT16T308-24	●	●			●					0.031	0.375	0.156	0.173

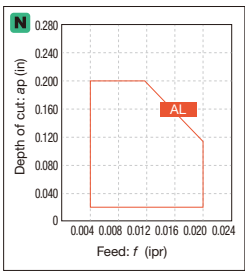
● : Line up

Chip control range









*-M,G: Without chipbreaker

Reference pages: External toolholder → C098 - Internal toolholder → D056
J-Series toolholder → G054 -

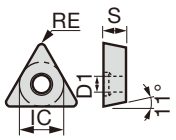
Insert POSITIVE TYPE

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

TP

Triangular with hole Positive 11°

		T9215	T9225	AH725	GH730	SH7025	SH725	SH730	GT9530	GT720	NS9530	NS520	TH10
		Coated							Coated cermet		Cermet		Uncoated
P	Steel	●ⓒ	ⓒ✠	ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
M	Stainless	●ⓒ		ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ					●
K	Cast iron	●ⓒ		ⓒ	ⓒ				●ⓒ	●ⓒ	●ⓒ	●ⓒ	●
N	Non-ferrous												●
S	Superalloy			●				●ⓒ					
H	Hard material												



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	AH725	GH730	SH7025	SH725	SH730	GT9530	GT720	NS9530	NS520	TH10	RE	IC	S	D1
Precision finishing	01	TPGT 730.5-01	TPGT090202-01								●		●			0.008	0.219	0.094	0.098
		TPGT 731-01	TPGT090204-01								●		●	●	●	0.016	0.219	0.094	0.098
		TPGT 21.50.5-01	TPGT110202-01								●		●			0.008	0.250	0.094	0.109
		TPGT 21.51-01	TPGT110204-01								●		●	●	●	0.016	0.250	0.094	0.109
		TPGT 21.52-01	TPGT110208-01										●			0.031	0.250	0.094	0.109
		TPGT 2.520.5-01	TPGT130302-01									●	●			0.008	0.313	0.125	0.134
		TPGT 2.521-01	TPGT130304-01								●		●	●	●	0.016	0.313	0.125	0.134
		TPGT 2.522-01	TPGT130308-01										●	●		0.031	0.313	0.125	0.134
		TPGT 32.51-01	TPGT16T304-01								●		●	●	●	0.016	0.375	0.156	0.173
		TPGT 32.52-01	TPGT16T308-01									●	●	●		0.031	0.375	0.156	0.173
Finishing (sharp edge)	JS	TPGT 5.520 F-JS	TPGT070101F-JS					●	●							<0.004	0.172	0.063	0.102
		TPGT 5.520.5 F-JS	TPGT070102F-JS					●	●							<0.008	0.172	0.063	0.102
		TPGT 5.521 F-JS	TPGT070104F-JS					●	●							<0.016	0.172	0.063	0.102
Finishing	JS	TPGT 5.520 JS	TPGT070101-JS							●						<0.004	0.172	0.063	0.102
		TPGT 5.520.5 JS	TPGT070102-JS							●						<0.008	0.172	0.063	0.102
		TPGT 5.521 JS	TPGT070104-JS							●						<0.016	0.172	0.063	0.102
	PSF	TPMT 730.5 PSF	TPMT090202-PSF			●							●			0.008	0.219	0.094	0.098
		TPMT 731 PSF	TPMT090204-PSF	●	●	●					●		●			0.016	0.219	0.094	0.098
		TPMT 21.50.5 PSF	TPMT110202-PSF			●					●		●			0.008	0.250	0.094	0.109
		TPMT 21.51 PSF	TPMT110204-PSF	●	●	●					●		●			0.016	0.250	0.094	0.109
		TPMT 220.5 PSF	TPMT110302-PSF			●							●			0.008	0.250	0.125	0.134
		TPMT 221 PSF	TPMT110304-PSF	●	●	●					●		●			0.016	0.250	0.125	0.134
		TPMT 2.521 PSF	TPMT130304-PSF	●	●	●										0.016	0.313	0.125	0.134
		TPMT 32.51 PSF	TPMT16T304-PSF	●	●	●										0.016	0.375	0.156	0.173
	PF	TPMT 21.51 PF	TPMT110204-PF				●				●		●			0.016	0.250	0.094	0.109
		TPMT 21.52 PF	TPMT110208-PF								●		●			0.031	0.250	0.094	0.109
		TPMT 220.5 PF	TPMT110302-PF				●						●			0.008	0.250	0.125	0.134
		TPMT 221 PF	TPMT110304-PF				●				●		●			0.016	0.250	0.125	0.134
		TPMT 2.521 PF	TPMT130304-PF								●		●			0.016	0.313	0.125	0.134
		TPMT 2.522 PF	TPMT130308-PF										●			0.031	0.313	0.125	0.134
		TPMT 32.51 PF	TPMT16T304-PF								●		●			0.016	0.375	0.156	0.173

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

● : Line up

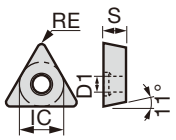
Reference pages: Mounting hole specification → B146
Internal toolholder → D057 -

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

TP

Triangular with hole Positive 11°

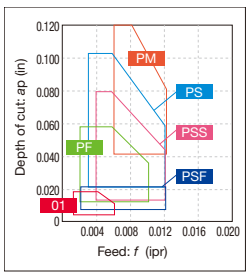
		T9215	T9225	T6215	AH8015	AH6225	GH110	SH725	SH730	GT9530	NS9530	TH10	UX30
P	Steel	●⊂	⊂✠	⊂		⊂✠	●	●⊂	●⊂	●⊂	●⊂	●	⊂
M	Stainless	●⊂		●	⊂	●⊂	●	●⊂	●⊂			●	⊂
K	Cast iron	●⊂					●			●⊂	●⊂	●	
N	Non-ferrous											●	
S	Superalloy				⊂		●		●⊂				
H	Hard material												

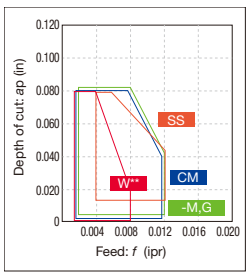


Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH8015	AH6225	GH110	SH725	SH730	GT9530	NS9530	TH10	UX30	RE	IC	S	D1
				Coated								Coated cermet	Cermet	Uncoated		Dimension (in)			
Finishing	TSF	TPMT 21.51 TSF	TPMT110204-TSF	●	●											0.016	0.250	0.094	0.109
		TPMT 21.52 TSF	TPMT110208-TSF	●	●											0.031	0.250	0.094	0.109
		TPMT 220.5 TSF	TPMT110302-TSF	●	●	●	●	●					●			0.008	0.250	0.125	0.134
		TPMT 221 TSF	TPMT110304-TSF	●	●	●	●	●					●			0.016	0.250	0.125	0.134
		TPMT 222 TSF	TPMT110308-TSF	●	●	●	●	●					●			0.031	0.250	0.125	0.134
		TPMT 32.51 TSF	TPMT16T304-TSF	●	●											0.016	0.375	0.156	0.173
		TPMT 32.52 TSF	TPMT16T308-TSF	●	●											0.031	0.375	0.156	0.173
Finishing (sharp edge)	W08	TPGT 5.52V FR-W08	TPGT070100FR-W08							●						0.0012	0.172	0.063	0.102
		TPGT 5.52V FL-W08	TPGT070100FL-W08							●						0.0012	0.172	0.063	0.102
		TPGT 5.520 FR-W08	TPGT070101FR-W08							●						0.004	0.172	0.063	0.102
		TPGT 5.520 FL-W08	TPGT070101FL-W08							●						0.004	0.172	0.063	0.102
		TPGT 5.520.5 FR-W08	TPGT070102FR-W08							●						0.008	0.172	0.063	0.102
		TPGT 5.520.5 FL-W08	TPGT070102FL-W08							●						0.008	0.172	0.063	0.102
		TPGT 5.521 FR-W08	TPGT070104FR-W08							●						0.016	0.172	0.063	0.102
		TPGT 5.521 FL-W08	TPGT070104FL-W08							●						0.016	0.172	0.063	0.102
Finishing	W08	TPGT 5.52V R-W08	TPGT070100R-W08								●				●	0.0012	0.172	0.063	0.102
		TPGT 5.52V L-W08	TPGT070100L-W08								●				●	0.0012	0.172	0.063	0.102
		TPGT 5.520 R-W08	TPGT070101R-W08								●				●	0.004	0.172	0.063	0.102
		TPGT 5.520 L-W08	TPGT070101L-W08								●				●	0.004	0.172	0.063	0.102
		TPGT 5.520.5 R-W08	TPGT070102R-W08								●				●	0.008	0.172	0.063	0.102
		TPGT 5.520.5 L-W08	TPGT070102L-W08								●				●	0.008	0.172	0.063	0.102
		TPGT 5.521 R-W08	TPGT070104R-W08								●				●	0.016	0.172	0.063	0.102
		TPGT 5.521 L-W08	TPGT070104L-W08								●				●	0.016	0.172	0.063	0.102
		TPGT 63V L-W08	TPGT080200L-W08									●	●			0.0012	0.187	0.094	0.091
		TPGT 630.5 L-W08	TPGT080202L-W08						●			●	●	●	●	0.008	0.187	0.094	0.091
		TPGT 631 L-W08	TPGT080204L-W08						●			●	●	●	●	0.016	0.187	0.094	0.091
	W10	TPGH 630.5 L-W10	TPGH080202L-W10									●	●			0.008	0.187	0.094	0.091
		TPGH 631 L-W10	TPGH080204L-W10									●	●			0.016	0.187	0.094	0.091
		TPGH 731 L-W10	TPGH090204L-W10									●	●			0.016	0.219	0.094	0.118

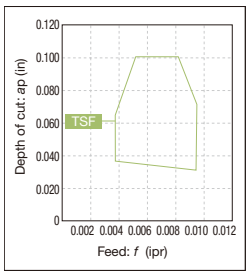
● : Line up

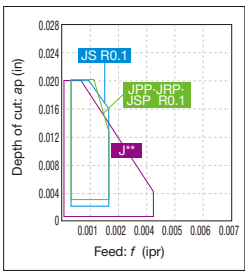
Chip control range





*-M,G: Without chipbreaker





*Chip control range with typical R0.1

Reference pages: Mounting hole specification → B146
Internal toolholder → D057 -

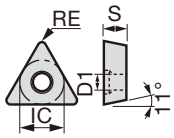
Insert POSITIVE TYPE

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

TP

Triangular with hole Positive 11°

		GH110	GH330	GT9530	NS9530	TH10	UX30
P	Steel	●	●ⓒ	●ⓒ	●ⓒ	●	ⓒ
M	Stainless	●	●ⓒ			●	ⓒ
K	Cast iron	●	●ⓒ	●ⓒ	●ⓒ	●	
N	Non-ferrous					●	
S	Superalloy	●					
H	Hard material						



Application	Chipbreaker	Designation Inch	Designation Metric	Coated GH110	Coated GH330	Coated cermet GT9530	Cermet NS9530	Uncoated TH10	Uncoated UX30	Dimension (in) RE	IC	S	D1
Finishing	W13	TPGH 21.51 L-W13	TPGH110204L-W13			●	●			0.016	0.250	0.094	0.134
		TPGH 220.5 L-W13	TPGH110302L-W13			●	●			0.008	0.250	0.125	0.134
		TPGH 221 L-W13	TPGH110304L-W13			●	●			0.016	0.250	0.125	0.134
	W15	TPGT 730.5 R-W15	TPGT090202R-W15				●			0.008	0.219	0.094	0.098
		TPGT 730.5 L-W15	TPGT090202L-W15			●	●	●		0.008	0.219	0.094	0.098
		TPGT 731 R-W15	TPGT090204R-W15				●			0.016	0.219	0.094	0.098
		TPGT 731 L-W15	TPGT090204L-W15	●	●	●	●	●	●	0.016	0.219	0.094	0.098
		TPGT 21.50.5 R-W15	TPGT110202R-W15				●			0.008	0.250	0.094	0.109
		TPGT 21.50.5 L-W15	TPGT110202L-W15			●	●	●		0.008	0.250	0.094	0.109
		TPGT 21.51 L-W15	TPGT110204L-W15	●	●	●	●	●	●	0.016	0.250	0.094	0.109
		TPGT 21.52 R-W15	TPGT110208R-W15				●			0.031	0.250	0.094	0.109
		TPGT 21.52 L-W15	TPGT110208L-W15						●	0.031	0.250	0.094	0.109
		TPGT 220.5 L-W15	TPGT110302L-W15				●			0.008	0.250	0.125	0.134
		TPGT 221 R-W15	TPGT110304R-W15				●			0.016	0.250	0.125	0.134
		TPGT 221 L-W15	TPGT110304L-W15				●			0.016	0.250	0.125	0.134
		TPGT 222 L-W15	TPGT110308L-W15				●			0.031	0.250	0.125	0.134
		TPGT 2.520.5 R-W15	TPGT130302R-W15				●			0.008	0.313	0.125	0.134
		TPGT 2.520.5 L-W15	TPGT130302L-W15			●	●	●		0.008	0.313	0.125	0.134
		TPGT 2.521 R-W15	TPGT130304R-W15	●			●			0.016	0.313	0.125	0.134
		TPGT 2.521 L-W15	TPGT130304L-W15	●	●	●	●	●	●	0.016	0.313	0.125	0.134
		TPGT 2.522 L-W15	TPGT130308L-W15				●	●		0.031	0.313	0.125	0.134
		TPGT 32.50.5 R-W15	TPGT16T302R-W15				●			0.008	0.375	0.156	0.173
		TPGT 32.50.5 L-W15	TPGT16T302L-W15			●	●	●		0.008	0.375	0.156	0.173
		TPGT 32.51 R-W15	TPGT16T304R-W15				●	●		0.016	0.375	0.156	0.173
		TPGT 32.51 L-W15	TPGT16T304L-W15	●	●	●	●	●	●	0.016	0.375	0.156	0.173
		TPGT 32.52 L-W15	TPGT16T308L-W15				●	●	●	0.031	0.375	0.156	0.173
Finishing to medium cutting	SS	TPGT 21.50.5 SS	TPGT110202-SS				●			0.008	0.250	0.094	0.109
		TPGT 21.51 SS	TPGT110204-SS		●		●			0.016	0.250	0.094	0.109
		TPGT 2.520.5 SS	TPGT130302-SS				●			0.008	0.313	0.125	0.134
		TPGT 2.521 SS	TPGT130304-SS		●		●			0.016	0.313	0.125	0.134
		TPGT 32.51 SS	TPGT16T304-SS		●		●			0.016	0.375	0.156	0.173

● : Line up

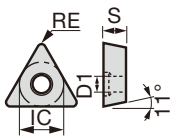
Reference pages: Mounting hole specification → B146
Internal toolholder → D057 -

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

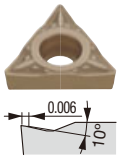
TP

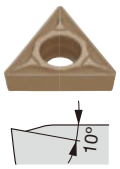
Triangular with hole Positive 11°

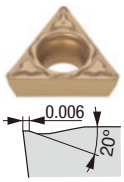
		T9215	T9225	T6215	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GH730			GT9530	AT9530		NS9530		
P	Steel	●ⓒ	ⓒ✠	ⓒ			ⓒ✠	✠	ⓒ	●ⓒ	ⓒ			●ⓒ	●ⓒ		●ⓒ		
M	Stainless	●ⓒ		●	●	ⓒ	●ⓒ	✠	ⓒ	●ⓒ	ⓒ								
K	Cast iron	●ⓒ							ⓒ	●ⓒ	ⓒ			●ⓒ	●ⓒ		●ⓒ		
N	Non-ferrous																		
S	Superalloy				●	ⓒ			●	●ⓒ									
H	Hard material																		



Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	T9225	T6215	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GH730	Coated cermet GT9530	AT9530	Cermet NS9530	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	PSS	TPMT 731 PSS	TPMT090204-PSS	●	●	●			●	●	●		●	●		●	0.016	0.219	0.094	0.098
		TPMT 732 PSS	TPMT090208-PSS	●	●	●			●	●	●			●		●	0.031	0.219	0.094	0.098
		TPMT 21.51 PSS	TPMT110204-PSS	●	●	●			●	●	●			●		●	0.016	0.250	0.094	0.109
		TPMT 21.52 PSS	TPMT110208-PSS	●	●	●			●	●	●			●		●	0.031	0.250	0.094	0.109
		TPMT 221 PSS	TPMT110304-PSS	●	●	●			●	●	●						0.016	0.250	0.125	0.134
		TPMT 222 PSS	TPMT110308-PSS	●	●	●			●	●	●						0.031	0.250	0.125	0.134
		TPMT 2.521 PSS	TPMT130304-PSS	●	●	●			●	●	●						0.016	0.313	0.125	0.134
		TPMT 2.522 PSS	TPMT130308-PSS	●	●	●			●	●	●			●		●	0.031	0.313	0.125	0.134
		TPMT 32.51 PSS	TPMT16T304-PSS	●	●	●			●	●	●			●		●	0.016	0.375	0.156	0.173
		TPMT 32.52 PSS	TPMT16T308-PSS	●	●	●			●	●	●			●		●	0.031	0.375	0.156	0.173
	PS	TPMT 730.5 PS	TPMT090202-PS	●	●	●			●	●	●		●	●	●	●	0.008	0.219	0.094	0.098
		TPMT 731 PS	TPMT090204-PS	●	●	●			●	●	●		●	●	●	●	0.016	0.219	0.094	0.098
		TPMT 732 PS	TPMT090208-PS	●	●	●			●	●	●		●	●	●	●	0.031	0.219	0.094	0.098
		TPMT 21.50.5 PS	TPMT110202-PS	●	●	●			●	●	●		●	●	●	●	0.008	0.250	0.094	0.109
		TPMT 21.51 PS	TPMT110204-PS	●	●	●			●	●	●	●	●	●	●	●	0.016	0.250	0.094	0.109
		TPMT 21.52 PS	TPMT110208-PS	●	●	●			●	●	●	●	●	●	●	●	0.031	0.250	0.094	0.109
		TPMT 220.5 PS	TPMT110302-PS	●	●	●		●	●							●	0.008	0.250	0.125	0.134
		TPMT 221 PS	TPMT110304-PS	●	●	●		●	●	●	●		●	●	●	●	0.016	0.250	0.125	0.134
		TPMT 222 PS	TPMT110308-PS	●	●	●	●	●	●	●	●		●	●	●	●	0.031	0.250	0.125	0.134
		TPMT 2.520.5 PS	TPMT130302-PS	●	●						●			●	●	●	0.008	0.313	0.125	0.134
		TPMT 2.521 PS	TPMT130304-PS	●	●	●			●	●	●			●	●	●	0.016	0.313	0.125	0.134
		TPMT 2.522 PS	TPMT130308-PS	●	●	●			●	●	●			●	●	●	0.031	0.313	0.125	0.134
		TPMT 32.51 PS	TPMT16T304-PS	●	●	●			●	●	●			●	●	●	0.016	0.375	0.156	0.173
		TPMT 32.52 PS	TPMT16T308-PS	●	●	●			●	●	●			●	●	●	0.031	0.375	0.156	0.173
	TM	TPMT 21.51 TM	TPMT110204-TM	●	●												0.016	0.250	0.094	0.109
		TPMT 21.52 TM	TPMT110208-TM	●	●												0.031	0.250	0.094	0.109
		TPMT 220.5 TM	TPMT110302-TM	●	●	●		●	●							●	0.008	0.250	0.125	0.134
		TPMT 221 TM	TPMT110304-TM	●	●	●		●	●							●	0.016	0.250	0.125	0.134
		TPMT 222 TM	TPMT110308-TM	●	●	●		●	●							●	0.031	0.250	0.125	0.134
		TPMT 32.51 TM	TPMT16T304-TM	●	●												0.016	0.375	0.156	0.173
		TPMT 32.52 TM	TPMT16T308-TM	●	●												0.031	0.375	0.156	0.173

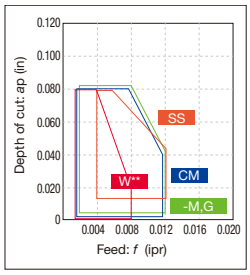


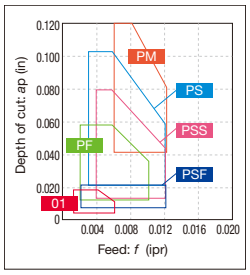


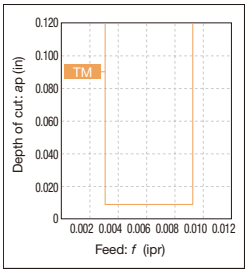


● : Line up

Chip control range







*-M,G: Without chipbreaker

Reference pages: Mounting hole specification → B146
Internal toolholder → D057 -

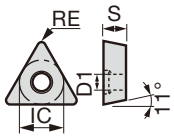
Insert POSITIVE TYPE

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

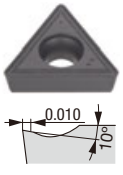
TP

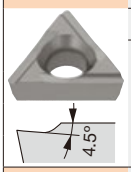
Triangular with hole Positive 11°

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



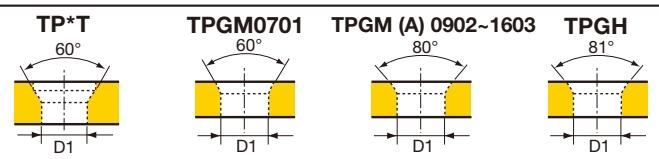
Application	Chipbreaker	Designation Inch	Designation Metric	T9225	T505	T515	T5115	GT9530	NS9530	TH10	UX30	RE	IC	S	D1
				Coated				Coated cermet	Cermet	Uncoated		Dimension (in)			
Finishing to medium cutting	CM	TPMT 731 CM	TPMT090204-CM				●					0.016	0.219	0.094	0.098
		TPMT 732 CM	TPMT090208-CM				●					0.031	0.219	0.094	0.098
		TPMT 21.51 CM	TPMT110204-CM				●					0.016	0.250	0.094	0.109
		TPMT 21.52 CM	TPMT110208-CM				●					0.031	0.250	0.094	0.109
		TPMT 221 CM	TPMT110304-CM				●					0.016	0.250	0.125	0.134
		TPMT 222 CM	TPMT110308-CM				●					0.031	0.250	0.125	0.134
		TPMT 2.521 CM	TPMT130304-CM				●					0.016	0.313	0.125	0.134
		TPMT 2.522 CM	TPMT130308-CM				●					0.031	0.313	0.125	0.134
		TPMT 32.51 CM	TPMT16T304-CM		●	●	●					0.016	0.375	0.156	0.173
		TPMT 32.52 CM	TPMT16T308-CM		●	●	●					0.031	0.375	0.156	0.173
		TPMT 32.53 CM	TPMT16T312-CM		●	●	●					0.047	0.375	0.156	0.173
	H11	TPGH 220.5 L-H11	TPGH110302L-H11					●	●			0.008	0.250	0.125	0.134
		TPGH 221 L-H11	TPGH110304L-H11					●	●			0.016	0.250	0.125	0.134
	23	TPMT 730.5-23	TPMT090202-23						●			0.008	0.219	0.094	0.098
		TPMT 731-23	TPMT090204-23	●					●			0.016	0.219	0.094	0.098
		TPMT 21.51-23	TPMT110204-23	●					●			0.016	0.250	0.094	0.109
		TPMT 2.521-23	TPMT130304-23	●					●			0.016	0.313	0.125	0.134
		TPMT 2.522-23	TPMT130308-23	●					●			0.031	0.313	0.125	0.134
		TPMT 32.51-23	TPMT16T304-23						●			0.016	0.375	0.156	0.173
		TPMT 32.52-23	TPMT16T308-23	●					●			0.031	0.375	0.156	0.173
Finishing to medium cutting	-	TPGM 5.520.5 R	TPGM070102R						●			0.008	0.172	0.063	0.106
		TPGM 5.520.5 L	TPGM070102L						●	●		0.008	0.172	0.063	0.106
		TPGM 5.521 R	TPGM070104R						●			0.016	0.172	0.063	0.106
		TPGM 5.521 L	TPGM070104L						●	●		0.016	0.172	0.063	0.106
		TPGM 730.5 R	TPGM090202R						●			0.008	0.219	0.094	0.125
		TPGM 730.5 L	TPGM090202L						●			0.008	0.219	0.094	0.125
		TPGM 731 L	TPGM090204L						●			0.016	0.219	0.094	0.125
	(Tungaloy standard hole specification) ISO non-compliant	TPGM 21.50.5 R	TPGM110202R						●			0.008	0.250	0.094	0.118
		TPGM 21.50.5 L	TPGM110202L						●		●	0.008	0.250	0.094	0.118
		TPGM 21.51 R	TPGM110204R						●			0.016	0.250	0.094	0.118
		TPGM 21.51 L	TPGM110204L						●		●	0.016	0.250	0.094	0.118
		TPGM 220.5 R	TPGM110302R						●			0.008	0.250	0.125	0.118
		TPGM 220.5 L	TPGM110302L						●			0.008	0.250	0.125	0.118
		TPGM 220.5 L-2	TPGM110302L-2							●		0.008	0.250	0.125	0.118
		TPGM 221 R	TPGM110304R						●			0.016	0.250	0.125	0.118
		TPGM 221 L	TPGM110304L						●		●	0.016	0.250	0.125	0.118
		TPGM 221 L-2	TPGM110304L-2							●		0.016	0.250	0.125	0.118
		TPGM 320.5 L	TPGM160302L						●			0.008	0.375	0.125	0.157
		TPGM 321 R	TPGM160304R						●			0.016	0.375	0.125	0.157
		TPGM 321 L	TPGM160304L						●		●	0.016	0.375	0.125	0.157
		TPGM 321 L-2	TPGM160304L-2							●		0.016	0.375	0.125	0.157





● : Line up

Mounting hole specification



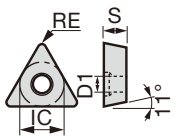
D1 (in)	0701**	0802**	0902**	1102**	1103**	1303**	1603**	16T3**
TP*T(W)	-	0.091	0.098	0.110	0.134	0.134	-	0.173
TPGM(A)	0.106	-	0.126	0.118	0.118	-	0.157	-
TPGH	-	0.091	0.118	0.134	0.134	-	0.177	-

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

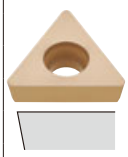
TP

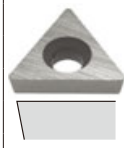
Triangular with hole Positive 11°

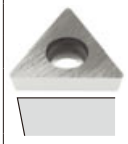
		T9215	T9225	T6215	T5115	AH6225	AH6235	AH725	AH120	GH730	GH110	GT9530	NS9530	TH10
P	Steel	●ⓒ	ⓒ✠	ⓒ		ⓒ✠	✠	ⓒ	●ⓒ	ⓒ	●	●ⓒ	●ⓒ	●
M	Stainless	●ⓒ		●		●ⓒ	✠	ⓒ	●ⓒ	ⓒ	●			●
K	Cast iron	●ⓒ			ⓒ			ⓒ	●ⓒ	ⓒ	●	●ⓒ	●ⓒ	●
N	Non-ferrous													●
S	Superalloy							●	●ⓒ		●			
H	Hard material													



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	T5115	AH6225	AH6235	AH725	AH120	GH730	GH110	GT9530	NS9530	TH10	RE	IC	S	D1
				Coated										Coated cermet	Cermet	Uncoated	Dimension (in)			
Finishing to medium cutting	-	TPMW 21.51	TPMW110204				●										0.016	0.250	0.094	0.109
		TPMW 21.52	TPMW110208				●										0.031	0.250	0.094	0.109
		TPMW 2.521	TPMW130304				●										0.016	0.313	0.125	0.134
		TPMW 2.522	TPMW130308				●										0.031	0.313	0.125	0.134
		TPMW 32.51	TPMW16T304				●										0.016	0.375	0.156	0.173
		TPMW 32.52	TPMW16T308				●										0.031	0.375	0.156	0.173
	-	TPGA 731	TPGA090204													●	0.016	0.219	0.094	0.125
	(Tungaloy standard hole specification) ISO non-compliant	TPGA 21.50.5	TPGA110202												●	●	0.008	0.250	0.094	0.118
		TPGA 21.51	TPGA110204													●	0.016	0.250	0.094	0.118
		TPGA 220.5	TPGA110302												●	●	0.008	0.250	0.125	0.118
		TPGA 221	TPGA110304													●	0.016	0.250	0.125	0.118
		TPGA 321	TPGA160304												●	●	0.016	0.375	0.125	0.157
		TPGA 322	TPGA160308													●	0.031	0.375	0.125	0.157
	-	TPGW 730.5	TPGW090202												●	●	0.008	0.219	0.094	0.098
		TPGW 731	TPGW090204													●	0.016	0.219	0.094	0.098
		TPGW 21.50.5	TPGW110202													●	0.008	0.250	0.094	0.109
		TPGW 21.51	TPGW110204										●			●	0.016	0.250	0.094	0.109
		TPGW 221	TPGW110304													●	0.016	0.250	0.125	0.134
		TPGW 2.521	TPGW130304													●	0.016	0.313	0.125	0.134
		TPGW 32.51	TPGW16T304										●			●	0.016	0.375	0.156	0.173
		TPGW 32.52	TPGW16T308													●	0.031	0.375	0.156	0.173
Medium cutting	PM	TPMT 731 PM	TPMT090204-PM			●		●	●	●							0.016	0.219	0.094	0.098
		TPMT 732 PM	TPMT090208-PM			●		●	●	●							0.031	0.219	0.094	0.098
		TPMT 21.51 PM	TPMT110204-PM	●	●	●		●	●	●		●		●	●		0.016	0.250	0.094	0.109
		TPMT 21.52 PM	TPMT110208-PM	●	●	●		●	●	●	●	●					0.031	0.250	0.094	0.109
		TPMT 221 PM	TPMT110304-PM	●	●	●		●	●	●		●		●	●		0.016	0.250	0.125	0.134
		TPMT 222 PM	TPMT110308-PM	●	●	●		●	●	●		●					0.031	0.250	0.125	0.134
		TPMT 2.521 PM	TPMT130304-PM		●	●		●	●	●					●		0.016	0.313	0.125	0.134
		TPMT 2.522 PM	TPMT130308-PM		●	●		●	●	●				●	●		0.031	0.313	0.125	0.134
		TPMT 32.51 PM	TPMT16T304-PM		●	●		●	●	●					●		0.016	0.375	0.156	0.173
		TPMT 32.52 PM	TPMT16T308-PM		●	●		●	●	●							0.031	0.375	0.156	0.173
		TPMT 32.53 PM	TPMT16T312-PM		●	●		●	●	●							0.047	0.375	0.156	0.173
	24	TPMT 731-24	TPMT090204-24		●										●		0.016	0.219	0.094	0.098
		TPMT 21.51-24	TPMT110204-24		●										●		0.016	0.250	0.094	0.109
		TPMT 21.52-24	TPMT110208-24												●		0.031	0.250	0.094	0.109
		TPMT 2.521-24	TPMT130304-24		●										●		0.016	0.313	0.125	0.134
		TPMT 2.522-24	TPMT130308-24		●										●		0.031	0.313	0.125	0.134
		TPMT 32.51-24	TPMT16T304-24		●										●		0.016	0.375	0.156	0.173
		TPMT 32.52-24	TPMT16T308-24		●										●		0.031	0.375	0.156	0.173

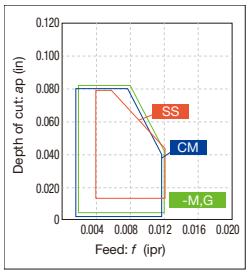






● : Line up

Chip control range



*-M,G: Without chipbreaker

Reference pages: Internal toolholder → D057 -

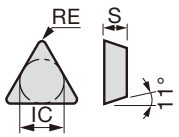
Insert POSITIVE TYPE

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

TP

Triangular without hole Positive 11°

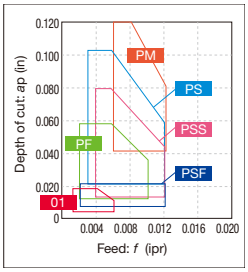
		T9215	T9225	T5115	T3130	AH120	GH110	NS9530	NS740	TH10	UX30
P	Steel	●ⓒ	ⓒ✠		●ⓒ	●	●	●ⓒ	ⓒ	●	ⓒ
M	Stainless	●ⓒ			●ⓒ	●	●			●	ⓒ
K	Cast iron	●ⓒ		ⓒ	●ⓒ	●	●	●ⓒ	ⓒ	●	
N	Non-ferrous									●	
S	Superalloy				●ⓒ	●	●				
H	Hard material										

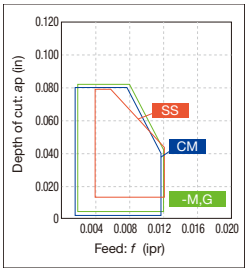


Application	Chipbreaker	Designation Inch	Designation Metric	Coated						Cermet		Uncoated		Dimension (in) RE	IC	S	D1
Finishing to medium cutting	PS	TPMR 221 PS	TPMR110304-PS		●									0.016	0.250	0.125	-
		TPMR 222 PS	TPMR110308-PS		●									0.031	0.250	0.125	-
		TPMR 321 PS	TPMR160304-PS		●									0.016	0.375	0.125	-
		TPMR 322 PS	TPMR160308-PS		●									0.031	0.375	0.125	-
	CM	TPMR 221 CM	TPMR110304-CM			●								0.016	0.250	0.125	-
		TPMR 222 CM	TPMR110308-CM			●								0.031	0.250	0.125	-
		TPMR 321 CM	TPMR160304-CM			●								0.016	0.375	0.125	-
		TPMR 322 CM	TPMR160308-CM			●								0.031	0.375	0.125	-
		TPMR 323 CM	TPMR160312-CM			●								0.047	0.375	0.125	-
	23	TPMR 221-23	TPMR110304-23	●	●					●				0.016	0.250	0.125	-
		TPMR 222-23	TPMR110308-23		●					●		●		0.031	0.250	0.125	-
		TPMR 321-23	TPMR160304-23	●	●					●		●		0.016	0.375	0.125	-
		TPMR 322-23	TPMR160308-23		●					●				0.031	0.375	0.125	-
	-	TPGR 220.5 L	TPGR110302L							●				0.008	0.250	0.125	-
		TPGR 221 L	TPGR110304L							●				0.016	0.250	0.125	-
		TPGR 321 R	TPGR160304R							●				0.016	0.375	0.125	-
		TPGR 321 L	TPGR160304L							●				0.016	0.375	0.125	-
		TPGR 322 L	TPGR160308L							●				0.031	0.375	0.125	-
	-	TPMN 221	TPMN110304			●					●	●		0.016	0.250	0.125	-
		TPMN 222	TPMN110308			●						●	●	0.031	0.250	0.125	-
		TPMN 321	TPMN160304			●	●	●			●	●	●	0.016	0.375	0.125	-
		TPMN 322	TPMN160308			●	●	●			●	●	●	0.031	0.375	0.125	-
		TPMN 323	TPMN160312			●	●						●	0.047	0.375	0.125	-
		TPMN 431	TPMN220404				●				●	●	●	0.016	0.500	0.187	
		TPMN 432	TPMN220408				●	●			●	●	●	0.031	0.500	0.187	-
		TPMN 433	TPMN220412				●				●	●	●	0.047	0.500	0.187	-

● : Line up

Chip control range





*-M,G: Without chipbreaker

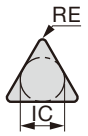
Reference pages: Internal toolholder → D058

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

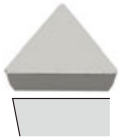
TP

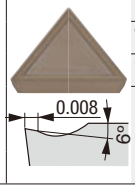
Triangular without hole Positive 11°

		T9215	T9225	T3130	AH725	GH110	NS9530	NS740	TH10	UX30	LX10	LX11	LX21
P	Steel	●◐	◐✠	◐	●	●	●◐	◐	●	◐			
M	Stainless	●◐		◐	●	●			●	◐			
K	Cast iron	●◐		◐	●	●	●◐	◐	●				
N	Non-ferrous								●				
S	Superalloy			●	●	●							
H	Hard material										●◐	●◐	●◐



Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	Coated T9225	Coated T3130	Coated AH725	Coated GH110	Cermet NS9530	Cermet NS740	Uncoated TH10	Uncoated UX30	Ceramic LX10	Ceramic LX11	Ceramic LX21	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	-	TPGN 220.5	TPGN110302								●					0.008	0.250	0.125	-
		TPGN 221	TPGN110304					●		●	●		●	▲	●	0.016	0.250	0.125	-
		TPGN 222	TPGN110308							●	●	●	●	▲		0.031	0.250	0.125	-
		TPGN 320.5	TPGN160302								●					0.008	0.375	0.125	-
		TPGN 321	TPGN160304			●		●	●	●	●		●	▲		0.016	0.375	0.125	-
		TPGN 322	TPGN160308			●		●	●	●	●	●	●	▲		0.031	0.375	0.125	-
		TPGN 323	TPGN160312							●	●	●	●	▲		0.047	0.375	0.125	-
		TPGN 431	TPGN220404							●	●					0.016	0.500	0.187	-
		TPGN 432	TPGN220408			●				●	●	●				0.031	0.500	0.187	-
		TPGN 433	TPGN220412			●				●						0.047	0.500	0.187	-
Medium cutting	24	TPMR 221-24	TPMR110304-24		●				●							0.016	0.250	0.125	-
		TPMR 222-24	TPMR110308-24		●				●							0.031	0.250	0.125	-
		TPMR 321-24	TPMR160304-24	●	●		●		●							0.016	0.375	0.125	-
		TPMR 322-24	TPMR160308-24	●	●		●		●							0.031	0.375	0.125	-





● : Line up
▲ : To be discontinued

Reference pages: Internal toolholder → D058

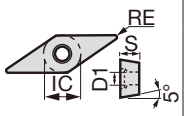
Insert POSITIVE TYPE

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

VB

Rhombic, 35°
with hole
Positive 5°

		T9215	T9225	T6215	AH8015	AH6225	AH725	SH7025	SH725	SH730	J740	GT9530	J9530	NS9530	TH10
		Coated										Coated cermet		Cermet	Uncoated
P	Steel	●ⓒ	ⓒ✠	ⓒ		ⓒ✠	ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ		●ⓒ				●		
M	Stainless	●ⓒ		●	ⓒ	●ⓒ	ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ								●		
K	Cast iron	●ⓒ					ⓒ					●ⓒ	●ⓒ		●ⓒ				●		
N	Non-ferrous																		●		
S	Superalloy				ⓒ		●			●ⓒ											
H	Hard material																				



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	AH8015	AH6225	AH725	SH7025	SH725	SH730	J740	GT9530	J9530	NS9530	TH10	RE	IC	S	D1
Precision finishing (sharp edge)	JP	VBGT 22V FN-JP	VBGT110300FN-JP							●	●							<0.002	0.250	0.125	0.109
		VBGT 220 FN-JP	VBGT110301FN-JP							●	●							<0.004	0.250	0.125	0.109
		VBGT 220.5 FN-JP	VBGT110302FN-JP							●	●							<0.008	0.250	0.125	0.109
Finishing (sharp edge)	JS	VBGT 22V FN-JS	VBGT110300FN-JS							●	●	●						<0.002	0.250	0.125	0.109
		VBGT 220 FN-JS	VBGT110301FN-JS							●	●	●						<0.004	0.250	0.125	0.109
		VBGT 220.5 FN-JS	VBGT110302FN-JS							●	●	●						<0.008	0.250	0.125	0.109
		VBGT 221 FN-JS	VBGT110304FN-JS							●	●	●						<0.016	0.250	0.125	0.109
Finishing	JS	VBGT 220 N-JS	VBGT110301N-JS						●									0.004	0.250	0.125	0.109
		VBGT 220.5 N-JS	VBGT110302N-JS						●									0.008	0.250	0.125	0.109
		VBGT 221 N-JS	VBGT110304N-JS						●							●		0.016	0.250	0.125	0.109
	PSF	VBMT 220.5 PSF	VBMT110302-PSF						●					●		●		0.008	0.250	0.125	0.109
		VBMT 221 PSF	VBMT110304-PSF	●	●				●					●		●		0.016	0.250	0.125	0.109
		VBMT 330.5 PSF	VBMT160402-PSF						●					●		●		0.008	0.375	0.187	0.173
		VBMT 331 PSF	VBMT160404-PSF	●	●				●					●		●		0.016	0.375	0.187	0.173
	PF	VBMT 220.5 PF	VBMT110302-PF											●		●		0.008	0.250	0.125	0.109
		VBMT 221 PF	VBMT110304-PF											●		●		0.016	0.250	0.125	0.109
		VBMT 222 PF	VBMT110308-PF		●									●		●		0.031	0.250	0.125	0.109
		VBMT 331 PF	VBMT160404-PF											●		●		0.016	0.375	0.187	0.173
		VBMT 332 PF	VBMT160408-PF		●									●		●		0.031	0.375	0.187	0.173
	TSF	VBMT 220.5 TSF	VBMT110302-TSF	●	●	●	●	●								●		0.008	0.250	0.125	0.109
		VBMT 221 TSF	VBMT110304-TSF	●	●	●	●	●								●		0.016	0.250	0.125	0.109
		VBMT 222 TSF	VBMT110308-TSF	●	●	●	●	●								●		0.031	0.250	0.125	0.109
		VBMT 330.5 TSF	VBMT160402-TSF	●	●	●	●	●								●		0.008	0.375	0.187	0.173
		VBMT 331 TSF	VBMT160404-TSF	●	●	●	●	●								●		0.016	0.375	0.187	0.173
		VBMT 332 TSF	VBMT160408-TSF	●	●	●	●	●								●		0.031	0.375	0.187	0.173
For external turning on Swiss lathes (sharp edge)	J10	VBGT 22V FR-J10	VBGT110300FR-J10							●	●		●				●	0.0012	0.250	0.125	0.109
		VBGT 22V FL-J10	VBGT110300FL-J10								●		●				●	0.0012	0.250	0.125	0.109
		VBGT 220 FR-J10	VBGT110301FR-J10							●	●		●			●	●	0.004	0.250	0.125	0.109
		VBGT 220 FL-J10	VBGT110301FL-J10								●		●			●	●	0.004	0.250	0.125	0.109
		VBGT 220.5 FR-J10	VBGT110302FR-J10							●	●		●			●	●	0.008	0.250	0.125	0.109
		VBGT 220.5 FL-J10	VBGT110302FL-J10							●	●		●			●	●	0.008	0.250	0.125	0.109
		VBGT 221 FR-J10	VBGT110304FR-J10							●	●		●			●	●	0.016	0.250	0.125	0.109
		VBGT 221 FL-J10	VBGT110304FL-J10							●	●		●			●	●	0.016	0.250	0.125	0.109
Finishing	J10	VBGT 220.5 R-J10	VBGT110302R-J10												●			0.008	0.250	0.125	0.109
		VBGT 220.5 L-J10	VBGT110302L-J10												●			0.008	0.250	0.125	0.109
		VBGT 221 R-J10	VBGT110304R-J10												●			0.016	0.250	0.125	0.109
		VBGT 221 L-J10	VBGT110304L-J10												●			0.016	0.250	0.125	0.109

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

● : Line up

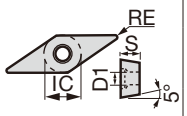
Reference pages: Internal toolholder → D068 - J-Series toolholder → G058 -
TungCap → K027

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

VB

Rhombic, 35° with hole Positive 5°

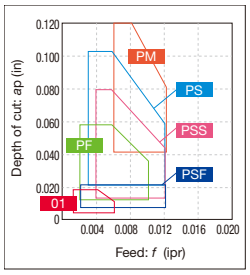
		T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GT9530	AT9530	NS9530
P	Steel	●◐	◐✠	◐						◐✠	✠	◐	●◐		●◐	●◐
M	Stainless	●◐		●				●	◐	●◐	✠	◐	●◐			
K	Cast iron	●◐			●	●◐	◐					◐	●◐		●◐	●◐
N	Non-ferrous															
S	Superalloy							●	◐			●	●◐			
H	Hard material															

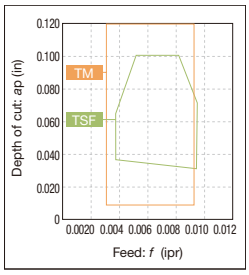


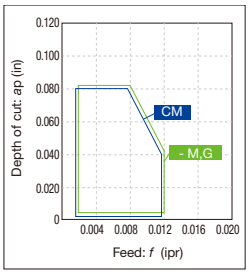
Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH725	AH120	GT9530	AT9530	NS9530	RE	IC	S	D1
Finishing to medium cutting	PSS	VBMT 221 PSS	VBMT110304-PSS	●	●	●						●	●	●		●		●	0.016	0.250	0.125	0.109
		VBMT 222 PSS	VBMT110308-PSS	●	●	●						●	●	●		●		●	0.031	0.250	0.125	0.109
		VBMT 331 PSS	VBMT160404-PSS	●	●	●						●	●	●		●		●	0.016	0.375	0.187	0.173
		VBMT 332 PSS	VBMT160408-PSS	●	●	●						●	●	●		●		●	0.031	0.375	0.187	0.173
		VBMT 333 PSS	VBMT160412-PSS	●	●									●					0.047	0.375	0.187	0.173
	PS	VBMT 220.5 PS	VBMT110302-PS	●	●	●				●	●	●	●	●		●	●	●	0.008	0.250	0.125	0.109
		VBMT 221 PS	VBMT110304-PS	●	●	●				●	●	●	●	●	●	●	●	●	0.016	0.250	0.125	0.109
		VBMT 222 PS	VBMT110308-PS	●	●	●				●	●	●	●	●	●	●	●	●	0.031	0.250	0.125	0.109
		VBMT 330.5 PS	VBMT160402-PS	●	●	●				●	●	●	●	●		●	●	●	0.008	0.375	0.187	0.173
		VBMT 331 PS	VBMT160404-PS	●	●	●				●	●	●	●	●	●	●	●	●	0.016	0.375	0.187	0.173
		VBMT 332 PS	VBMT160408-PS	●	●	●				●	●	●	●	●	●	●	●	●	0.031	0.375	0.187	0.173
	TM	VBMT 220.5 TM	VBMT110302-TM	●	●	●					●	●						●	0.008	0.250	0.125	0.109
		VBMT 221 TM	VBMT110304-TM	●	●	●					●	●						●	0.016	0.250	0.125	0.109
		VBMT 222 TM	VBMT110308-TM	●	●	●					●	●						●	0.031	0.250	0.125	0.109
		VBMT 330.5 TM	VBMT160402-TM	●	●	●					●	●						●	0.008	0.375	0.187	0.173
		VBMT 331 TM	VBMT160404-TM	●	●	●					●	●						●	0.016	0.375	0.187	0.173
		VBMT 332 TM	VBMT160408-TM	●	●	●					●	●						●	0.031	0.375	0.187	0.173
	CM	VBMT 221 CM	VBMT110304-CM						●										0.016	0.250	0.125	0.109
		VBMT 222 CM	VBMT110308-CM						●										0.031	0.250	0.125	0.109
		VBMT 331 CM	VBMT160404-CM				●	●	●										0.016	0.375	0.187	0.173
		VBMT 332 CM	VBMT160408-CM				●	●	●										0.031	0.375	0.187	0.173
		VBMT 333 CM	VBMT160412-CM				●	●	●										0.047	0.375	0.187	0.173
Medium cutting	24	VBMT 331-24	VBMT160404-24	●	●													●	0.016	0.375	0.187	0.173
		VBMT 332-24	VBMT160408-24	●	●													●	0.031	0.375	0.187	0.173

●: Line up

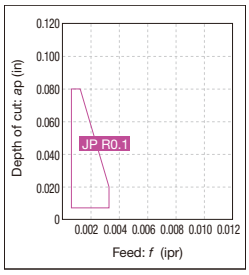
Chip control range

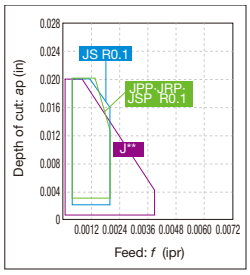






*-M,G: Without chipbreaker





*Chip control range with typical R0.1

Reference pages: Internal toolholder → D068 - J-Series toolholder → G058 -
TungCap → K027

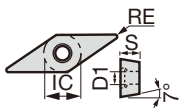
Insert POSITIVE TYPE

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

VC

Rhombic, 35°
with hole
Positive 7°

		T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	GT9530	AT9530	NS9530
P	Steel	●ⓒ	ⓒ✠	ⓒ						ⓒ✠	✠		ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ
M	Stainless	●ⓒ		●				●	ⓒ	●ⓒ	✠		ⓒ	●ⓒ			
K	Cast iron	●ⓒ			●	●ⓒ	ⓒ						ⓒ	●ⓒ	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous																
S	Superalloy							●	ⓒ			ⓒ	●	●ⓒ			
H	Hard material																



Application	Chipbreaker	Designation Inch	Designation Metric	T9215	T9225	T6215	T505	T515	T5115	AH8005	AH8015	AH6225	AH6235	AH905	AH725	AH120	GT9530	AT9530	NS9530	RE	IC	S	D1
				Coated													Coated cermet		Cermet	Dimension (in)			
Finishing	PSF	VCMT 630.5 PSF	VCMT080202-PSF												●		●		●	0.008	0.187	0.094	0.091
		VCMT 631 PSF	VCMT080204-PSF	●	●										●		●		●	0.016	0.187	0.094	0.091
		VCMT 220.5 PSF	VCMT110302-PSF												●					0.008	0.250	0.125	0.109
		VCMT 221 PSF	VCMT110304-PSF	●	●										●					0.016	0.250	0.125	0.109
		VCMT 331 PSF	VCMT160404-PSF	●	●					●	●			●	●		●		●	0.016	0.375	0.187	0.173
		VCMT 332 PSF	VCMT160408-PSF	●	●					●	●			●	●		●		●	0.031	0.375	0.187	0.173
	PF	VCMT 630.5 PF	VCMT080202-PF														●		●	0.008	0.187	0.094	0.091
		VCMT 631 PF	VCMT080204-PF														●		●	0.016	0.187	0.094	0.091
		VCMT 331 PF	VCMT160404-PF														●		●	0.016	0.375	0.187	0.173
		VCMT 332 PF	VCMT160408-PF														●		●	0.031	0.375	0.187	0.173
	TSF	VCMT 220.5 TSF	VCMT110302-TSF	●	●	●					●	●							●	0.008	0.250	0.125	0.109
		VCMT 221 TSF	VCMT110304-TSF	●	●	●					●	●							●	0.016	0.250	0.125	0.109
		VCMT 222 TSF	VCMT110308-TSF	●	●	●					●	●							●	0.031	0.250	0.125	0.109
		VCMT 330.5 TSF	VCMT160402-TSF	●	●	●					●	●							●	0.008	0.375	0.187	0.173
		VCMT 331 TSF	VCMT160404-TSF	●	●	●					●	●							●	0.016	0.375	0.187	0.173
		VCMT 332 TSF	VCMT160408-TSF	●	●	●					●	●							●	0.031	0.375	0.187	0.173
Finishing to medium cutting	PSS	VCMT 221 PSS	VCMT110304-PSS	●	●	●						●	●		●		●		●	0.016	0.250	0.125	0.109
		VCMT 222 PSS	VCMT110308-PSS	●	●	●						●	●		●		●		●	0.031	0.250	0.125	0.109
		VCMT 331 PSS	VCMT160404-PSS	●	●	●				●	●	●	●	●	●		●		●	0.016	0.375	0.187	0.173
		VCMT 332 PSS	VCMT160408-PSS	●	●	●				●	●	●	●	●	●		●		●	0.031	0.375	0.187	0.173
	PS	VCMT 220.5 PS	VCMT110302-PS	●	●	●				●	●	●	●		●		●	●	●	0.008	0.250	0.125	0.109
		VCMT 221 PS	VCMT110304-PS	●	●	●				●	●	●	●		●		●	●	●	0.016	0.250	0.125	0.109
		VCMT 222 PS	VCMT110308-PS	●	●	●				●	●	●	●		●		●	●	●	0.031	0.250	0.125	0.109
		VCMT 330.5 PS	VCMT160402-PS	●	●	●					●	●							●	0.008	0.375	0.187	0.173
		VCMT 331 PS	VCMT160404-PS	●	●	●				●	●	●	●	●	●	●	●	●	●	0.016	0.375	0.187	0.173
		VCMT 332 PS	VCMT160408-PS	●	●	●				●	●	●	●	●	●	●	●	●	●	0.031	0.375	0.187	0.173
	TM	VCMT 220.5 TM	VCMT110302-TM	●	●	●					●	●							●	0.008	0.250	0.125	0.109
		VCMT 221 TM	VCMT110304-TM	●	●	●					●	●							●	0.016	0.250	0.125	0.109
		VCMT 222 TM	VCMT110308-TM	●	●	●					●	●							●	0.031	0.250	0.125	0.109
		VCMT 330.5 TM	VCMT160402-TM	●	●	●					●	●							●	0.008	0.375	0.187	0.173
		VCMT 331 TM	VCMT160404-TM	●	●	●					●	●							●	0.016	0.375	0.187	0.173
		VCMT 332 TM	VCMT160408-TM	●	●	●					●	●							●	0.031	0.375	0.187	0.173
	CM	VCMT 631 CM	VCMT080204-CM						●											0.016	0.187	0.094	0.091
		VCMT 331 CM	VCMT160404-CM				●	●	●											0.016	0.375	0.187	0.173
		VCMT 332 CM	VCMT160408-CM				●	●	●											0.031	0.375	0.187	0.173
		VCMT 333 CM	VCMT160412-CM						●											0.047	0.375	0.187	0.173

● : Line up

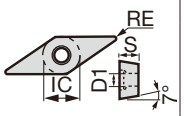
Reference pages: External toolholder → C113 - Internal toolholder → D072 -
TungCap → K015 -

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

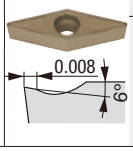
VC

Rhombic, 35° with hole Positive 7°

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

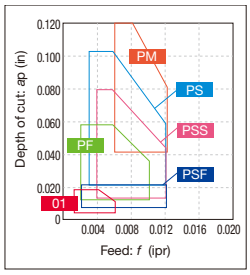


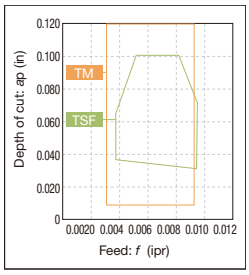
Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	Coated T9225	Coated AH8005	Coated AH8015	Coated AH905	Cermet NS9530	Uncoated KS05F	RE	IC	S	D1
Finishing to medium cutting for non-ferrous alloys	**AL**	VCGT 331 AL	VCGT160404-AL							●	0.016	0.375	0.187	0.173
		VCGT 332 AL	VCGT160408-AL							●	0.031	0.375	0.187	0.173
		VCGT 333 AL	VCGT160412-AL							●	0.047	0.375	0.187	0.173
		VCGT 43.55 AL	VCGT220520-AL							●	0.078	0.500	0.219	0.217
		VCGT 43.57.5 AL	VCGT220530-AL							●	0.118	0.500	0.219	0.217
Finishing to medium cutting	**All-round**	VCMT 331	VCMT160404			●	●	●			0.016	0.375	0.187	0.173
		VCMT 332	VCMT160408			●	●	●			0.031	0.375	0.187	0.173
		VCMT 333	VCMT160412			●	●	●			0.047	0.375	0.187	0.173
Medium cutting	**24**	VCMT 331-24	VCMT160404-24	●	●				●		0.016	0.375	0.187	0.173
		VCMT 332-24	VCMT160408-24	●	●				●		0.031	0.375	0.187	0.173

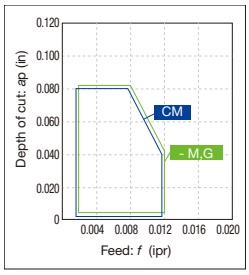


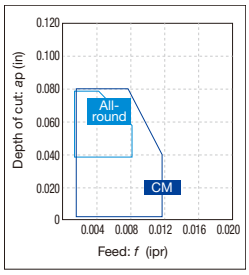
●: Line up

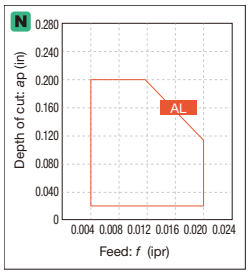
Chip control range











*-M,G: Without chipbreaker

Reference pages: External toolholder → C113 - Internal toolholder → D072 -
TungCap → K015 -

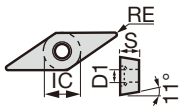
Insert POSITIVE TYPE

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

VP

Rhombic, 35°
with hole
Positive 11°

		SH725	SH730
P	Steel	●◐	●◐
M	Stainless	●◐	●◐
K	Cast iron		
N	Non-ferrous		
S	Superalloy		●◐
H	Hard material		

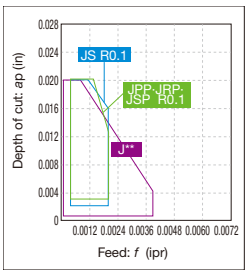


Application	Chipbreaker	Designation Inch	Designation Metric	SH725 (Coated)	SH730 (Coated)	RE	IC	S	D1
Finishing (sharp edge)	JPP	VPET 63X MFR-JPP	VPET0802008MFR-JPP	●	●	<0.0031*	0.187	0.094	0.091
		VPET 63X MFL-JPP	VPET0802008MFL-JPP	●		<0.0031*	0.187	0.094	0.091
		VPET 630 MFR-JPP	VPET080201MFR-JPP	●	●	<0.004*	0.187	0.094	0.091
		VPET 630 MFL-JPP	VPET080201MFL-JPP	●	●	<0.004*	0.187	0.094	0.091
		VPET 630.4 MFR-JPP	VPET0802018MFR-JPP	●		<0.007*	0.187	0.094	0.091
		VPET 630.4 MFL-JPP	VPET0802018MFL-JPP	●		<0.007*	0.187	0.094	0.091
		VPET 630.5 MFR-JPP	VPET080202MFR-JPP	●	●	<0.008*	0.187	0.094	0.091
		VPET 630.5 MFL-JPP	VPET080202MFL-JPP	●	●	<0.008*	0.187	0.094	0.091
		VPET 22X MFR-JPP	VPET1103008MFR-JPP	●	●	<0.0031*	0.250	0.125	0.109
		VPET 220 MFR-JPP	VPET110301MFR-JPP	●	●	<0.004*	0.250	0.125	0.109
		VPET 220 MFL-JPP	VPET110301MFL-JPP	●		<0.004*	0.250	0.125	0.109
		VPET 220.4 MFR-JPP	VPET1103018MFR-JPP	●	●	<0.007*	0.250	0.125	0.109
		VPET 220.5 MFR-JPP	VPET110302MFR-JPP	●	●	<0.008*	0.250	0.125	0.109
		VPET 220.5 MFL-JPP	VPET110302MFL-JPP	●	●	<0.008*	0.250	0.125	0.109
	JRP	VPET 63X MFR-JRP	VPET0802008MFR-JRP	●	●	<0.0031*	0.187	0.094	0.091
		VPET 630 MFR-JRP	VPET080201MFR-JRP	●	●	<0.004*	0.187	0.094	0.091
		VPET 630 MFL-JRP	VPET080201MFL-JRP	●	●	<0.004*	0.187	0.094	0.091
		VPET 630.4 MFR-JRP	VPET0802018MFR-JRP	●		<0.007*	0.187	0.094	0.091
		VPET 630.4 MFL-JRP	VPET0802018MFL-JRP	●		<0.007*	0.187	0.094	0.091
		VPET 630.5 MFR-JRP	VPET080202MFR-JRP	●	●	<0.008*	0.187	0.094	0.091
		VPET 630.5 MFL-JRP	VPET080202MFL-JRP	●	●	<0.008*	0.187	0.094	0.091
		VPET 22X MFR-JRP	VPET1103008MFR-JRP	●	●	<0.0031*	0.250	0.125	0.109
		VPET 22X MFL-JRP	VPET1103008MFL-JRP		●	<0.0031*	0.250	0.125	0.109
		VPET 220 MFR-JRP	VPET110301MFR-JRP	●	●	<0.004*	0.250	0.125	0.109
		VPET 220 MFL-JRP	VPET110301MFL-JRP	●	●	<0.004*	0.250	0.125	0.109
		VPET 220.4 MFR-JRP	VPET1103018MFR-JRP	●	●	<0.007*	0.250	0.125	0.109
		VPET 220.4 MFL-JRP	VPET1103018MFL-JRP	●		<0.007*	0.250	0.125	0.109
		VPET 220.5 MFR-JRP	VPET110302MFR-JRP	●	●	<0.008*	0.250	0.125	0.109
		VPET 220.5 MFL-JRP	VPET110302MFL-JRP	●	●	<0.008*	0.250	0.125	0.109
	JSP	VPET 63X MFN-JSP	VPET0802008MFN-JSP	●	●	<0.0031*	0.187	0.094	0.091
		VPET 630 MFN-JSP	VPET080201MFN-JSP	●	●	<0.004*	0.187	0.094	0.091
		VPET 630.4 MFN-JSP	VPET0802018MFN-JSP	●	●	<0.007*	0.187	0.094	0.091
		VPET 630.5 MFN-JSP	VPET080202MFN-JSP	●	●	<0.008*	0.187	0.094	0.091
		VPET 22X MFN-JSP	VPET1103008MFN-JSP	●	●	<0.0031*	0.250	0.125	0.109
		VPET 220 MFN-JSP	VPET110301MFN-JSP	●	●	<0.004*	0.250	0.125	0.109
		VPET 220.4 MFN-JSP	VPET1103018MFN-JSP	●	●	<0.007*	0.250	0.125	0.109
		VPET 220.5 MFN-JSP	VPET110302MFN-JSP	●	●	<0.008*	0.250	0.125	0.109

*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 → G062 -

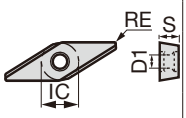
Insert POSITIVE TYPE / DOUBLE SIDED

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

VX

Rhombic, 35° with hole

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



Application	Chipbreaker	Designation Inch	Designation Metric	Coated SH725	RE	IC	S	D1
Finishing (sharp edge)	JRP	VXGU 73.50MFRE-JRP	VXGU09T201MFRE-JRP**	●	<0.004*	0.219	0.109	0.098
		VXGU 73.50MFLE-JRP	VXGU09T201MFLE-JRP**	●	<0.004*	0.219	0.109	0.098
		VXGU73.50.5MFRE-JRP	VXGU09T202MFRE-JRP**	●	<0.008*	0.219	0.109	0.098
		VXGU73.50.5MFLE-JRP	VXGU09T202MFLE-JRP**	●	<0.008*	0.219	0.109	0.098
Finishing to medium cutting (sharp edge)	JS	VXGU 73.50MFR-JS	VXGU09T201MFR-JS(1)	●	<0.004*	0.219	0.109	0.098
		VXGU 73.50MFL-JS	VXGU09T201MFL-JS(1)	●	<0.004*	0.219	0.109	0.098
		VXGU 73.50.5MFR-JS	VXGU09T202MFR-JS(1)	●	<0.008*	0.219	0.109	0.098
		VXGU 73.50.5MFL-JS	VXGU09T202MFL-JS(1)	●	<0.008*	0.219	0.109	0.098
		VXGU 73.51MFR-JS	VXGU09T204MFR-JS(1)	●	<0.016*	0.219	0.109	0.098
		VXGU 73.51MFL-JS	VXGU09T204MFL-JS(1)	●	<0.016*	0.219	0.109	0.098

*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 0.039".

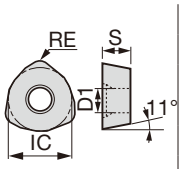
●: Line up

Insert POSITIVE TYPE

WP

Trigon, 80° with hole Positive 11°

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



Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	T9225	AH120	AH130	AH140	AH3135	T3130	RE	IC	S	D1
Heavy cutting	ML	-	WPMT090725ZPR-ML	●	●	●	●	●	●	●	0.098	0.591	0.276	0.217
		-	WPMT090725ZPL-ML	●	●	●					0.098	0.591	0.276	0.217

●: Line up

Reference pages: VXGU... : External toolholder → C119 -, J-Series toolholder → G064 -
WPMT...: External toolholder → C127

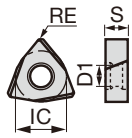
Insert POSITIVE TYPE

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

WB

Trigon, 80° with hole Positive 5°

		GH110	SH7025	SH725	SH730	NS9530	TH10	UX30
P	Steel	●	●ⓒ	●ⓒ	●ⓒ	●ⓒ	●	ⓒ
M	Stainless	●	●ⓒ	●ⓒ	●ⓒ		●	ⓒ
K	Cast iron	●				●ⓒ	●	
N	Non-ferrous						●	
S	Superalloy	●			●ⓒ			
H	Hard material							

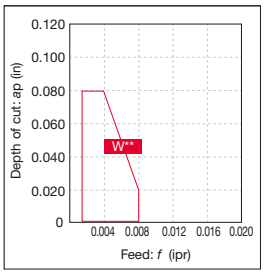


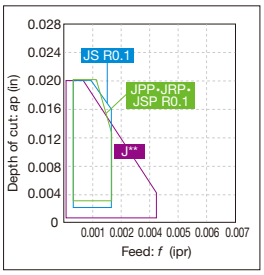
Application	Chipbreaker	Designation Inch	Designation Metric	Coated GH110	Coated SH7025	Coated SH725	Coated SH730	Cermet NS9530	Uncoated TH10	Uncoated UX30	Dimension (in) RE	IC	S	D1
Finishing (sharp edge)	JS	WBGT 520 FR-JS	WBGT030101FR-JS		●	●					<0.004*	0.156	0.063	0.091
		WBGT 520 FL-JS	WBGT030101FL-JS		●	●					<0.004*	0.156	0.063	0.091
		WBGT 520.5 FR-JS	WBGT030102FR-JS		●	●					<0.008*	0.156	0.063	0.091
		WBGT 520.5 FL-JS	WBGT030102FL-JS		●	●					<0.008*	0.156	0.063	0.091
		WBGT 521 FR-JS	WBGT030104FR-JS		●	●					<0.016*	0.156	0.063	0.091
		WBGT 521 FL-JS	WBGT030104FL-JS		●	●					<0.016*	0.156	0.063	0.091
Finishing	JS	WBGT 520 R-JS	WBGT030101R-JS				●				<0.004	0.156	0.063	0.091
		WBGT 520 L-JS	WBGT030101L-JS				●				<0.004	0.156	0.063	0.091
		WBGT 520.5 R-JS	WBGT030102R-JS				●				<0.008	0.156	0.063	0.091
		WBGT 520.5 L-JS	WBGT030102L-JS				●				<0.008	0.156	0.063	0.091
		WBGT 521 R-JS	WBGT030104R-JS				●				<0.016	0.156	0.063	0.091
		WBGT 521 L-JS	WBGT030104L-JS				●				<0.016	0.156	0.063	0.091
Finishing (sharp edge)	W08	WBGT 52V FR-W08	WBGT030100FL-W08		●	●					0.0012	0.156	0.063	0.091
		WBGT 52V FL-W08	WBGT030100FR-W08			●					0.0012	0.156	0.063	0.091
		WBGT 520 FR-W08	WBGT030101FL-W08		●	●					0.004	0.156	0.063	0.091
		WBGT 520 FL-W08	WBGT030101FR-W08			●					0.004	0.156	0.063	0.091
		WBGT 520.5 FR-W08	WBGT030102FL-W08		●	●					0.008	0.156	0.063	0.091
		WBGT 520.5 FL-W08	WBGT030102FR-W08		●	●					0.008	0.156	0.063	0.091
		WBGT 521 FR-W08	WBGT030104FL-W08		●	●					0.016	0.156	0.063	0.091
		WBGT 521 FL-W08	WBGT030104FR-W08		●	●					0.016	0.156	0.063	0.091
Finishing	W08	WBGT 52V R-W08	WBGT030100R-W08				●				0.0012	0.156	0.063	0.091
		WBGT 52V L-W08	WBGT030100L-W08				●	●	●	●	0.0012	0.156	0.063	0.091
		WBGT 520 R-W08	WBGT030101R-W08				●				0.004	0.156	0.063	0.091
		WBGT 520 L-W08	WBGT030101L-W08				●		●		0.004	0.156	0.063	0.091
		WBGT 520.5 R-W08	WBGT030102R-W08				●				0.008	0.156	0.063	0.091
		WBGT 520.5 L-W08	WBGT030102L-W08	●			●	●	●	●	0.008	0.156	0.063	0.091
		WBGT 521 R-W08	WBGT030104R-W08				●				0.016	0.156	0.063	0.091
		WBGT 521 L-W08	WBGT030104L-W08	●			●	●	●	●	0.016	0.156	0.063	0.091
	W11	WBGT 520.5 L-W11	WBGT060102L-W11	●				●			0.008	0.156	0.063	0.091
		WBGT 521 L-W11	WBGT060104L-W11					●			0.016	0.156	0.063	0.091
		WBGT 630.5 L-W11	WBGT080202L-W11					●			0.008	0.187	0.094	0.091
		WBGT 631 L-W11	WBGT080204L-W11					●			0.016	0.187	0.094	0.091

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

●: Line up

Chip control range





*Chip control range with typical R0.1

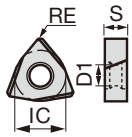
Reference pages: Internal toolholder → D080

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

WX

Trigon, 80° with hole

		AH725	AH8015	SH725	GT9530	NS9530	KS05F
P	Steel	◐		●◐	●◐	●◐	
M	Stainless	◐	◐	●◐			
K	Cast iron	◐			●◐	●◐	●
N	Non-ferrous						●
S	Superalloy	●	◐				●
H	Hard material						

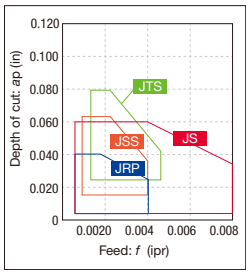


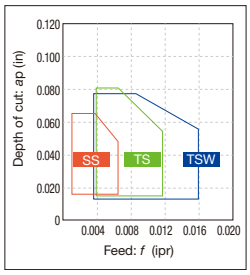
Application	Chipbreaker	Designation Inch	Designation Metric	Coated AH725	Coated AH8015	Coated SH725	Coated cermet GT9530	Cermet NS9530	Uncoated KS05F	RE	IC	S	D1
Finishing	JSS	WXGU 220MFR JSS	WXGU040301MFR-JSS			●				<0.004*	0.250	0.125	0.106
		WXGU 220MFL JSS	WXGU040301MFL-JSS			●				<0.004*	0.250	0.125	0.106
		WXGU 220.5MFR JSS	WXGU040302MFR-JSS			●				<0.008*	0.250	0.125	0.106
		WXGU 220.5MFL JSS	WXGU040302MFL-JSS			●				<0.008*	0.250	0.125	0.106
	JSS	WXGU 220MR JSS	WXGU040301MR-JSS	●						<0.004*	0.250	0.125	0.106
		WXGU 220ML JSS	WXGU040301ML-JSS	●						<0.004*	0.250	0.125	0.106
		WXGU 220.5MR JSS	WXGU040302MR-JSS	●						<0.008*	0.250	0.125	0.106
		WXGU 220.5ML JSS	WXGU040302ML-JSS	●						<0.008*	0.250	0.125	0.106
Finishing to medium cutting	SS	WXGU 220.5R SS	WXGU040302R-SS	●	●		●	●	●	0.008	0.250	0.125	0.106
		WXGU 220.5L SS	WXGU040302L-SS	●	●		●	●	●	0.008	0.250	0.125	0.106
		WXGU 221R SS	WXGU040304R-SS	●	●		●	●	●	0.016	0.250	0.125	0.106
		WXGU 221L SS	WXGU040304L-SS	●	●		●	●	●	0.016	0.250	0.125	0.106
Finishing	TSW	WXGU 221R TSW	WXGU040304R-TSW	●	●		●	●		0.016	0.250	0.125	0.106
		WXGU 221L TSW	WXGU040304L-TSW	●	●		●	●		0.016	0.250	0.125	0.106
		WXGU 222R TSW	WXGU040308R-TSW	●	●		●	●		0.031	0.250	0.125	0.106
		WXGU 222L TSW	WXGU040308L-TSW	●	●		●	●		0.031	0.250	0.125	0.106
Finishing to medium cutting (sharp edge)	JS	WXGU 220MFR JS	WXGU040301MFR-JS(1)			●				<0.004*	0.250	0.125	0.106
		WXGU 220MFL JS	WXGU040301MFL-JS(1)			●				<0.004*	0.250	0.125	0.106
		WXGU 220.5MFR JS	WXGU040302MFR-JS(1)			●				<0.008*	0.250	0.125	0.106
		WXGU 220.5MFL JS	WXGU040302MFL-JS(1)			●				<0.008*	0.250	0.125	0.106
		WXGU 221MFR JS	WXGU040304MFR-JS(1)			●				<0.016*	0.250	0.125	0.106
		WXGU 221MFL JS	WXGU040304MFL-JS(1)			●				<0.016*	0.250	0.125	0.106

*Corner radius (RE) with a sign of inequality (<) means minus tolerance.
(1) Due to chipbreaker profile, max ap for face or ID turning is 0.039".

●: Line up

Chip control range





Reference pages: External toolholder → C128 - Internal toolholder → D081 -
J-Series toolholder → G069 - TungCap → K025

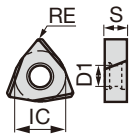
Insert POSITIVE TYPE / DOUBLE SIDED

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

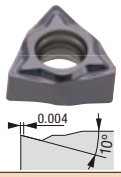
WX

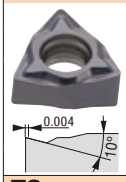
Trigon, 80° with hole

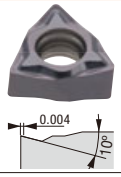
		AH725	AH8015	SH725	GT9530	NS9530	KS05F
P	Steel	◐		●◐	●◐	●◐	
M	Stainless	◐	◐	●◐			
K	Cast iron	◐			●◐	●◐	●
N	Non-ferrous						●
S	Superalloy	●	◐				●
H	Hard material						



Application	Chipbreaker	Designation Inch	Designation Metric	AH725 (Coated)	AH8015 (Coated)	SH725 (Coated)	GT9530 (Coated cermet)	NS9530 (Cermet)	KS05F (Uncoated)	RE (in)	IC (in)	S (in)	D1 (in)
Finishing to medium cutting (sharp edge)	JTS	WXGU 220MFR JTS	WXGU040301MFR-JTS			●				<0.004*	0.250	0.125	0.106
		WXGU 220MFL JTS	WXGU040301MFL-JTS			●				<0.004*	0.250	0.125	0.106
		WXGU 220.5MFR JTS	WXGU040302MFR-JTS			●				<0.008*	0.250	0.125	0.106
		WXGU 220.5MFL JTS	WXGU040302MFL-JTS			●				<0.008*	0.250	0.125	0.106
Finishing to medium cutting	JTS	WXGU 220MR JTS	WXGU040301MR-JTS	●						<0.004*	0.250	0.125	0.106
		WXGU 220ML JTS	WXGU040301ML-JTS	●						<0.004*	0.250	0.125	0.106
		WXGU 220.5MR JTS	WXGU040302MR-JTS	●						<0.008*	0.250	0.125	0.106
		WXGU 220.5ML JTS	WXGU040302ML-JTS	●						<0.008*	0.250	0.125	0.106
	TS	WXGU 220.5R TS	WXGU040302R-TS	●	●		●	●	●	0.008	0.250	0.125	0.106
		WXGU 220.5L TS	WXGU040302L-TS	●	●		●	●	●	0.008	0.250	0.125	0.106
		WXGU 221R TS	WXGU040304R-TS	●	●		●	●	●	0.016	0.250	0.125	0.106
		WXGU 221L TS	WXGU040304L-TS	●	●		●	●	●	0.016	0.250	0.125	0.106
		WXGU 222R TS	WXGU040308R-TS	●	●		●	●	●	0.031	0.250	0.125	0.106
		WXGU 222L TS	WXGU040308L-TS	●	●		●	●	●	0.031	0.250	0.125	0.106



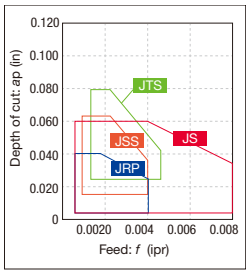


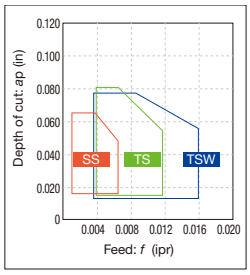


*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

●: Line up

Chip control range





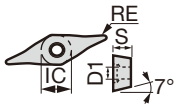
Reference pages: External toolholder → C128 - Internal toolholder → D081 -
J-Series toolholder → G069 - TungCap → K025

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

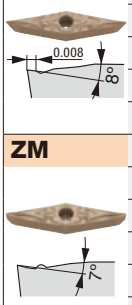
YW

Rhombic, 25° with hole Positive 7°

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



Application	Chipbreaker	Designation Inch	Designation Metric	Coated T9215	Coated T9225	Coated T6215	Coated AH8015	Coated AH6225	Coated cermet GT9530	Cermet NS9530	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	ZF	-	YWMT11T202-ZF	●	●	●	●	●	●	●	0.008	0.184	0.109	0.091
		-	YWMT11T204-ZF	●	●	●	●	●	●	●	0.016	0.184	0.109	0.091
		-	YWMT16T302-ZF	●	●	●	●	●	●	●	0.008	0.276	0.156	0.113
		-	YWMT16T304-ZF	●	●	●	●	●	●	●	0.016	0.276	0.156	0.113
		-	YWMT16T308-ZF	●	●	●	●	●	●	●	0.031	0.276	0.156	0.113
	ZM	-	YWMT11T202-ZM	●	●	●	●	●	●	●	0.008	0.184	0.109	0.091
		-	YWMT11T204-ZM	●	●	●	●	●	●	●	0.016	0.184	0.109	0.091
		-	YWMT16T302-ZM	●	●	●	●	●	●	●	0.008	0.276	0.156	0.113
		-	YWMT16T304-ZM	●	●	●	●	●	●	●	0.016	0.276	0.156	0.113
		-	YWMT16T308-ZM	●	●	●	●	●	●	●	0.031	0.276	0.156	0.113

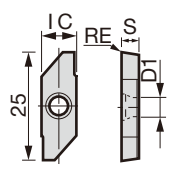


●: Line up

JXF

Front turning

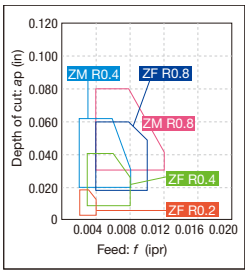
P	Steel	●ⓒ	●ⓒ			●																	
M	Stainless	●ⓒ	●ⓒ			●																	
K	Cast iron					●																	
N	Non-ferrous					●																	
S	Superalloy																						
H	Hard material																						



Application	Chipbreaker	Designation Inch	Designation Metric	Coated SH7025	Coated J740	Uncoated TH10	Dimension (in) RE	IC	S	D1
Front turning	-	-	JXFR8000F	●	●	●	0.0012	0.315	0.156	0.173
		-	JXFR8010F	●	●	●	0.004	0.315	0.156	0.173

●: Line up

Chip control range



Reference pages: YWMT...: External toolholder → C130 -, Internal toolholder → D088 -
JXF...: J-Series toolholder → G075

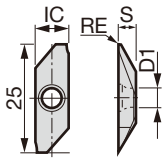
Insert POSITIVE TYPE

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

JXR

Reverse turning

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

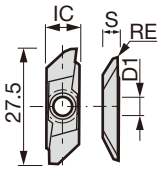


Application	Chipbreaker	Designation Inch	Designation Metric	Coated J740	Uncoated TH10	Dimension (in) RE	IC	S	D1
Reverse turning	-	-	JXRR8000F	●	●	0.0012	0.315	0.156	0.173
		-	JXRR8010F	●	●	0.004	0.315	0.156	0.173

JXB

Back turning

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



Application	Chipbreaker	Designation Inch	Designation Metric	Coated SH7025	Coated J740	Uncoated TH10	Dimension (in) RE	IC	S	D1
Back turning	-	-	JXBR8000F	●	●	●	0.0012	0.315	0.156	0.173
		-	JXBL8000F		●	●	0.0012	0.315	0.156	0.173
		-	JXBR8005F	●	●	●	0.002	0.315	0.156	0.173
		-	JXBL8005F		●	●	0.002	0.315	0.156	0.173
		-	JXBR8005		●		0.002	0.315	0.156	0.173
		-	JXBL8005		●		0.002	0.315	0.156	0.173
		-	JXBR8010F	●	●	●	0.004	0.315	0.156	0.173
		-	JXBL8010F		●	●	0.004	0.315	0.156	0.173
		-	JXBR8010		●		0.004	0.315	0.156	0.173
		-	JXBL8010		●		0.004	0.315	0.156	0.173
		-	JXBR8015F	●	●	●	0.006	0.315	0.156	0.173
		-	JXBL8015F		●	●	0.006	0.315	0.156	0.173
		-	JXBR8015		●		0.006	0.315	0.156	0.173
		-	JXBL8015		●		0.006	0.315	0.156	0.173

●: Line up

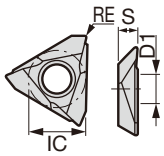
Reference pages: JXR...: J-Series toolholder → G075
JXB...: J-Series toolholder → G076

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

JTB*

Back turning

		SH7025	SH7725	J740	J9530	NS9530	TH10
P	Steel	◐	◐	◐	◐	◐	●
M	Stainless	◐	◐	◐			●
K	Cast iron				◐	◐	●
N	Non-ferrous						●
S	Superalloy						
H	Hard material						

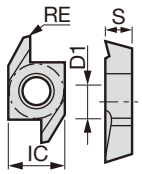


Application	Chipbreaker	Designation Inch	Designation Metric	Coated SH7025	Coated SH725	Coated J740	Coated cermet J9530	Cermet NS9530	Uncoated TH10	Dimension (in) RE	IC	S	D1
Back turning	-	-	JTBR3000F	●	●	●			●	0.001	0.374	0.125	0.173
		-	JTBL3000F		●	●			●	0.001	0.374	0.125	0.173
		-	JTBR3005F	●	●	●			●	0.002	0.374	0.125	0.173
		-	JTBL3005F		●	●			●	0.002	0.374	0.125	0.173
		-	JTBR3005			●	●			0.002	0.374	0.125	0.173
		-	JTBL3005			●				0.002	0.374	0.125	0.173
		-	JTBR3010F	●	●	●		●	●	0.004	0.374	0.125	0.173
		-	JTBL3010F		●	●		●	●	0.004	0.374	0.125	0.173
		-	JTBR3010			●	●			0.004	0.374	0.125	0.173
		-	JTBL3010			●				0.004	0.374	0.125	0.173
		-	JTBR3015F	●	●	●		●		0.006	0.374	0.125	0.173
		-	JTBL3015F		●					0.006	0.374	0.125	0.173

J10E*

Back turning

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



Application	Chipbreaker	Designation Inch	Designation Metric	Coated SH7025	Coated SH725	Coated J740	Coated cermet J9530	Cermet NS9530	Uncoated TH10	Dimension (in) RE	IC	S	D1
Back turning	-	-	J10ER005BF	●	●	●		●	●	0.002	0.250	0.125	0.118
		-	J10EL005BF	●	●	●			●	0.002	0.250	0.125	0.118
		-	J10ER005B			●	●			0.002	0.250	0.125	0.118
		-	J10EL005B			●				0.002	0.250	0.125	0.118
		-	J10ER010BF	●	●	●		●	●	0.004	0.250	0.125	0.118
		-	J10EL010BF	●	●	●			●	0.004	0.250	0.125	0.118
		-	J10ER010B			●	●			0.004	0.250	0.125	0.118
		-	J10EL010B			●				0.004	0.250	0.125	0.118
		-	J10EL015BF	●	●					0.006	0.250	0.125	0.118
		-	J10ER015BF	●	●					0.006	0.250	0.125	0.118

●: Line up

Reference pages: JTB...: J-Series toolholder → G081
J10E...: J-Series toolholder → G078

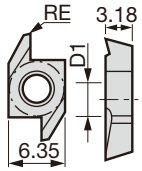
Insert POSITIVE TYPE

● : 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	



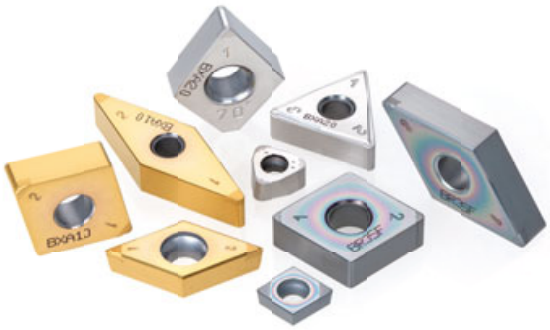
Application	Chipbreaker	Designation Inch	Designation Metric	Uncoated TH10	Dimension (in) RE	IC	S	D1
Back turning	-	-	10ER100B	●	0.0012	0.250	0.125	0.118
		-	10EL100B	●	0.0012	0.250	0.125	0.118
		-	10ER150B	●	0.0012	0.250	0.125	0.118
		-	10EL150B	●	0.0012	0.250	0.125	0.118
		-	10ER300	●	-	0.250	0.125	0.118
		-	10EL300	●	-	0.250	0.125	0.118

●: Line up

MEMO

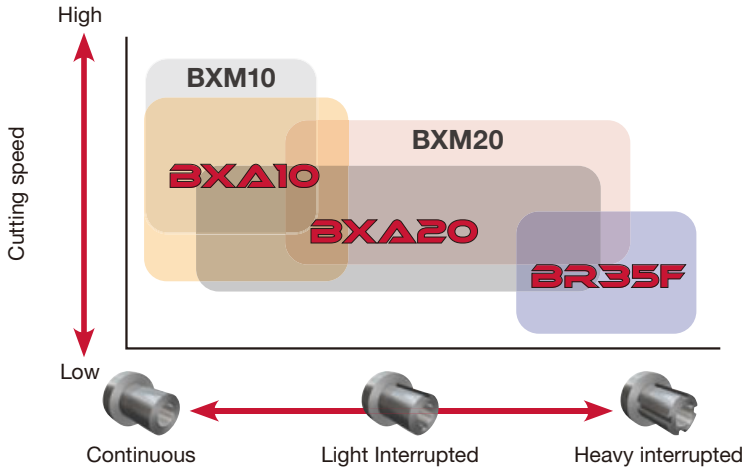
BXA10/BXA20/BR35F

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* = 755 sfm or less

BXA20
- Versatile grade from continuous to heavy interrupted cuts
- For *Vc* = 492 sfm or less

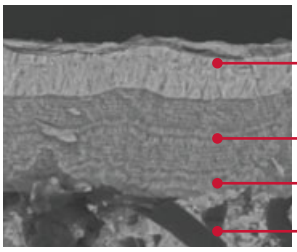
BR35F
- First choice for heavy interrupted cuts
- For *Vc* = 492 sfm or less

BXM10
- Complementary grade for continuous to light interrupted cuts
- For extremely high cutting speeds of *Vc* = 984 sfm

BXM20
- Complementary versatile grade for continuous to heavy interrupted cuts
- For high cutting speeds of *Vc* = 656 sfm

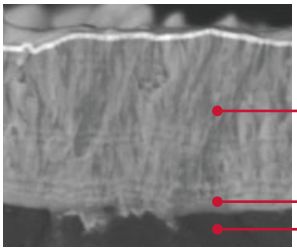
■ Grade properties

BXA10



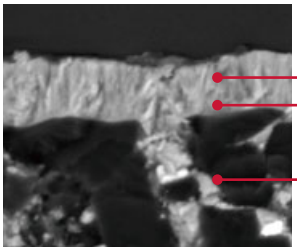
- TiCN coating with high thermal stability and wear resistance
- Multilayer TiAlN coating with good adhesion and resistance to delamination and chipping
- Strong coating-substrate adhesion prevents delamination
- Dedicated CBN substrate with excellent flank wear and crater wear resistance

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

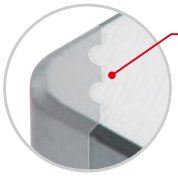
WavyJoint

New brazing technology for increased machining efficiency

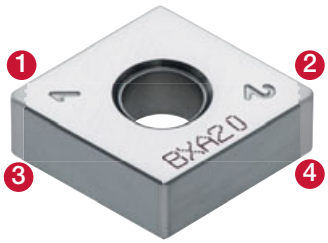
A maximum depth of cut up to 0.031".
Reduces the number of passes to increase productivity.

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.

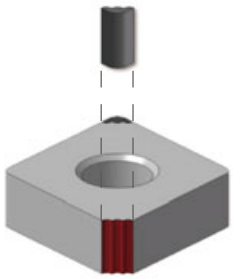


The "wavy" contact surface enhances the brazing strength



Double sided inserts

WavyJoint

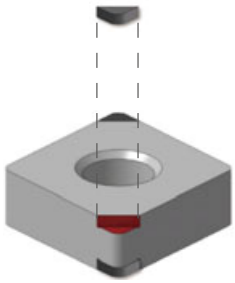


Vs.

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

Brazing Area: 160% larger for enhanced brazing strength

Standard



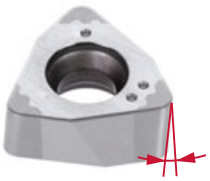
MINIFORCE TURN

Double-sided positive insert with CBN tips

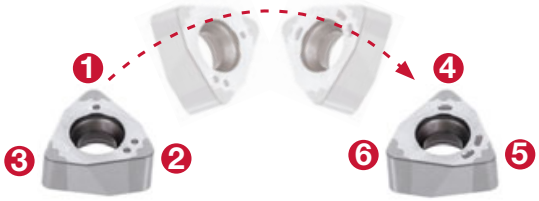
MiniForce-Turn now offers WavyJoint CBN inserts that provide additional strength and security in aggressive cutting conditions.

■ WXGQ 220... (WXGQ0403...) insert

Double-sided positive inserts

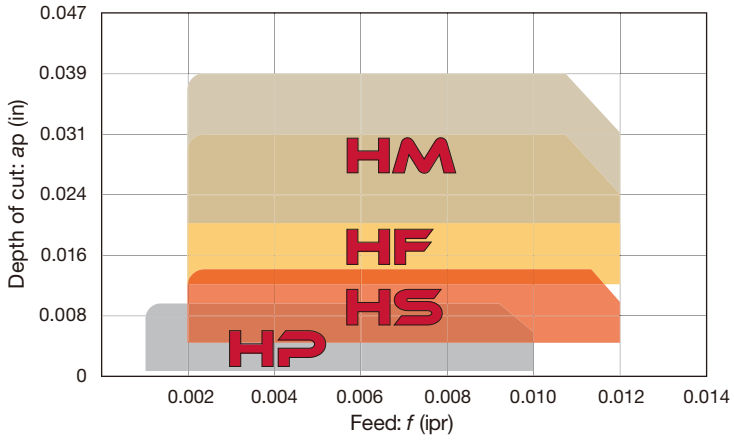


6-edged insert with dovetail design



HARDBREAKER SERIES

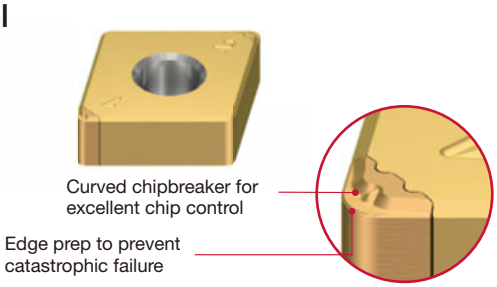
CBN inserts with chipbreaker ideal for carburized layer removal and finishing hardened steel



HS chipbreaker

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

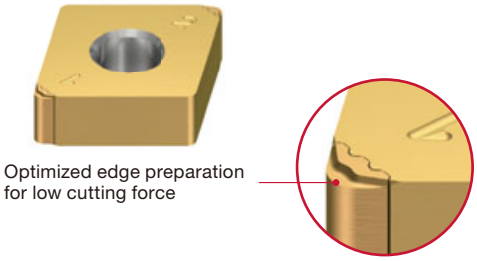
- Designed for high feed machining.
- Provides excellent chip control for a wide range of D.O.C. and feed rates.
- Edge preparation is designed to prevent catastrophic failure.



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.

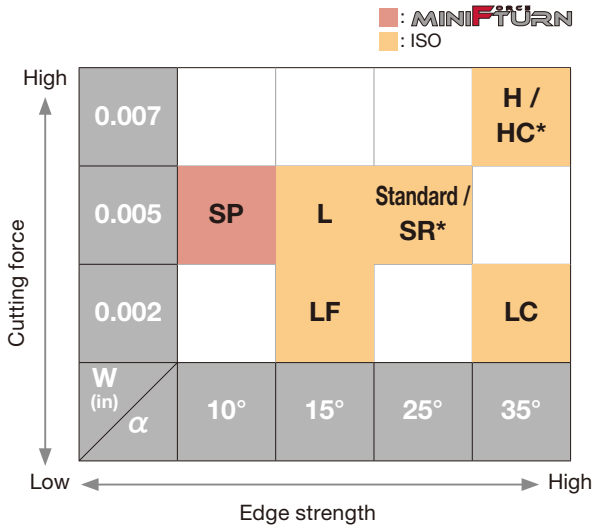
■ Edge preparations

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

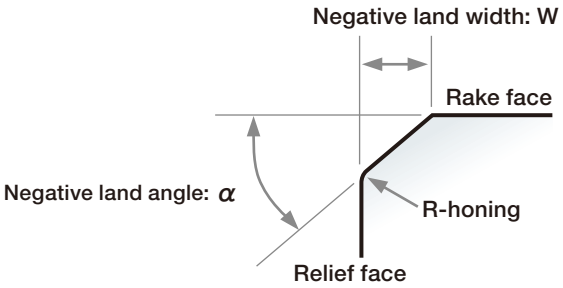
BXA10 and BXA20 grade ISO inserts are available in five different styles of edge preps: L, LF, LC, standard and -H; BR35F grade ISO inserts are offered in two styles of edge preps: SR and HC.

*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

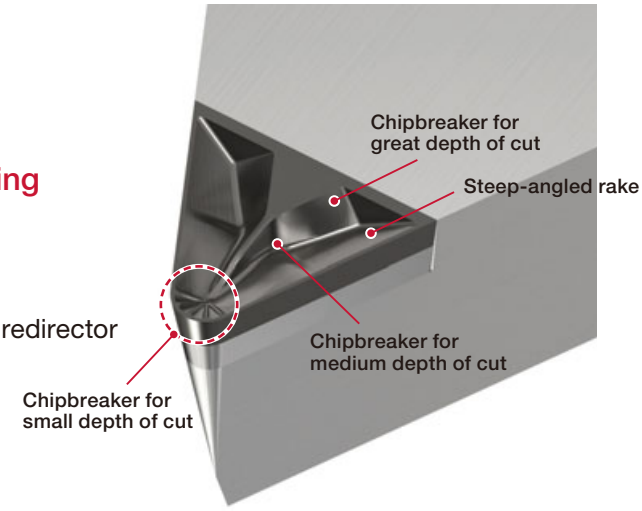
PCD inserts with 3D chipbreaker

NS chipbreaker

No more chip nesting in aluminum alloy machining

Unique 3D chipbreaker

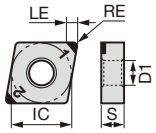
- Versatile geometry allows excellent chip control
- One insert handles from rough to finish operations
- Optimal rake angle design effectively directs chips to the redirector



CBN Insert NEGATIVE TYPE

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

CN



IC : 0.500"
D1 : 0.203"
S : 0.187"

80°Rhombic with hole

		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 Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX815	BX930
Precision finishing	2QP-CNGA 430.5-LF	2QP-CNGA120402-LF	0.008	0.091	2			○				●	●														
	2QP-CNGA 430.5-L	2QP-CNGA120402-L		0.091	2				○			●	●														
	2QP-CNGA 431-F	2QP-CNGA120404F	0.016	0.091	2			○																●			
	2QP-CNGA 431-E	2QP-CNGA120404-E		0.091	2		○																			●	
	2QP-CNGA 431-LT	2QP-CNGA120404-LT		0.091	2						○															●	
	2QP-CNGA 431-LF	2QP-CNGA120404-LF		0.091	2			○				●	●														
	4QS-CNGA 431-LF	4QS-CNGA120404-LF		0.063	4			○				●	●														
	2QP-CNGA 431-L	2QP-CNGA120404-L		0.091	2				○			●	●		●	●					●						
	2QP-CNGA 431-FW	2QP-CNGA120404FW		0.091	2	○	○					●	●		●	●											
	2QP-CNGA 431-W	-		0.091	2	○	○														●						
	4QS-CNGA 431-FW	4QS-CNGA120404FW		0.063	4	○	○					●	●														
	2QP-CNMA 431-W	2QP-CNMA120404W		0.091	2	○	○														●						
	4QP-CNMA 431	4QP-CNMA120404W		0.091	4	○	○										●										
	2QP-CNGA 432-F	2QP-CNGA120408F	0.031	0.087	2			○																●			
	2QP-CNGA 432-E	2QP-CNGA120408-E		0.087	2																					●	
	2QP-CNGA 432-LT	2QP-CNGA120408-LT		0.087	2																					●	
	2QP-CNGA 432-LF	2QP-CNGA120408-LF		0.087	2			○				●	●														
	4QS-CNGA 432-LF	4QS-CNGA120408-LF		0.059	4			○				●	●														
	2QP-CNGA 432-L	2QP-CNGA120408-L		0.087	2				○			●	●		●	●					●						
	2QP-CNGA 432 FW	2QP-CNGA120408FW		0.087	2	○	○					●	●		●	●											
	2QP-CNGA 432-W	-		0.087	2	○	○														●						
	4QS-CNGA 432 FW	4QS-CNGA120408FW		0.071	4	○	○					●	●														
	2QP-CNMA 432-W	2QP-CNMA120408W		0.087	2	○	○														●						
	4QP-CNMA 432	4QP-CNMA120408W		0.087	4	○	○										●										
	2QP-CNGA 433-E	2QP-CNGA120412-E	0.047	0.094	2																					●	
	2QP-CNGA 433-LT	2QP-CNGA120412-LT		0.094	2																					●	
	2QP-CNGA 433-LF	2QP-CNGA120412-LF		0.094	2			○				●	●														
	4QS-CNGA 433-LF	4QS-CNGA120412-LF		0.067	4			○				●	●														
	2QP-CNGA 433-L	2QP-CNGA120412-L		0.094	2				○			●	●		●	●					●						
	2QP-CNGA 433 FW	2QP-CNGA120412FW		0.094	2	○	○					●	●		●	●											
	4QS-CNGA 433 FW	4QS-CNGA120412FW		0.083	4	○	○					●	●														
	2QP-CNMA 433-W	2QP-CNMA120412W		0.094	2	○	○														●						
	4QP-CNMA 433	4QP-CNMA120412W		0.094	4	○	○										●										
	2QP-CNGA 434-E	2QP-CNGA120416-E	0.063	0.130	2																					●	
	2QP-CNGA 434-LT	2QP-CNGA120416-LT		0.130	2																					●	
	2QP-CNGA 435-E	2QP-CNGA120420-E	0.079	0.125	2																					●	
	2QP-CNGA 435-LT	2QP-CNGA120420-LT		0.125	2																					●	
Finishing	2QP-CNGA 430.5	2QP-CNGA120402	0.008	0.091	2		○					●	●														
	2QP-CNGA 430.5-LC	2QP-CNGA120402-LC		0.091	2					○		●	●														
	2QP-CNGA 431	2QP-CNGA120404	0.016	0.091	2		○					●	●		●	●				●	●	●	●	●	●		●
	T2QP-CNGA 431	T2QP-CNGA120404		0.091	2		○															●					
	2QP-CNGA 431-SR	2QP-CNGA120404SR		0.091	2		○							●													
	4QS-CNGA 431	4QS-CNGA120404		0.063	4		○					●	●														
	4QS-CNGA 431-SR	4QS-CNGA120404SR		0.063	4		○							●													
	4QP-CNGA 431	4QP-CNGA120404		0.091	4		○										●	●	●								
	2QP-CNGA 431-LC	2QP-CNGA120404-LC		0.091	2					○		●	●														
	4QS-CNGA 431-LC	4QS-CNGA120404-LC		0.063	4					○		●	●														

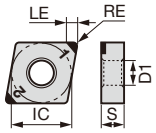
T at the beginning of the designation means 10 pieces per package.
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

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

CN



IC : 0.500"
D1 : 0.203"
S : 0.187"

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 Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
Finishing	2QP-CNGA 432	2QP-CNGA120408	0.031	0.087	2		○					●	●		●	●				●	●	●	●	●	●	●
	T2QP-CNGA 432	T2QP-CNGA120408		0.087	2		○															●				
	2QP-CNGA 432-SR	2QP-CNGA120408SR		0.087	2		○							●												
	4QS-CNGA 432	4QS-CNGA120408		0.059	4		○					●	●													
	4QS-CNGA 432-SR	4QS-CNGA120408SR		0.059	4		○							●												
	4QP-CNGA 432	4QP-CNGA120408		0.087	4		○										●	●	●							
	2QP-CNGA 432-LC	2QP-CNGA120408-LC	0.031	0.087	2					○		●	●													
	4QS-CNGA 432-LC	4QS-CNGA120408-LC		0.059	4					○		●	●													
	2QP-CNGA 433	2QP-CNGA120412	0.047	0.094	2		○					●	●		●	●				●	●	●	●	●	●	●
	2QP-CNGA 433-SR	2QP-CNGA120412SR		0.094	2		○							●												
	4QS-CNGA 433	4QS-CNGA120412		0.067	4		○					●	●													
	4QS-CNGA 433-SR	4QS-CNGA120412SR		0.067	4		○							●												
	4QP-CNGA 433	4QP-CNGA120412		0.094	4		○										●	●	●							
	2QP-CNGA 433-LC	2QP-CNGA120412-LC		0.094	2					○		●	●													
	4QS-CNGA 433-LC	4QS-CNGA120412-LC		0.067	4					○		●	●													
	2QP-CNGA 434	2QP-CNGA120416	0.063	0.130	2		○					●	●													
	2QP-CNGA 434-SR	2QP-CNGA120416SR		0.130	2		○							●												
	2QP-CNGA 435	2QP-CNGA120420	0.079	0.125	2		○					●	●													
	2QP-CNGA 435-SR	2QP-CNGA120420SR		0.125	2		○							●												
	2QP-CNGA 436	2QP-CNGA120424	0.094	0.122	2		○					●	●													
	2QP-CNGA 436-SR	2QP-CNGA120424SR		0.122	2		○							●												
Medium cutting	2QP-CNGA 431-H	2QP-CNGA120404-H	0.016	0.091	2						○	●	●			●						●	●			
	2QP-CNGA 431-HC	2QP-CNGA120404HC		0.091	2						○			●												
	4QS-CNGA 431-H	4QS-CNGA120404-H		0.063	4						○	●	●													
	4QS-CNGA 431-HC	4QS-CNGA120404HC		0.063	4						○			●												
	4QP-CNGA 431-H	4QP-CNGA120404-H		0.091	4						○								●							
	2QP-CNGA 432-H	2QP-CNGA120408-H	0.031	0.087	2						○	●	●			●						●	●			
	2QP-CNGA 432-HC	2QP-CNGA120408HC		0.087	2						○			●												
	4QS-CNGA 432-H	4QS-CNGA120408-H		0.059	4						○	●	●													
	4QS-CNGA 432-HC	4QS-CNGA120408HC		0.059	4						○			●												
	4QP-CNGA 432-H	4QP-CNGA120408-H		0.087	4						○								●							
	2QP-CNGA 433-H	2QP-CNGA120412-H	0.047	0.094	2						○	●	●			●						●	●			
	2QP-CNGA 433-HC	2QP-CNGA120412HC		0.094	2						○			●												
	4QS-CNGA 433-H	4QS-CNGA120412-H		0.067	4						○	●	●													
	4QS-CNGA 433-HC	4QS-CNGA120412HC		0.067	4						○			●												
	4QP-CNGA 433-H	4QP-CNGA120412-H		0.094	4						○								●							
	2QP-CNGA 434-HC	2QP-CNGA120416HC	0.063	0.130	2						○			●												
	2QP-CNGA 435-HC	2QP-CNGA120420HC	0.079	0.125	2						○			●												
	2QP-CNGA 436-HC	2QP-CNGA120424HC	0.094	0.122	2						○			●												

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

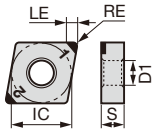
● : Line up

Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

CBN Insert NEGATIVE TYPE

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

CN with chipbreaker



IC : 0.500"
D1 : 0.203"
S : 0.187"

80°Rhombic with hole

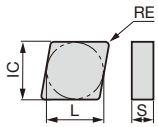
K	Cast iron																													
S	Superalloy																													
H	Hard material	●	●◐	✠	●	●◐	●◐																							
	Sintered metal																													

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
Precision finishing	2QP-CNGM 431 HP	2QP-CNGM120404-HP	0.016	0.091	2		○					●	●	●	●		
	4QS-CNGG 431 HP	4QS-CNGG120404-HP		0.063	4		○					●	●	●			
	2QP-CNGM 431 HS	2QP-CNGM120404-HS		0.091	2		○					●	●	●			
	4QS-CNGG 431 HS	4QS-CNGG120404-HS		0.063	4		○					●	●	●			
	2QP-CNGM 432 HP	2QP-CNGM120408-HP	0.031	0.087	2		○					●	●	●	●		
	4QS-CNGG 432 HP	4QS-CNGG120408-HP		0.059	4		○					●	●	●			
	2QP-CNGM 432 FW-HP	2QP-CNGM120408FW-HP		0.087	2	○	○					●	●		●		
	4QS-CNGG 432 FW-HP	4QS-CNGG120408FW-HP		0.071	4	○	○					●	●				
	2QP-CNGM 432 HS	2QP-CNGM120408-HS		0.087	2		○					●	●	●			
	4QS-CNGG 432 HS	4QS-CNGG120408-HS		0.071	4		○					●	●	●			
	2QP-CNGM 432 FW-HS	2QP-CNGM120408FW-HS		0.087	2	○	○					●	●				
	2QP-CNGM 433-HP	2QP-CNGM120412-HP	0.047	0.094	2		○					●	●	●	●		
	2QP-CNGM 433 HS	2QP-CNGM120412-HS		0.094	2		○					●	●	●			
	4QS-CNGG 433 HS	4QS-CNGG120412-HS		0.087	4		○					●	●	●			
	2QP-CNGM 433 FW-HS	2QP-CNGM120412FW-HS		0.094	2	○	○					●	●				
Medium cutting	2QP-CNGM 432 HF	2QP-CNGM120408-HF	0.031	0.087	2		○						●			●	
	4QS-CNGG 432 HF	4QS-CNGG120408-HF		0.071	4		○						●				
	4QP-CNGG 432 HF	4QP-CNGG120408-HF		0.087	4		○										●
	2QP-CNGM 432 HM	2QP-CNGM120408-HM		0.087	2		○						●			●	
	4QS-CNGG 432 HM	4QS-CNGG120408-HM		0.059	4		○						●				
	4QP-CNGG 432 HM	4QP-CNGG120408-HM		0.087	4		○										●
	2QP-CNGM 433 HF	2QP-CNGM120412-HF	0.047	0.094	2		○						●			●	
	4QS-CNGG 433 HF	4QS-CNGG120412-HF		0.087	4		○						●				
	4QP-CNGG 433 HF	4QP-CNGG120412-HF		0.094	4		○										●
	2QP-CNGM 433 HM	2QP-CNGM120412-HM		0.094	2		○						●			●	
	4QS-CNGG 433 HM	4QS-CNGG120412-HM		0.067	4		○						●				
	4QP-CNGG 433 HM	4QP-CNGG120412-HM		0.094	4		○										●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CN Solid insert



IC : 0.375"
S : 0.125"

80° Rhombic without hole

K	Cast iron	✠																												
S	Superalloy																													
H	Hard material																													
	Sintered metal																													

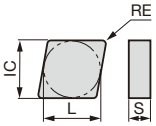
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXC90
Medium cutting	S-CNGN 322	S-CNGN090308	0.031		4		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

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

CN Solid insert



IC : 0.500"
S : 0.187"

80° Rhombic without hole

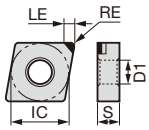
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXC90
												✠
Medium cutting	S-CNGN 432	S-CNGN120408	0.031		4		○					●
Medium cutting	S-CNGN 433	S-CNGN120412	0.047		4		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CN



IC : 0.500"
D1 : 0.203"
S : 0.187"

80°Rhombic with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
												●◐
Medium cutting	CNGA 430.5 QBN	CNGA120402-QBN	0.008	0.161	1		○					●
Medium cutting	CNGA 431 QBN	CNGA120404-QBN	0.016	0.157	1		○					●
Medium cutting	CNGA 432 QBN	CNGA120408-QBN	0.031	0.154	1		○					●
Medium cutting	CNGA 433 QBN	CNGA120412-QBN	0.047	0.154	1		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

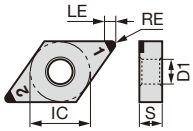
● : Line up

Reference pages: CNGA, CNGG, CNGM:
External toolholder → C019 -, Internal toolholder → D027 -
J-Series toolholder → G036, TungCap → K008 -

CBN Insert NEGATIVE TYPE

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

DN



IC : 0.375"
D1 : 0.150"
S : 0.187"

55° Rhombic with hole

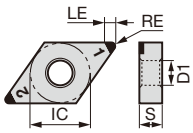
		BXA10	BXA20
K	Cast iron		
S	Superalloy		
H	Hard material	●	●◐
	Sintered metal		

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	2QP-DNGA 331	2QP-DNGA110404	0.016	0.098	2		○					●	●
	2QP-DNGA 332	2QP-DNGA110408	0.031	0.083	2		○					●	●
	2QP-DNGA 333	2QP-DNGA110412	0.047	0.079	2		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

DN



IC : 0.500"
D1 : 0.203"
S : 0.187"

55° Rhombic with hole

		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													●◐	◐✠		

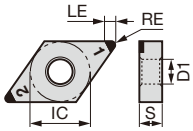
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX815	BX930
Precision finishing	2QP-DNGA 430.5-LF	2QP-DNGA150402-LF	0.008	0.106	2			○				●	●														
	4QS-DNGA 430.5-LF	4QS-DNGA150402-LF		0.087	4			○				●	●														
	2QP-DNGA 430.5-L	2QP-DNGA150402-L		0.106	2				○			●	●														
	2QP-DNGA 431-E	2QP-DNGA150404-E	0.016	0.098	2		○																			●	
	2QP-DNGA 431-LT	2QP-DNGA150404-LT		0.098	2						○															●	
	2QP-DNGA 431-LF	2QP-DNGA150404-LF		0.098	2			○				●	●														
	4QS-DNGA 431-LF	4QS-DNGA150404-LF		0.079	4			○				●	●														
	2QP-DNGA 431-L	2QP-DNGA150404-L		0.098	2				○			●	●		●	●					●						
	2QP-DNGA 431-WJ	2QP-DNGA150404WJ		0.098	2	○	○						●		●	●											
	2QP-DNGA 432-E	2QP-DNGA150408-E	0.031	0.083	2																					●	
	2QP-DNGA 432-LT	2QP-DNGA150408-LT		0.083	2																					●	
	2QP-DNGA 432-LF	2QP-DNGA150408-LF		0.083	2			○				●	●														
	4QS-DNGA 432-LF	4QS-DNGA150408-LF		0.063	4			○				●	●														
	2QP-DNGA 432-L	2QP-DNGA150408-L		0.083	2				○			●	●		●	●					●						
	2QP-DNGA 432-WJ	2QP-DNGA150408WJ		0.083	2	○	○						●		●	●											
	2QP-DNGA 433-E	2QP-DNGA150412-E	0.047	0.079	2																					●	
	2QP-DNGA 433-LT	2QP-DNGA150412-LT		0.079	2																					●	
	2QP-DNGA 433-LF	2QP-DNGA150412-LF		0.079	2			○				●	●														
	4QS-DNGA 433-LF	4QS-DNGA150412-LF		0.063	4			○				●	●														
	2QP-DNGA 433-L	2QP-DNGA150412-L		0.079	2				○			●	●			●					●						
Finishing	2QP-DNGA 430.5	2QP-DNGA150402	0.008	0.106	2		○					●	●														
	4QS-DNGA 430.5	4QS-DNGA150402		0.087	4		○					●	●														
	2QP-DNGA 430.5-LC	2QP-DNGA150402-LC		0.106	2					○		●	●														
	4QS-DNGA 430.5-LC	4QS-DNGA150402-LC		0.087	4					○		●	●														
	2QP-DNGA 431	2QP-DNGA150404	0.016	0.098	2		○					●	●		●	●				●	●	●	●	●	●		●
	4QP-DNGA 431	4QP-DNGA150404		0.098	4		○										●	●	●								
	2QP-DNGA 431-SR	2QP-DNGA150404SR		0.098	2		○							●													
	4QS-DNGA 431	4QS-DNGA150404		0.079	4		○					●	●														
	4QS-DNGA 431-SR	4QS-DNGA150404SR		0.079	4		○							●													
	2QP-DNGA 431-LC	2QP-DNGA150404-LC		0.098	2					○		●	●														
	4QS-DNGA 431-LC	4QS-DNGA150404-LC		0.079	4					○		●	●														

Please see page L031 about the toolholders recommended for wiper inserts with the designation of WJ at the end.
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

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

DN



IC : 0.500"
D1 : 0.203"
S : 0.187"

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 Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
Finishing	2QP-DNGA 432	2QP-DNGA150408	0.031	0.083	2		○					●	●		●	●				●	●	●	●	●	●	●
	2QP-DNGA 432-SR	2QP-DNGA150408SR		0.083	2		○							●												
	4QS-DNGA 432	4QS-DNGA150408		0.063	4		○					●	●													
	4QS-DNGA 432-SR	4QS-DNGA150408SR		0.063	4		○							●												
	4QP-DNGA 432	4QP-DNGA150408		0.083	4		○										●	●	●							
	2QP-DNGA 432-LC	2QP-DNGA150408-LC		0.083	2					○		●	●													
	4QS-DNGA 432-LC	4QS-DNGA150408-LC		0.063	4					○		●	●													
	2QP-DNGA 433	2QP-DNGA150412	0.047	0.079	2		○					●	●		●	●				●	●	●	●		●	●
	2QP-DNGA 433-SR	2QP-DNGA150412SR		0.079	2		○							●												
	4QS-DNGA 433	4QS-DNGA150412		0.063	4		○					●	●													
	4QS-DNGA 433-SR	4QS-DNGA150412SR		0.063	4		○							●												
	4QP-DNGA 433	4QP-DNGA150412		0.079	4		○										●	●	●							
	2QP-DNGA 433-LC	2QP-DNGA150412-LC		0.079	2					○		●	●													
	4QS-DNGA 433-LC	4QS-DNGA150412-LC		0.063	4					○		●	●													
	2QP-DNGA 434	2QP-DNGA150416	0.063	0.134	2		○					●	●													
	2QP-DNGA 434-SR	2QP-DNGA150416SR		0.134	2		○							●												
	2QP-DNGA 435	2QP-DNGA150420	0.079	0.118	2		○					●	●													
	2QP-DNGA 435-SR	2QP-DNGA150420SR		0.118	2		○							●												
	2QP-DNGA 436	2QP-DNGA150424	0.094	0.102	2		○					●	●													
	2QP-DNGA 436-SR	2QP-DNGA150424SR		0.102	2		○							●												
Medium cutting	2QP-DNGA 431-H	2QP-DNGA150404-H	0.016	0.098	2						○	●	●			●						●	●			
	2QP-DNGA 431-HC	2QP-DNGA150404HC		0.098	2						○			●												
	4QS-DNGA 431-H	4QS-DNGA150404-H		0.079	4						○	●	●													
	4QS-DNGA 431-HC	4QS-DNGA150404HC		0.079	4						○			●												
	4QP-DNGA 431-H	4QP-DNGA150404-H		0.098	4						○								●							
	2QP-DNGA 432-H	2QP-DNGA150408-H	0.031	0.083	2						○	●	●			●					●	●				
	2QP-DNGA 432-HC	2QP-DNGA150408HC		0.083	2						○			●												
	4QS-DNGA 432-H	4QS-DNGA150408-H		0.063	4						○	●	●													
	4QS-DNGA 432-HC	4QS-DNGA150408HC		0.063	4						○			●												
	4QP-DNGA 432-H	4QP-DNGA150408-H		0.083	4						○								●							
	2QP-DNGA 433-H	2QP-DNGA150412-H	0.047	0.079	2						○	●	●			●						●	●			
	2QP-DNGA 433-HC	2QP-DNGA150412HC		0.079	2						○			●												
	4QS-DNGA 433-H	4QS-DNGA150412-H		0.063	4						○	●	●													
	4QS-DNGA 433-HC	4QS-DNGA150412HC		0.063	4						○			●												
	4QP-DNGA 433-H	4QP-DNGA150412-H		0.079	4						○								●							
	2QP-DNGA 434-HC	2QP-DNGA150416HC	0.063	0.134	2						○			●												
	2QP-DNGA 435-HC	2QP-DNGA150420HC	0.079	0.118	2						○			●												
	2QP-DNGA 436-HC	2QP-DNGA150424HC	0.094	0.102	2						○			●												

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

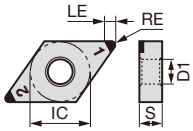
● : Line up

Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

CBN Insert NEGATIVE TYPE

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

DN with chipbreaker



IC : 0.500"
D1 : 0.203"
S : 0.187"

55° Rhombic with hole

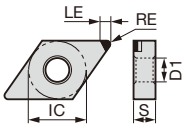
K	Cast iron																													
S	Superalloy																													
H	Hard material	●	●◐	✠	●	●◐	●◐																							
	Sintered metal																													

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
Precision finishing	2QP-DNGM 431 HP	2QP-DNGM150404-HP	0.016	0.098	2		○					●	●	●	●		
	4QS-DNGG 431 HP	4QS-DNGG150404-HP		0.079	4		○					●	●	●			
	2QP-DNGM 431 HS	2QP-DNGM150404-HS		0.098	2		○					●	●	●			
	4QS-DNGG 431 HS	4QS-DNGG150404-HS		0.079	4		○					●	●	●			
	2QP-DNGM 432 HP	2QP-DNGM150408-HP	0.031	0.083	2		○					●	●	●	●		
	4QS-DNGG 432 HP	4QS-DNGG150408-HP		0.063	4		○					●	●	●			
	2QP-DNGM 432 HS	2QP-DNGM150408-HS		0.083	2		○					●	●	●			
	4QS-DNGG 432 HS	4QS-DNGG150408-HS		0.063	4		○					●	●	●			
	2QP-DNGM 433 HP	2QP-DNGM150412-HP	0.047	0.079	2		○					●	●	●			
	2QP-DNGM 433 HS	2QP-DNGM150412-HS		0.079	2		○					●	●	●			
	4QS-DNGG 433 HS	4QS-DNGG150412-HS		0.063	4		○					●	●	●			
Medium cutting	2QP-DNGM 432 HF	2QP-DNGM150408-HF	0.031	0.083	2		○						●			●	
	4QS-DNGG 432 HF	4QS-DNGG150408-HF		0.079	4		○						●				
	4QP-DNGG 432 HF	4QP-DNGG150408-HF		0.083	4		○										●
	2QP-DNGM 432 HM	2QP-DNGM150408-HM		0.083	2		○									●	
	4QS-DNGG 432 HM	4QS-DNGG150408-HM		0.063	4		○						●				
	4QP-DNGG 432 HM	4QP-DNGG150408-HM		0.083	4		○										●
	2QP-DNGM 433 HF	2QP-DNGM150412-HF	0.047	0.079	2		○						●			●	
	4QS-DNGG 433 HF	4QS-DNGG150412-HF		0.102	4		○						●				
	4QP-DNGG 433 HF	4QP-DNGG150412-HF		0.079	4		○										●
	2QP-DNGM 433 HM	2QP-DNGM150412-HM		0.079	2		○									●	
	4QP-DNGG433 HM	4QP-DNGG150412-HM		0.079	4		○										●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

DN



IC : 0.500"
D1 : 0.203"
S : 0.187"

55° Rhombic with hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	DNGA 430.5-QBN	DNGA150402-QBN	0.008	0.169	1		○					●
	DNGA 431-QBN	DNGA150404-QBN	0.016	0.173	1		○					●
	DNGA 432-QBN	DNGA150408-QBN	0.031	0.150	1		○					●
	DNGA 433-QBN	DNGA150412-QBN	0.047	0.134	1		○					●

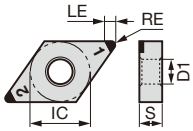
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

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

DN



IC : 0.500"
D1 : 0.203"
S : 0.250"

55° Rhombic with hole

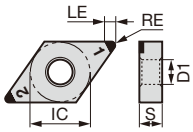
K	Cast iron																													
S	Superalloy																													
H	Hard material	●	●◐	✠	●	●◐																								
	Sintered metal																													

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20
Precision finishing	2QP-DNGA 441-LF	2QP-DNGA150604-LF	0.016	0.098	2			○				●	●			
	2QP-DNGA 441-L	2QP-DNGA150604-L		0.098	2				○			●	●			
	2QP-DNGA 442-LF	2QP-DNGA150608-LF	0.031	0.083	2			○				●	●			
	2QP-DNGA 442-L	2QP-DNGA150608-L		0.083	2				○			●	●			
	2QP-DNGA 443-LF	2QP-DNGA150612-LF	0.047	0.079	2			○				●	●			
	2QP-DNGA 443-L	2QP-DNGA150612-L		0.079	2				○			●	●			
Finishing	2QP-DNGA 441	2QP-DNGA150604	0.016	0.098	2		○					●	●		●	●
	2QP-DNGA 441-SR	2QP-DNGA150604SR		0.098	2		○							●		
	2QP-DNGA 441-LC	2QP-DNGA150604-LC		0.098	2					○		●	●			
	2QP-DNGA 442	2QP-DNGA150608	0.031	0.083	2		○					●	●		●	●
	2QP-DNGA 442-SR	2QP-DNGA150608SR		0.083	2		○							●		
	2QP-DNGA 442-LC	2QP-DNGA150608-LC		0.083	2					○		●	●			
	2QP-DNGA 443	2QP-DNGA150612	0.047	0.079	2		○					●	●		●	●
	2QP-DNGA 443-SR	2QP-DNGA150612SR		0.079	2		○							●		
	2QP-DNGA 443-LC	2QP-DNGA150612-LC		0.079	2					○		●	●			
Medium cutting	2QP-DNGA 441-H	2QP-DNGA150604-H	0.016	0.098	2						○	●	●			
	2QP-DNGA 441-HC	2QP-DNGA150604HC		0.098	2						○			●		
	2QP-DNGA 442-H	2QP-DNGA150608-H	0.031	0.083	2						○	●	●			
	2QP-DNGA 442-HC	2QP-DNGA150608HC		0.083	2						○			●		
	2QP-DNGA 443-H	2QP-DNGA150612-H	0.047	0.079	2						○	●	●			
	2QP-DNGA 443-HC	2QP-DNGA150612HC		0.079	2						○			●		

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

DN with chipbreaker



IC : 0.500"
D1 : 0.203"
S : 0.250"

55° Rhombic with hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-DNGM 442 HP	2QP-DNGM150608-HP	0.031	0.083	2		○					●	●	●	●
	2QP-DNGM 442 HS	2QP-DNGM150608-HS		0.083	2		○					●	●	●	

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

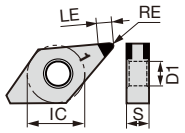
● : Line up

Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

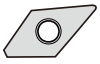
CBN Insert NEGATIVE TYPE

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

FN



IC : 0.500"
D1 : 0.203"
S : 0.187"



45° Rhombic with hole

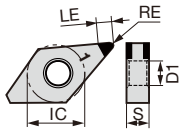
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Improve issue* Flank wear	Improve issue* Crater wear	Improve issue* Chipping	BXA20 (H)
Precision finishing	2QP-FNGA 431-LF	2QP-FNGA150404-LF	0.016	0.102	2			○				●
	2QP-FNGA 431-L	2QP-FNGA150404-L		0.102	2				○			●
	2QP-FNGA 432-LF	2QP-FNGA150408-LF	0.031	0.118	2			○				●
	2QP-FNGA 432-L	2QP-FNGA150408-L		0.118	2				○			●
	2QP-FNGA 433-LF	2QP-FNGA150412-LF	0.047	0.130	2			○				●
	2QP-FNGA 433-L	2QP-FNGA150412-L		0.130	2				○			●
Finishing	2QP-FNGA 430.5	2QP-FNGA150402	0.008	0.109	2		○					●
	2QP-FNGA 431	2QP-FNGA150404	0.016	0.102	2		○					●
	2QP-FNGA 431-LC	2QP-FNGA150404-LC		0.102	2					○		●
	2QP-FNGA 432	2QP-FNGA150408	0.031	0.118	2		○					●
	2QP-FNGA 432-LC	2QP-FNGA150408-LC		0.118	2					○		●
	2QP-FNGA 433	2QP-FNGA150412	0.047	0.130	2		○					●
	2QP-FNGA 433-LC	2QP-FNGA150412-LC		0.130	2					○		●
Medium cutting	2QP-FNGA 431-H	2QP-FNGA150404-H	0.016	0.102	2						○	●
	2QP-FNGA 432-H	2QP-FNGA150408-H	0.031	0.118	2						○	●
	2QP-FNGA 433-H	2QP-FNGA150412-H	0.047	0.130	2						○	●

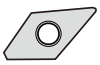
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

FN with chipbreaker



IC : 0.500"
D1 : 0.203"
S : 0.187"



45° Rhombic with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Improve issue* Flank wear	Improve issue* Crater wear	Improve issue* Chipping	BXA20 (H)
Precision finishing	2QP-FNGG 431 HP	2QP-FNGG150404-HP	0.016	0.102	2		○					●
	2QP-FNGG 432 HP	2QP-FNGG150408-HP	0.031	0.118	2		○					●
	2QP-FNGG 433 HP	2QP-FNGG150412-HP	0.047	0.130	2		○					●

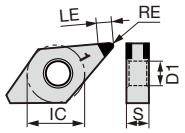
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

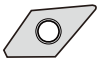
Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

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

FN



IC : 0.500"
D1 : 0.203"
S : 0.250"



45° Rhombic with hole

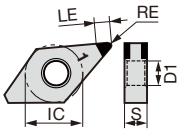
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Improve issue* Flank wear	Improve issue* Crater wear	Improve issue* Chipping	BXA20 (H)
Precision finishing	2QP-FNGA 441-LF	2QP-FNGA150604-LF	0.016	0.102	2			○				●
	2QP-FNGA 441-L	2QP-FNGA150604-L		0.102	2				○			●
	2QP-FNGA 442-LF	2QP-FNGA150608-LF	0.031	0.118	2			○				●
	2QP-FNGA 442-L	2QP-FNGA150608-L		0.118	2				○			●
	2QP-FNGA 443-LF	2QP-FNGA150612-LF	0.047	0.130	2			○				●
	2QP-FNGA 443-L	2QP-FNGA150612-L		0.130	2				○			●
Finishing	2QP-FNGA 441	2QP-FNGA150604	0.016	0.102	2		○					●
	2QP-FNGA 441-LC	2QP-FNGA150604-LC		0.102	2					○		●
	2QP-FNGA 442	2QP-FNGA150608	0.031	0.118	2		○					●
	2QP-FNGA 442-LC	2QP-FNGA150608-LC		0.118	2					○		●
	2QP-FNGA 443	2QP-FNGA150612	0.047	0.130	2		○					●
	2QP-FNGA 443-LC	2QP-FNGA150612-LC		0.130	2					○		●
Medium cutting	2QP-FNGA 441-H	2QP-FNGA150604-H	0.016	0.102	2						○	●
	2QP-FNGA 442-H	2QP-FNGA150608-H	0.031	0.118	2						○	●
	2QP-FNGA 443-H	2QP-FNGA150612-H	0.047	0.130	2						○	●

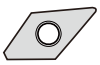
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

FN with chipbreaker



IC : 0.500"
D1 : 0.203"
S : 0.250"



45° Rhombic with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Improve issue* Flank wear	Improve issue* Crater wear	Improve issue* Chipping	BXA20 (H)
Precision finishing	2QP-FNGG 441 HP	2QP-FNGG150604-HP	0.016	0.102	2		○					●
	2QP-FNGG 442 HP	2QP-FNGG150608-HP	0.031	0.118	2		○					●
	2QP-FNGG 443 HP	2QP-FNGG150612-HP	0.047	0.130	2		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

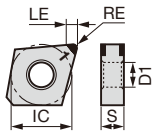
● : Line up

Reference pages: External toolholder → C036 - Internal toolholder → D042 -
J-Series toolholder → G052 TungCap → K011 -

CBN Insert NEGATIVE TYPE

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

GN



IC : 0.500"
D1 : 0.203"
S : 0.187"

70° Rhombic with hole

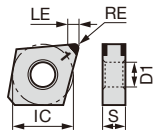
K	Cast iron							●																				
S	Superalloy																											
H	Hard material	●	●◐	✠	●◐	●◐																						
	Sintered metal						●◐																					

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM20	BX360	BX470	BX930
Precision finishing	2QP-GNGA 430.5-LF	2QP-GNGA120402-LF	0.008	0.087	2			○				●	●					
	2QP-GNGA 430.5-L	2QP-GNGA120402-L		0.087	2				○			●	●					
	2QP-GNGA 431-LF	2QP-GNGA120404-LF	0.016	0.083	2			○				●	●					
	2QP-GNGA 431-L	2QP-GNGA120404-L		0.083	2				○			●	●					
	2QP-GNGA 432-LF	2QP-GNGA120408-LF	0.031	0.083	2			○				●	●					
	2QP-GNGA 432-L	2QP-GNGA120408-L		0.083	2				○			●	●					
	2QP-GNGA 433-LF	2QP-GNGA120412-LF	0.047	0.087	2			○				●	●					
	2QP-GNGA 433-L	2QP-GNGA120412-L		0.087	2				○			●	●					
Finishing	2QP-GNGA 430.5	2QP-GNGA120402	0.008	0.087	2		○					●	●					
	2QP-GNGA 430.5-LC	2QP-GNGA120402-LC		0.087	2					○		●	●					
	2QP-GNGA 431	2QP-GNGA120404	0.016	0.083	2		○					●	●		●	●		
	2QP-GNGA 431-SR	2QP-GNGA120404SR		0.083	2		○							●				
	2QP-GNGA 431-LC	2QP-GNGA120404-LC		0.083	2					○		●	●					
	2QP-GNGA 432	2QP-GNGA120408	0.031	0.083	2		○					●	●		●	●	●	●
	2QP-GNGA 432-SR	2QP-GNGA120408SR		0.083	2		○							●				
	2QP-GNGA 432-LC	2QP-GNGA120408-LC		0.083	2					○		●	●					
	2QP-GNGA 433	2QP-GNGA120412	0.047	0.087	2		○					●	●		●	●	●	●
	2QP-GNGA 433-SR	2QP-GNGA120412SR		0.087	2		○							●				
	2QP-GNGA 433-LC	2QP-GNGA120412-LC		0.087	2					○		●	●					
Medium cutting	2QP-GNGA 431-H	2QP-GNGA120404-H	0.016	0.083	2						○	●	●					
	2QP-GNGA 431-HC	2QP-GNGA120404HC		0.083	2						○			●				
	2QP-GNGA 432-H	2QP-GNGA120408-H	0.031	0.083	2						○	●	●					
	2QP-GNGA 432-HC	2QP-GNGA120408HC		0.083	2						○			●				
	2QP-GNGA 433-H	2QP-GNGA120412-H	0.047	0.087	2						○	●	●					
	2QP-GNGA 433-HC	2QP-GNGA120412HC		0.087	2						○			●				

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

GN with chipbreaker



IC : 0.500"
D1 : 0.203"
S : 0.187"

70° Rhombic with hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10
Precision finishing	2QP-GNGG 431 HP	2QP-GNGG120404-HP	0.016	0.083	2		○					●	●	●
	2QP-GNGG 431 HS	2QP-GNGG120404-HS		0.083	2		○					●	●	
	2QP-GNGG 432 HP	2QP-GNGG120408-HP	0.031	0.083	2		○					●	●	●
	2QP-GNGG 432 HS	2QP-GNGG120408-HS		0.083	2		○					●	●	
	2QP-GNGG 433 HP	2QP-GNGG120412-HP	0.047	0.087	2		○					●	●	●
	2QP-GNGG 433 HS	2QP-GNGG120412-HS		0.087	2		○					●	●	

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

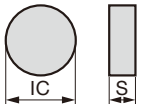
● : Line up

Reference pages: External toolholder → C019 - Internal toolholder → D027 -
J-Series toolholder → G036 TungCap → K008 -

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

RN Solid insert

Round, without hole



IC : 0.375"
S : 0.125"

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

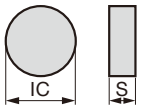
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Improve issue* Flank wear	Improve issue* Crater wear	Improve issue* Chipping	BXC90
												✠
Medium cutting	S-RNGN 320	S-RNGN090300			-		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

RN Solid insert

Round, without hole



IC : 0.500"
S : 0.187"

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Improve issue* Flank wear	Improve issue* Crater wear	Improve issue* Chipping	BXC90
												✠
Medium cutting	S-RNGN 430	S-RNGN120400			-		○					●

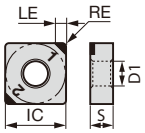
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CBN Insert NEGATIVE TYPE

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

SN



IC : 0.500"
D1 : 0.203"
S : 0.187"

Square with hole

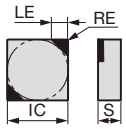
	BXA10	BXA20	BR35F	BXM20	BXC50	BXA40	BX310	BX330	BX360	BX380	BX480	BX930
K Cast iron											●◐	●
S Superalloy											●◐	
H Hard material	●	●◐	✠	●◐	✠	●◐	●	●	●◐	✠		
Sintered metal											◐✠	

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM20	BXC50	BXA40	BX310	BX330	BX360	BX380	BX480	BX930
Precision finishing	2QP-SNGA 431-L	2QP-SNGA120404-L	0.016	0.094	2				○										●				
	2QP-SNGA 432-LF	2QP-SNGA120408-LF	0.031	0.094	2			○				●	●										
	2QP-SNGA 432-L	2QP-SNGA120408-L		0.094	2				○			●	●		●				●				
	2QP-SNGA 433-LF	2QP-SNGA120412-LF	0.047	0.094	2			○				●	●										
	2QP-SNGA 433-L	2QP-SNGA120412-L		0.094	2				○			●	●		●				●				
Finishing	2QP-SNGA 431	2QP-SNGA120404	0.016	0.094	2		○					●	●		●			●	●	●	●	●	●
	4QS-SNGA 431	4QS-SNGA120404		0.071	4		○					●	●										
	4QP-SNGA 431	4QP-SNGA120404		0.094	4		○									●	●						
	2QP-SNGA 432	2QP-SNGA120408	0.031	0.094	2		○					●	●		●			●	●	●	●	●	●
	2QP-SNGA 432-SR	2QP-SNGA120408SR		0.094	2		○							●									
	4QS-SNGA 432	4QS-SNGA120408		0.071	4		○					●	●										
	4QS-SNGA 432-SR	4QS-SNGA120408SR		0.071	4		○							●									
	4QP-SNGA 432	4QP-SNGA120408		0.094	4		○									●	●						
	2QP-SNGA 433	2QP-SNGA120412	0.047	0.094	2		○					●	●		●			●	●	●	●	●	●
	2QP-SNGA 433-SR	2QP-SNGA120412SR		0.094	2		○							●									
	4QS-SNGA 433	4QS-SNGA120412		0.071	4		○					●	●										
	4QS-SNGA 433-SR	4QS-SNGA120412SR		0.071	4		○							●									
	4QP-SNGA 433	4QP-SNGA120412		0.094	4		○									●	●						
Medium cutting	2QP-SNGA 431-H	2QP-SNGA120404-H	0.016	0.094	2						○									●	●		
	2QP-SNGA 432-H	2QP-SNGA120408-H	0.031	0.094	2						○		●		●					●	●		
	4QP-SNGA 432-H	4QP-SNGA120408-H		0.094	4						○						●						
	2QP-SNGA 433-H	2QP-SNGA120412-H	0.047	0.094	2						○		●		●					●	●		
	4QP-SNGA 433-H	4QP-SNGA120412-H		0.094	4						○						●						

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

SN



IC : 0.375"
S : 0.125"

Square without hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX910
Finishing	2QP-SNGN 322	2QP-SNGN090308	0.031	0.094	2		○					●
	2QP-SNGN 323	2QP-SNGN090312	0.047	0.094	2		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

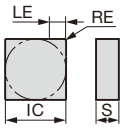
● : Line up

Reference pages: SNGA: External toolholder → C076 -, Internal toolholder → D054 -

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

SN Solid insert

Square without hole



IC : 0.375"
S : 0.125"

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

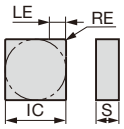
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXC90
												✠
Medium cutting	S-SNGN 322	S-SNGN090308	0.031		8		○					●
	S-SNGN 323	S-SNGN090312	0.047		8		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

SN Solid insert

Square without hole



IC : 0.500"
S : 0.125"

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

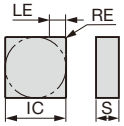
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXC90
												✠
Medium cutting	S-SNGN 422	S-SNGN120308	0.031		8		○					●
	S-SNGN 423	S-SNGN120312	0.047		8		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

SN Solid insert

Square without hole



IC : 0.500"
S : 0.187"

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXC90
												✠
Medium cutting	S-SNGN 432	S-SNGN120408	0.031		8		○					●
	S-SNGN 433	S-SNGN120412	0.047		8		○					●

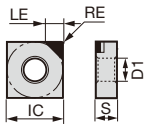
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CBN Insert NEGATIVE TYPE

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

SN



IC : 0.500"
D1 : 0.203"
S : 0.187"

Square with hole

											K	Cast iron																				
											S	Superalloy																				
											H	Hard material	●◐																			
												Sintered metal																				
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Improve issue* Flank wear	Improve issue* Crater wear	Improve issue* Chipping	BX360																				
Finishing	SNGA 430.5 QBN	SNGA120402-QBN	0.008	0.161	1		○					●																				
Finishing	SNGA 431 QBN	SNGA120404-QBN	0.016	0.161	1		○					●																				
Finishing	SNGA 432 QBN	SNGA120408-QBN	0.031	0.161	1		○					●																				
Finishing	SNGA 433 QBN	SNGA120412-QBN	0.047	0.161	1		○					●																				

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TN

IC : 0.375"
D1 : 0.150"
S : 0.187"

Triangular with hole

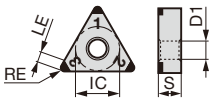
											K	Cast iron															●◐		●			
											S	Superalloy															●◐	●				
											H	Hard material	●	●◐	✠	●	●◐	✠	●	●◐	●	●	●◐	✠								
												Sintered metal														●◐	◐✠					
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Improve issue* Flank wear	Improve issue* Crater wear	Improve issue* Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX815	BX930					
Precision finishing	3QP-TNGA 330.5-LF	3QP-TNGA160402-LF	0.008	0.091	3			○				●	●																			
Precision finishing	3QP-TNGA 330.5-L	3QP-TNGA160402-L		0.091	3				○			●	●																			
Precision finishing	3QP-TNGA 331-F	3QP-TNGA160404F	0.016	0.087	3			○																●								
Precision finishing	3QP-TNGA 331-LF	3QP-TNGA160404-LF		0.087	3			○				●	●																			
Precision finishing	6QS-TNGA 331-LF	6QS-TNGA160404-LF		0.075	6			○				●	●																			
Precision finishing	3QP-TNGA 331-L	3QP-TNGA160404-L		0.087	3				○			●	●		●	●					●											
Precision finishing	3QP-TNGA 331-WG	3QP-TNGA160404WG		0.094	3	○	○					●	●			●																
Precision finishing	3QP-TNGA 332-F	3QP-TNGA160408F	0.031	0.075	3			○																●								
Precision finishing	3QP-TNGA 332-E	3QP-TNGA160408-E		0.075	3		○																			●						
Precision finishing	3QP-TNGA 332-LT	3QP-TNGA160408-LT		0.075	3						○															●						
Precision finishing	3QP-TNGA 332-LF	3QP-TNGA160408-LF		0.075	3			○				●	●																			
Precision finishing	6QS-TNGA 332-LF	6QS-TNGA160408-LF		0.063	6			○				●	●																			
Precision finishing	3QP-TNGA 332-L	3QP-TNGA160408-L		0.075	3				○			●	●		●	●					●											
Precision finishing	3QP-TNGA 332-WG	3QP-TNGA160408WG		0.087	3	○	○					●	●		●	●																
Precision finishing	3QP-TNGA 333-LF	3QP-TNGA160412-LF	0.047	0.094	3			○				●	●																			
Precision finishing	6QS-TNGA 333-LF	6QS-TNGA160412-LF		0.071	6			○				●	●																			
Precision finishing	3QP-TNGA 333-L	3QP-TNGA160412-L		0.094	3				○			●	●		●	●					●											
Finishing	3QP-TNGA 330.5	3QP-TNGA160402	0.008	0.091	3		○					●	●																			
Finishing	3QP-TNGA 330.5-LC	3QP-TNGA160402-LC		0.091	3					○		●	●																			
Finishing	3QP-TNGA 331	3QP-TNGA160404	0.016	0.087	3		○					●	●		●	●				●	●	●	●	●	●		●					
Finishing	T3QP-TNGA 331	T3QP-TNGA160404		0.087	3		○															●										
Finishing	3QP-TNGA 331-SR	3QP-TNGA160404SR		0.087	3		○							●																		
Finishing	6QS-TNGA 331	6QS-TNGA160404		0.075	6		○					●	●																			
Finishing	6QS-TNGA 331-SR	6QS-TNGA160404SR		0.075	6		○							●																		
Finishing	6QP-TNGA 331	6QP-TNGA160404		0.087	6		○										●	●	●													
Finishing	3QP-TNGA 331-LC	3QP-TNGA160404-LC		0.087	3					○		●	●																			
Finishing	6QS-TNGA 331-LC	6QS-TNGA160404-LC		0.075	6					○		●	●																			

T at the beginning of the designation means 10 pieces per package.
*Indicates the insert to use if the wear indicated is what happens with the standard hone.
Please see page L031 about the toolholders recommended for wiper inserts of the designation with WG at the end.

● : Line up

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

TN



IC : 0.375"
D1 : 0.150"
S : 0.187"

Triangular with hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
Finishing	3QP-TNGA 332	3QP-TNGA160408	0.031	0.075	3		○					●	●		●	●				●	●	●	●	●	●	●
	T3QP-TNGA 332	T3QP-TNGA160408		0.075	3		○															●				
	3QP-TNGA 332-SR	3QP-TNGA160408SR		0.075	3		○							●												
	6QS-TNGA 332	6QS-TNGA160408		0.063	6		○					●	●													
	6QS-TNGA 332-SR	6QS-TNGA160408SR		0.063	6		○							●												
	6QP-TNGA 332	6QP-TNGA160408		0.075	6		○										●	●	●							
	3QP-TNGA 332-LC	3QP-TNGA160408-LC		0.075	3					○		●	●													
	6QS-TNGA 332-LC	6QS-TNGA160408-LC		0.075	6					○		●	●													
	3QP-TNGA 333	3QP-TNGA160412	0.047	0.094	3		○					●	●		●	●				●	●	●	●	●	●	●
	3QP-TNGA 333-SR	3QP-TNGA160412SR		0.094	3		○							●												
	6QS-TNGA 333	6QS-TNGA160412		0.071	6		○					●	●													
	6QS-TNGA 333-SR	6QS-TNGA160412SR		0.071	6		○							●												
	6QP-TNGA 333	6QP-TNGA160412		0.094	6		○										●	●	●							
	3QP-TNGA 333-LC	3QP-TNGA160412-LC		0.094	3					○		●	●													
	6QS-TNGA 333-LC	6QS-TNGA160412-LC		0.071	6					○		●	●													
	3QP-TNGA 334	3QP-TNGA160416	0.063	0.130	3		○					●	●													
	3QP-TNGA 334-SR	3QP-TNGA160416SR		0.130	3		○							●												
	3QP-TNGA 335	3QP-TNGA160420	0.079	0.118	3		○					●	●													
	3QP-TNGA 335-SR	3QP-TNGA160420SR		0.118	3		○							●												
	3QP-TNGA 336	3QP-TNGA160424	0.094	0.106	3		○					●	●													
	3QP-TNGA 336-SR	3QP-TNGA160424SR		0.106	3		○							●												
Medium cutting	3QP-TNGA 331-H	3QP-TNGA160404-H	0.016	0.087	3						○	●	●			●						●	●			
	3QP-TNGA 331-HC	3QP-TNGA160404HC		0.087	3						○			●												
	6QS-TNGA 331-H	6QS-TNGA160404-H		0.075	6						○	●	●													
	6QS-TNGA 331-HC	6QS-TNGA160404HC		0.075	6						○			●												
	6QP-TNGA 331-H	6QP-TNGA160404-H		0.087	6						○								●							
	3QP-TNGA 332-H	3QP-TNGA160408-H	0.031	0.075	3						○	●	●			●						●	●			
	3QP-TNGA 332-HC	3QP-TNGA160408HC		0.075	3						○			●												
	6QS-TNGA 332-H	6QS-TNGA160408-H		0.063	6						○	●	●													
	6QS-TNGA 332-HC	6QS-TNGA160408HC		0.063	6						○			●												
	6QP-TNGA 332-H	6QP-TNGA160408-H		0.075	6						○								●							
	3QP-TNGA 333-H	3QP-TNGA160412-H	0.047	0.094	3						○	●	●			●						●	●			
	3QP-TNGA 333-HC	3QP-TNGA160412HC		0.094	3						○			●												
	6QS-TNGA 333-H	6QS-TNGA160412-H		0.071	6						○	●	●													
	6QS-TNGA 333-HC	6QS-TNGA160412HC		0.071	6						○			●												
	6QP-TNGA 333-H	6QP-TNGA160412-H		0.094	6						○								●							
	3QP-TNGA 334-HC	3QP-TNGA160416HC	0.063	0.130	3						○			●												
	3QP-TNGA 335-HC	3QP-TNGA160420HC	0.079	0.118	3						○			●												
	3QP-TNGA 336-HC	3QP-TNGA160424HC	0.094	0.106	3						○			●												

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

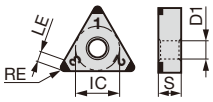
● : Line up

Reference pages: SN: External toolholder → C076 -, Internal toolholder → D054 -
TN: External toolholder → C088 -, Internal toolholder → D063 -
J-Series toolholder → G056 -, TungCap → K013 -

CBN Insert NEGATIVE TYPE

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

TN with chipbreaker



IC : 0.375"
D1 : 0.150"
S : 0.187"

Triangular with hole

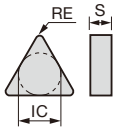
K	Cast iron																													
S	Superalloy																													
H	Hard material	●	●◐	✠	●	●◐	●◐																							
	Sintered metal																													

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA40
Precision finishing	3QP-TNGM 331 HP	3QP-TNGM160404-HP	0.016	0.087	3		○					●	●	●	●		
	6QS-TNGG 331 HP	6QS-TNGG160404-HP		0.075	6		○					●	●	●			
	3QP-TNGM 331 HS	3QP-TNGM160404-HS		0.087	3		○					●	●	●			
	6QS-TNGG 331 HS	6QS-TNGG160404-HS		0.075	6		○					●	●	●			
	3QP-TNGM 332 HP	3QP-TNGM160408-HP	0.031	0.075	3		○					●	●	●	●		
	6QS-TNGG 332 HP	6QS-TNGG160408-HP		0.063	6		○					●	●	●			
	3QP-TNGM 332 HS	3QP-TNGM160408-HS		0.075	3		○					●	●	●			
	6QS-TNGG 332 HS	6QS-TNGG160408-HS		0.063	6		○					●	●	●			
	3QP-TNGM 333 HP	3QP-TNGM160412-HP	0.047	0.094	3		○					●	●	●			
	6QS-TNGG 333 HP	6QS-TNGG160412-HP		0.071	6		○					●	●	●			
	3QP-TNGM 333 HS	3QP-TNGM160412-HS		0.094	3		○					●	●	●			
	6QS-TNGG 333 HS	6QS-TNGG160412-HS		0.071	6		○					●	●	●			
Medium cutting	3QP-TNGM 332 HF	3QP-TNGM160408-HF	0.031	0.075	3		○						●			●	
	6QS-TNGG 332 HF	6QS-TNGG160408-HF		0.083	4		○						●				
	6QP-TNGG 332 HF	6QP-TNGG160408-HF		0.075	6		○										●
	3QP-TNGM 332 HM	3QP-TNGM160408-HM		0.075	3		○									●	
	6QS-TNGG 332 HM	6QS-TNGG160408-HM		0.063	6		○						●				
	6QP-TNGG 332 HM	6QP-TNGG160408-HM		0.075	6		○										●
	3QP-TNGM 333 HF	3QP-TNGM160412-HF	0.047	0.094	3		○						●			●	
	6QS-TNGG 333 HF	6QS-TNGG160412-HF		0.098	4		○						●				
	6QP-TNGG 333 HF	6QP-TNGG160412-HF		0.094	6		○										●
	3QP-TNGM 333 HM	3QP-TNGM160412-HM		0.094	3		○									●	
	6QP-TNGG 333 HM	6QP-TNGG160412-HM		0.094	6		○										●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TN Solid insert



IC : 0.250"
S : 0.125"

Triangular without hole

K	Cast iron	✠																												
S	Superalloy																													
H	Hard material																													
	Sintered metal																													

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXC90
Medium cutting	S-TNGN 222	S-TNGN110308	0.031		6		○					●
	S-TNGN 223	S-TNGN110312	0.047		6		○					●

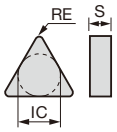
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: TNGG, TNGM: External toolholder → C088 -, Internal toolholder → D063 -
J-Series toolholder → G056 -, TungCap → K013 -

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

TN Solid insert



IC : 0.375"
S : 0.187"

Triangular without hole

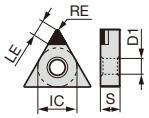
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXC90
Medium cutting	S-TNGN 332	S-TNGN160408	0.031		6		○					●
	S-TNGN 333	S-TNGN160412	0.047		6		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TN



IC : 0.375"
D1 : 0.150"
S : 0.187"

Triangular with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TNGA 330.5 QBN	TNGA160402-QBN	0.008	0.173	1		○					●
	TNGA 331 QBN	TNGA160404-QBN	0.016	0.165	1		○					●
	TNGA 332 QBN	TNGA160408-QBN	0.031	0.157	1		○					●
	TNGA 333 QBN	TNGA160412-QBN	0.047	0.146	1		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

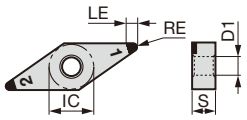
Reference pages: TNGA: External toolholder → C088 -, Internal toolholder → D063 -
J-Series toolholder → G056 -, TungCap → K013 -

CBN Insert NEGATIVE TYPE

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

VN

35° Rhombic with hole



IC : 0.375"
D1 : 0.150"
S : 0.187"

		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 Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX470	BX480	BX930
Precision finishing	2QP-VNGA 330.5-LF	2QP-VNGA160402-LF	0.008	0.138	2			○				●	●													
	4QS-VNGA 330.5-LF	4QS-VNGA160402-LF		0.118	4			○				●	●													
	2QP-VNGA 330.5-L	2QP-VNGA160402-L		0.138	2				○			●	●													
	2QP-VNGA 331-LF	2QP-VNGA160404-LF	0.016	0.122	2			○				●	●													
	4QS-VNGA 331-LF	4QS-VNGA160404-LF		0.102	4			○				●	●													
	2QP-VNGA 331-L	2QP-VNGA160404-L		0.122	2				○			●	●		●	●					●					
	2QP-VNGA 332-LF	2QP-VNGA160408-LF	0.031	0.087	2			○				●	●													
	4QS-VNGA 332-LF	4QS-VNGA160408-LF		0.067	4			○				●	●													
	2QP-VNGA 332-L	2QP-VNGA160408-L		0.087	2				○			●	●		●	●					●					
	2QP-VNGA 333-LF	2QP-VNGA160412-LF	0.047	0.118	2			○				●	●													
	4QS-VNGA 333-LF	4QS-VNGA160412-LF		0.067	4			○				●	●													
	2QP-VNGA 333-L	2QP-VNGA160412-L		0.118	2				○			●	●													
Finishing	2QP-VNGA 330.5	2QP-VNGA160402	0.008	0.138	2		○					●	●													
	4QS-VNGA 330.5	4QS-VNGA160402		0.118	4		○					●	●													
	2QP-VNGA 330.5-LC	2QP-VNGA160402-LC		0.138	2					○		●	●													
	4QS-VNGA 330.5-LC	4QS-VNGA160402-LC		0.118	4					○		●	●													
	2QP-VNGA 331	2QP-VNGA160404	0.016	0.122	2		○					●	●		●	●				●	●	●	●	●	●	●
	2QP-VNGA 331-SR	2QP-VNGA160404SR		0.122	2		○							●												
	4QS-VNGA 331	4QS-VNGA160404		0.102	4		○					●	●													
	4QS-VNGA 331-SR	4QS-VNGA160404SR		0.102	4		○							●												
	4QP-VNGA 331	4QP-VNGA160404		0.122	4		○										●	●	●							
	2QP-VNGA 331-LC	2QP-VNGA160404-LC		0.122	2					○		●	●													
	4QS-VNGA 331-LC	4QS-VNGA160404-LC		0.102	4					○		●	●													
	2QP-VNGA 332	2QP-VNGA160408	0.031	0.087	2		○					●	●		●	●				●	●	●	●	●	●	●
	2QP-VNGA 332-SR	2QP-VNGA160408SR		0.087	2		○							●												
	4QS-VNGA 332	4QS-VNGA160408		0.067	4		○					●	●													
	4QS-VNGA 332-SR	4QS-VNGA160408SR		0.067	4		○							●												
	4QP-VNGA 332	4QP-VNGA160408		0.087	4		○										●	●	●							
	2QP-VNGA 332-LC	2QP-VNGA160408-LC		0.087	2					○		●	●													
	4QS-VNGA 332-LC	4QS-VNGA160408-LC		0.067	4					○		●	●													
	2QP-VNGA 333	2QP-VNGA160412	0.047	0.118	2		○					●	●			●										
	4QS-VNGA 333	4QS-VNGA160412		0.067	4		○					●	●													
	4QP-VNGA 333	4QP-VNGA160412		0.118	4		○											●	●							
	2QP-VNGA 333-LC	2QP-VNGA160412-LC		0.118	2					○		●	●													
	4QS-VNGA 333-LC	4QS-VNGA160412-LC		0.067	4					○		●	●													
Medium cutting	2QP-VNGA 331-H	2QP-VNGA160404-H	0.016	0.122	2						○	●	●			●						●	●			
	2QP-VNGA 331-HC	2QP-VNGA160404HC		0.122	2						○			●												
	4QS-VNGA 331-H	4QS-VNGA160404-H		0.102	4						○	●	●													
	4QS-VNGA 331-HC	4QS-VNGA160404HC		0.102	4						○			●												
	4QP-VNGA 331-H	4QP-VNGA160404-H		0.122	4						○								●							
	2QP-VNGA 332-H	2QP-VNGA160408-H	0.031	0.087	2						○	●	●			●						●	●			
	2QP-VNGA 332-HC	2QP-VNGA160408HC		0.087	2						○			●												
	4QS-VNGA 332-H	4QS-VNGA160408-H		0.067	4						○	●	●													
	4QS-VNGA 332-HC	4QS-VNGA160408HC		0.067	4						○			●												
	4QP-VNGA 332-H	4QP-VNGA160408-H		0.087	4						○								●							
	2QP-VNGA 333-H	2QP-VNGA160412-H	0.047	0.118	2						○	●	●													
	4QS-VNGA 333-H	4QS-VNGA160412-H		0.067	4						○	●	●													

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

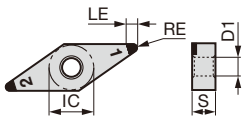
● : Line up

Reference pages: External toolholder → C103 - Internal toolholder → D077 -
TungCap → K014 -

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

VN with chipbreaker

35° Rhombic with hole



IC : 0.375"
D1 : 0.150"
S : 0.187"

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

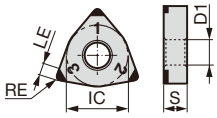
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA40
	K											●	◐	●	◐	◐
	S															
	H															
Precision finishing	2QP-VNGM 331 HP	2QP-VNGM160404-HP	0.016	0.122	2		○					●	●			
Precision finishing	4QS-VNGG 331 HP	4QS-VNGG160404-HP		0.102	4		○					●	●			
Precision finishing	2QP-VNGM 331 HS	2QP-VNGM160404-HS		0.122	2		○					●	●			
Precision finishing	4QS-VNGG 331 HS	4QS-VNGG160404-HS		0.102	4		○					●	●			
Precision finishing	2QP-VNGM 332 HP	2QP-VNGM160408-HP	0.031	0.087	2		○					●	●	●		
Precision finishing	4QS-VNGG 332 HP	4QS-VNGG160408-HP		0.067	4		○					●	●			
Precision finishing	2QP-VNGM 332 HS	2QP-VNGM160408-HS		0.087	2		○					●	●			
Precision finishing	4QS-VNGG 332 HS	4QS-VNGG160408-HS		0.067	4		○					●	●			
Medium cutting	2QP-VNGM 332 HF	2QP-VNGM160408-HF	0.031	0.087	2		○								●	
Medium cutting	4QP-VNGG 332 HF	4QP-VNGG160408-HF		0.087	4		○									●
Medium cutting	2QP-VNGM 332 HM	2QP-VNGM160408-HM		0.087	2		○								●	
Medium cutting	4QS-VNGG 332 HM	4QS-VNGG160408-HM		0.067	4		○						●			
Medium cutting	4QP-VNGG 332 HM	4QP-VNGG160408-HM		0.087	4		○									●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

WN

80° Trigon with hole



IC : 0.500"
D1 : 0.203"
S : 0.187"

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXC50	BXA30	BXA40	BX310	BX330	BX360	BX380	BX480	BX930
	K																						◐	●
	S																						◐	
	H											●	◐	●	◐	✠	●	◐	●	●	◐	✠		
																							◐✠	
Precision finishing	3QP-WNGA 432-LF	3QP-WNGA080408-LF	0.031	0.087	3			○				●	●											
Precision finishing	6QS-WNGA 432-LF	6QS-WNGA080408-LF		0.059	6			○				●	●											
Precision finishing	3QP-WNGA 432-L	3QP-WNGA080408-L		0.087	3				○			●	●											
Precision finishing	3QP-WNGA 432-FW	3QP-WNGA080408FW		0.087	3	○	○					●	●	●	●									
Precision finishing	6QS-WNGA 432-FW	6QS-WNGA080408FW		0.071	6	○	○					●	●											
Finishing	3QP-WNGA 431	3QP-WNGA080404	0.016	0.091	3		○					●	●											
Finishing	6QS-WNGA 431	6QS-WNGA080404		0.063	6		○					●	●											
Finishing	6QP-WNGA 431	6QP-WNGA080404		0.091	6		○									●								
Finishing	3QP-WNGA 432	3QP-WNGA080408	0.031	0.087	3		○					●	●	●	●				●	●	●	●	●	●
Finishing	6QS-WNGA 432	6QS-WNGA080408		0.059	6		○					●	●											
Finishing	6QP-WNGA 432	6QP-WNGA080408		0.087	6		○									●	●	●						
Finishing	3QP-WNGA 433	3QP-WNGA080412	0.047	0.094	3		○					●	●									●		
Finishing	6QS-WNGA 433	6QS-WNGA080412		0.067	6		○					●	●											
Medium cutting	3QP-WNGA 432-H	3QP-WNGA080408-H	0.031	0.087	3						○	●	●											
Medium cutting	6QS-WNGA 432-H	6QS-WNGA080408-H		0.059	6						○	●	●											

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

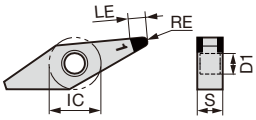
● : Line up

Reference pages: VN : External toolholder → C103 -, Internal toolholder → D077 -, TungCap → K014 -
WN: External toolholder → C121 -, Internal toolholder → D083 -, TungCap → K010

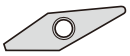
CBN Insert NEGATIVE TYPE

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

YN



IC : 0.375"
D1 : 0.150"
S : 0.187"



25° Rhombic with hole

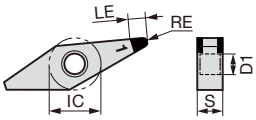
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA20 (H)
Precision finishing	2QP-YNGA 331-LF	2QP-YNGA160404-LF	0.016	0.122	2			○				●
	2QP-YNGA 331-L	2QP-YNGA160404-L		0.122	2				○			●
	2QP-YNGA 332-LF	2QP-YNGA160408-LF	0.031	0.118	2			○				●
	2QP-YNGA 332-L	2QP-YNGA160408-L		0.118	2				○			●
Finishing	2QP-YNGA 330.5	2QP-YNGA160402	0.008	0.138	2		○					●
	2QP-YNGA 331	2QP-YNGA160404	0.016	0.122	2		○					●
	2QP-YNGA 331-LC	2QP-YNGA160404-LC		0.122	2					○		●
	2QP-YNGA 332	2QP-YNGA160408	0.031	0.118	2		○					●
	2QP-YNGA 332-LC	2QP-YNGA160408-LC		0.118	2					○		●

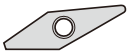
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

YN with chipbreaker



IC : 0.375"
D1 : 0.150"
S : 0.187"



25° Rhombic with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA20 (H)
Precision finishing	2QP-YNGG 331 HP	2QP-YNGG160404-HP	0.016	0.122	2		○					●
	2QP-YNGG 332 HP	2QP-YNGG160408-HP	0.031	0.118	2		○					●

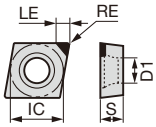
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → C103 - Internal toolholder → D077 -
TungCap → K014 -

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

CC



IC : 0.141"
D1 : 0.075"
S : 0.055"

80°Rhombic with hole, Positive 7°

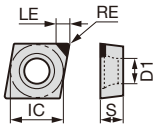
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX310	BX470
												●	●◐
Precision finishing	1QP-CCGW 4.51.80.5	1QP-CCGW03X102	0.008	0.055	1		○					●	●
	1QP-CCGW 4.51.81	1QP-CCGW03X104	0.016	0.051	1		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CC



IC : 0.172"
D1 : 0.091"
S : 0.070"

80°Rhombic with hole, Positive 7°

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX310	BX470
												●	●◐
Precision finishing	1QP-CCGW 5.52.20.5	1QP-CCGW04T102	0.008	0.075	1		○					●	●
	1QP-CCGW 5.52.21	1QP-CCGW04T104	0.016	0.071	1		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

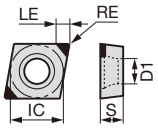
● : Line up

Reference pages: Internal toolholder → D018 -

CBN Insert POSITIVE TYPE

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

CC



IC : 0.250"
D1 : 0.109"
S : 0.094"

80°Rhombic with hole, Positive 7°

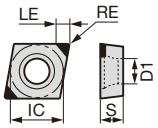
		BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
K	Cast iron											●◐	●	
S	Superalloy											●◐		
H	Hard material	●	●◐	✠	●	●◐	●	●◐	●	●	●◐			
	Sintered metal											●◐	◐✠	

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
Precision finishing	2QP-CCGW 21.50.5-LF	2QP-CCGW060202-LF	0.008	0.091	2			○				●	●											
	2QP-CCGW 21.50.5-L	2QP-CCGW060202-L		0.091	2				○			●	●											
	2QP-CCGW 21.51-LF	2QP-CCGW060204-LF	0.016	0.091	2			○				●	●											
	2QP-CCGW 21.51-L	2QP-CCGW060204-L		0.091	2				○			●	●											
	2QP-CCGW 21.52-LF	2QP-CCGW060208-LF	0.031	0.087	2			○				●	●											
	2QP-CCGW 21.52-L	2QP-CCGW060208-L		0.087	2				○			●	●											
Finishing	2QP-CCGW 21.50.5	2QP-CCGW060202	0.008	0.091	2		○					●	●		●	●	●	●						
	2QP-CCMW 21.50.5	2QP-CCMW060202		0.091	2		○												●	●	●			
	2QP-CCGW 21.50.5-LC	2QP-CCGW060202-LC		0.091	2					○		●	●											
	2QP-CCGW 21.51	2QP-CCGW060204	0.016	0.091	2		○					●	●		●	●	●	●				●	●	
	2QP-CCGW 21.51-SR	2QP-CCGW060204SR		0.091	2		○							●										
	2QP-CCMW 21.51	2QP-CCMW060204		0.091	2		○												●	●	●			●
	Q-CCMW 21.51	Q-CCMW060204		0.098	1		○													●				
	2QP-CCGW 21.51-LC	2QP-CCGW060204-LC		0.091	2					○		●	●											
	2QP-CCGW 21.52	2QP-CCGW060208	0.031	0.087	2		○					●	●											
	2QP-CCGW 21.52-SR	2QP-CCGW060208SR		0.087	2		○							●										
	2QP-CCMW 21.52	2QP-CCMW060208		0.087	2		○													●				
	2QP-CCGW 21.52-LC	2QP-CCGW060208-LC		0.087	2					○		●	●											

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CC with chipbreaker



IC : 0.250"
D1 : 0.109"
S : 0.094"

80°Rhombic with hole, Positive 7°

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-CCGT 21.51 HP	2QP-CCGT060204-HP	0.016	0.091	2		○					●	●	●	●
	2QP-CCGT 21.51 HS	2QP-CCGT060204-HS		0.087	2		○					●	●	●	

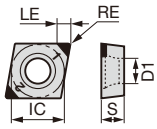
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → C034 - Internal toolholder → D018 -
J-Series toolholder → G030 - TungCap → K011 -

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

CC



IC : 0.375"
D1 : 0.173"
S : 0.156"

80°Rhombic with hole, Positive 7°

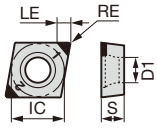
K	Cast iron																							●ᶜ	●					
S	Superalloy																							●ᶜ						
H	Hard material	●	●ᶜ	✠	●	●ᶜ	●	●ᶜ	●	●	●ᶜ																			
	Sintered metal																						●ᶜ	ᶜ✠						

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
Precision finishing	2QP-CCGW 32.50.5-LF	2QP-CCGW09T302-LF	0.008	0.091	2			○				●	●											
	2QP-CCGW 32.50.5-L	2QP-CCGW09T302-L		0.091	2				○			●	●											
	2QP-CCGW 32.51-LF	2QP-CCGW09T304-LF	0.016	0.091	2			○				●	●											
	2QP-CCGW 32.51-L	2QP-CCGW09T304-L		0.091	2				○			●	●											
	2QP-CCGW 32.51 FW	2QP-CCGW09T304FW		0.091	2	○	○					●	●											
	2QP-CCGW 32.52-LF	2QP-CCGW09T308-LF	0.031	0.087	2			○				●	●											
	2QP-CCGW 32.52-L	2QP-CCGW09T308-L		0.087	2				○			●	●											
	2QP-CCGW 32.52 FW	2QP-CCGW09T308FW		0.087	2	○	○					●	●											
Finishing	2QP-CCGW 32.50.5	2QP-CCGW09T302	0.008	0.091	2		○					●	●											
	2QP-CCGW 32.50.5-LC	2QP-CCGW09T302-LC		0.091	2					○		●	●											
	2QP-CCGW 32.51	2QP-CCGW09T304	0.016	0.091	2		○					●	●		●	●	●	●				●	●	
	2QP-CCGW 32.51-SR	2QP-CCGW09T304SR		0.091	2		○							●										
	2QP-CCMW 32.51	2QP-CCMW09T304		0.091	2		○												●	●	●			●
	Q-CCMW 32.51	Q-CCMW09T304		0.098	1		○													●				
	2QP-CCGW 32.51-LC	2QP-CCGW09T304-LC		0.091	2					○		●	●											
	2QP-CCGW 32.52	2QP-CCGW09T308	0.031	0.087	2		○					●	●		●	●	●	●				●		
	2QP-CCGW 32.52-SR	2QP-CCGW09T308SR		0.087	2		○							●										
	2QP-CCMW 32.52	2QP-CCMW09T308		0.087	2		○												●	●	●			
	2QP-CCGW 32.52-LC	2QP-CCGW09T308-LC		0.087	2					○		●	●											
Medium cutting	2QP-CCGW 32.50.5-H	2QP-CCGW09T302-H	0.008	0.091	2						○		●											
	2QP-CCGW 32.51-H	2QP-CCGW09T304-H	0.016	0.091	2						○		●											
	2QP-CCGW 32.51-HC	2QP-CCGW09T304HC		0.091	2						○			●										
	2QP-CCGW 32.52-H	2QP-CCGW09T308-H	0.031	0.087	2						○		●											
	2QP-CCGW 32.52-HC	2QP-CCGW09T308HC		0.087	2						○			●										

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CC with chipbreaker



IC : 0.375"
D1 : 0.173"
S : 0.156"

80°Rhombic with hole, Positive 7°

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-CCGT 32.51 HP	2QP-CCGT09T304-HP	0.016	0.091	2		○					●	●	●	●
	2QP-CCGT 32.51 HS	2QP-CCGT09T304-HS		0.087	2		○					●	●	●	
	2QP-CCGT 32.51 FW-HP	2QP-CCGT09T304FW-HP		0.087	2	○	○					●			●
	2QP-CCGT 32.51 FW-HS	2QP-CCGT09T304FW-HS		0.087	2	○	○					●	●		
	2QP-CCGT 32.52 HP	2QP-CCGT09T308-HP	0.031	0.087	2		○					●	●	●	●
	2QP-CCGT 32.52 HS	2QP-CCGT09T308-HS		0.087	2		○					●	●	●	
	2QP-CCGT 32.52 FW-HP	2QP-CCGT09T308FW-HP		0.087	2	○	○					●			●
	2QP-CCGT 32.52 FW-HS	2QP-CCGT09T308FW-HS		0.087	2	○	○					●	●		

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

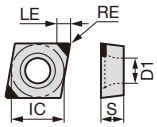
● : Line up

Reference pages: External toolholder → C034 - Internal toolholder → D018 -
J-Series toolholder → G030 - TungCap → K011 -

CBN Insert POSITIVE TYPE

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

CP



IC : 0.313"
D1 : 0.134"
S : 0.094"

80° Rhombic with hole, Positive 11°

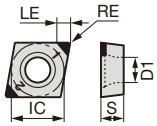
		BXA10	BXA20	BR35F	BXM10	BXM20
K	Cast iron					
S	Superalloy					
H	Hard material	●	●◐	✠	●	●◐
	Sintered metal					

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20
Finishing	2QP-CPGW 2.51.50.5	2QP-CPGW080202	0.008	0.091	2		○					●	●			
	2QP-CPGW 2.51.51	2QP-CPGW080204	0.016	0.091	2		○					●	●			
	2QP-CPGW 2.51.52	2QP-CPGW080208	0.031	0.087	2		○					●	●			

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CP



IC : 0.375"
D1 : 0.173"
S : 0.125"

80° Rhombic with hole, Positive 11°

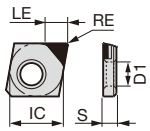
		BXA10	BXA20
K	Cast iron		
S	Superalloy		
H	Hard material	●	●◐
	Sintered metal		

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	2QP-CPGW 320.5	2QP-CPGW090302	0.008	0.091	2		○					●	●
	2QP-CPGW 321	2QP-CPGW090304	0.016	0.091	2		○					●	●
	2QP-CPGW 322	2QP-CPGW090308	0.031	0.087	2		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CP



IC : 0.375"
D1 : 0.157"
S : 0.094"

80° Rhombic with hole, Positive 11°

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	CPGA 31.51 QBN	CPGA090204-QBN	0.016	0.157	1		○					●
	CPGA 31.52 QBN	CPGA090208-QBN	0.031	0.150	1		○					●

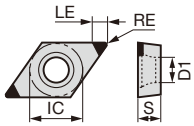
Tungaloy's standard hole specifi cation (ISO non-compliant)
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Internal toolholder → D022 -

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

DC



IC : 0.250"
D1 : 0.109"
S : 0.094"

55° Rhombic with hole, Positive 7°

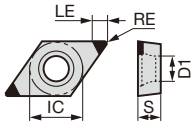
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX930
	K Cast iron																					●◐	●	
	S Superalloy																					●◐		
	H Hard material											●	●◐	✠	●	●◐	●	●◐	●	●	●◐			
	Sintered metal																					●◐	◐✠	
Finishing	2QP-DCGW 21.50.5-LF	2QP-DCGW070202-LF	0.008	0.106	2			○				●	●											
Finishing	2QP-DCGW 21.50.5-L	2QP-DCGW070202-L		0.106	2				○			●	●											
Finishing	2QP-DCGW 21.51-LF	2QP-DCGW070204-LF	0.016	0.098	2			○				●	●											
Finishing	2QP-DCGW 21.51-L	2QP-DCGW070204-L		0.098	2				○			●	●											
Finishing	2QP-DCGW 21.52-LF	2QP-DCGW070208-LF	0.031	0.083	2			○				●	●											
Finishing	2QP-DCGW 21.52-L	2QP-DCGW070208-L		0.083	2				○			●	●											
Medium cutting	2QP-DCGW 21.50.5	2QP-DCGW070202	0.008	0.106	2		○					●	●		●	●	●	●						
Medium cutting	2QP-DCGW 21.50.5-SR	2QP-DCGW070202SR		0.106	2		○							●										
Medium cutting	2QP-DCMW 21.50.5	2QP-DCMW070202		0.106	2		○												●	●	●			
Medium cutting	2QP-DCGW 21.50.5-LC	2QP-DCGW070202-LC		0.106	2					○		●	●											
Medium cutting	2QP-DCGW 21.51	2QP-DCGW070204	0.016	0.098	2		○					●	●		●	●	●	●				●	●	
Medium cutting	2QP-DCGW 21.51-SR	2QP-DCGW070204SR		0.098	2		○							●										
Medium cutting	2QP-DCMW 21.51	2QP-DCMW070204		0.098	2		○												●	●	●			●
Medium cutting	Q-DCMW 21.51	Q-DCMW070204		0.083	1		○													●				
Medium cutting	2QP-DCGW 21.51-LC	2QP-DCGW070204-LC		0.098	2					○		●	●											
Medium cutting	2QP-DCGW 21.52	2QP-DCGW070208	0.031	0.083	2		○					●	●									●		
Medium cutting	2QP-DCGW 21.52-SR	2QP-DCGW070208SR		0.083	2		○							●										
Medium cutting	2QP-DCGW 21.52-LC	2QP-DCGW070208-LC		0.083	2					○		●	●											

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

DC with chipbreaker



IC : 0.250"
D1 : 0.109"
S : 0.094"

55° Rhombic with hole, Positive 7°

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
	K Cast iron														
	S Superalloy														
	H Hard material											●	●◐	✠	●
	Sintered metal														
Precision finishing	2QP-DCGT 21.51 HP	2QP-DCGT070204-HP	0.016	0.098	2		○					●	●	●	●
Precision finishing	2QP-DCGT 21.51 HS	2QP-DCGT070204-HS		0.098	2		○					●	●	●	

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

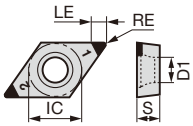
● : Line up

Reference pages: External toolholder → C052 - Internal toolholder → D032 -
J-Series toolholder → G037 - TungCap → K015 -

CBN Insert POSITIVE TYPE

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

DC



IC : 0.375"
D1 : 0.173"
S : 0.156"

55° Rhombic with hole, Positive 7°

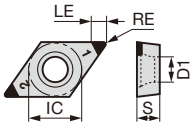
		BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX815	BX930
K	Cast iron											●◐		●	
S	Superalloy											●◐	●		
H	Hard material	●	●◐	✠	●	●◐	●	●◐	●	●	●◐				
	Sintered metal											●◐	◐✠		

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX815	BX930
Precision finishing	2QP-DCGW 32.50.5 F	2QP-DCGW11T302F	0.008	0.106	2			○														●			
	2QP-DCGW 32.50.5-LF	2QP-DCGW11T302-LF		0.106	2			○				●	●												
	2QP-DCGW 32.50.5-L	2QP-DCGW11T302-L		0.106	2				○			●	●												
	2QP-DCGW 32.51 F	2QP-DCGW11T304F	0.016	0.098	2			○														●			
	2QP-DCGW 32.51-E	2QP-DCGW11T304-E		0.098	2		○																	●	
	2QP-DCGW 32.51-LT	2QP-DCGW11T304-LT		0.098	2						○													●	
	2QP-DCGW 32.51-LF	2QP-DCGW11T304-LF		0.098	2			○				●	●												
	2QP-DCGW 32.51-L	2QP-DCGW11T304-L		0.098	2				○			●	●												
	2QP-DCGW 32.52-LF	2QP-DCGW11T308-LF	0.031	0.083	2			○				●	●												
	2QP-DCGW 32.52-L	2QP-DCGW11T308-L		0.083	2				○			●	●												
Finishing	2QP-DCGW 32.50.2	2QP-DCGW11T301	0.004	0.109	2		○					●	●												
	2QP-DCGW 32.50.5	2QP-DCGW11T302	0.008	0.106	2		○					●	●		●	●	●	●							
	2QP-DCGW 32.50.5-SR	2QP-DCGW11T302SR		0.106	2		○							●											
	2QP-DCMW 32.50.5	2QP-DCMW11T302		0.106	2		○												●	●	●				
	2QP-DCGW 32.50.5-LC	2QP-DCGW11T302-LC		0.106	2					○		●	●												
	2QP-DCGW 32.51	2QP-DCGW11T304	0.016	0.098	2		○					●	●		●	●	●	●				●	●		
	2QP-DCGW 32.51-SR	2QP-DCGW11T304SR		0.098	2		○							●											
	2QP-DCMW 32.51	2QP-DCMW11T304		0.098	2		○												●	●	●				●
	Q-DCMW 32.51	Q-DCMW11T304		0.083	1		○													●					
	2QP-DCGW 32.51-LC	2QP-DCGW11T304-LC		0.098	2					○		●	●												
	2QP-DCGW 32.52	2QP-DCGW11T308	0.031	0.083	2		○					●	●		●	●	●	●				●			
	2QP-DCGW 32.52-SR	2QP-DCGW11T308SR		0.083	2		○							●											
	2QP-DCMW 32.52	2QP-DCMW11T308		0.083	2		○												●	●	●				
	2QP-DCGW 32.52-LC	2QP-DCGW11T308-LC		0.083	2					○		●	●												
Medium cutting	2QP-DCGW 32.50.5-H	2QP-DCGW11T302-H	0.008	0.106	2						○		●												
	2QP-DCGW 32.51-H	2QP-DCGW11T304-H	0.016	0.098	2						○		●												
	2QP-DCGW 32.51-HC	2QP-DCGW11T304HC		0.098	2						○			●											
	2QP-DCGW 32.52-H	2QP-DCGW11T308-H	0.031	0.083	2						○		●												
	2QP-DCGW 32.52-HC	2QP-DCGW11T308HC		0.083	2						○			●											

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

DC with chipbreaker



IC : 0.375"
D1 : 0.173"
S : 0.156"

55° Rhombic with hole, Positive 7°

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	2QP-DCGT 32.51 HP	2QP-DCGT11T304-HP	0.016	0.098	2		○					●	●	●	●
	2QP-DCGT 32.51 HS	2QP-DCGT11T304-HS		0.098	2		○					●	●	●	
	2QP-DCGT 32.52 HP	2QP-DCGT11T308-HP	0.031	0.083	2		○					●	●	●	●
	2QP-DCGT 32.52 HS	2QP-DCGT11T308-HS		0.083	2		○					●	●	●	

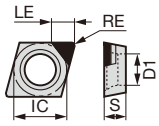
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → C052 - Internal toolholder → D032 -
J-Series toolholder → G037 - TungCap → K015 -

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

EP



IC : 0.141"
D1 : 0.075"
S : 0.055"

75° Rhombic, Positive 11° with hole

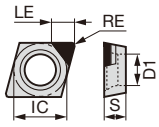
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX310	BX470
												●	●◐
Finishing	1QP-EPGW 4.51.80.5	1QP-EPGW03X102	0.008	0.055	1		○					●	●
Finishing	1QP-EPGW 4.51.81	1QP-EPGW03X104	0.016	0.051	1		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

EP



IC : 0.156"
D1 : 0.091"
S : 0.063"

75° Rhombic, Positive 11° with hole

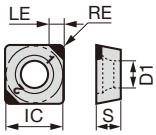
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX310	BX470
												●	●◐
Finishing	1QP-EPGW 520.5	1QP-EPGW040102	0.008	0.067	1		○					●	●
Finishing	1QP-EPGW 521	1QP-EPGW040104	0.016	0.063	1		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

SP



IC : 0.375"
D1 : 0.173"
S : 0.156"

Square Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX910
												●
Finishing	2QP-SPGW 32.52	2QP-SPGW09T308	0.031	0.094	2		○					●
Finishing	2QP-SPGW 32.53	2QP-SPGW09T312	0.047	0.094	2		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

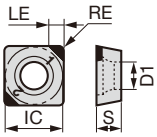
● : Line up

Reference pages: EP: Internal toolholder → D048 -
SP: Internal toolholder → D052

CBN Insert POSITIVE TYPE

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

SP



IC : 0.500"
D1 : 0.217"
S : 0.187"

Square Positive 11° with hole

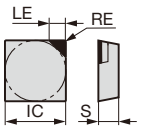
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX910
Finishing	2QP-SPGW 432	2QP-SPGW120408	0.031	0.094	2		○					●
	2QP-SPGW 433	2QP-SPGW120412	0.047	0.094	2		○					●
	2QP-SPGW 434	2QP-SPGW120416	0.063	0.094	2		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

SP



IC : 0.500"
S : 0.125"

Square Positive 11° without hole

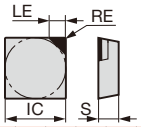
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX330	BX360	BX910	BX930
Finishing	2QP-SPMN 321	2QP-SPMN090304	0.016	0.094	2		○					●	●		●
	Q-SPGN 321	Q-SPGN090304		0.109	1		○					●			
	2QP-SPGN 322	2QP-SPGN090308	0.031	0.094	2		○							●	
	2QP-SPMN 322	2QP-SPMN090308		0.094	2		○					●	●		●
	Q-SPGN 322	Q-SPGN090308		0.109	1		○					●			
	2QP-SPGN 323	2QP-SPGN090312	0.047	0.094	2		○							●	

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

SP



IC : 0.375"
S : 0.125"

Square Positive 11° without hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	SPGN 321 QBN	SPGN090304-QBN	0.016	0.161	1		○					●
	SPGN 322 QBN	SPGN090308-QBN	0.031	0.161	1		○					●
	SPGN 323 QBN	SPGN090312-QBN	0.047	0.161	1		○					●

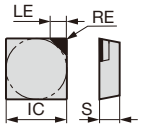
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Internal toolholder → D052 -

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

SP



IC : 0.500"
S : 0.125"

Square Positive 11° without hole

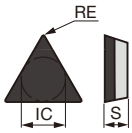
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	SPGN 422 QBN	SPGN120308-QBN	0.016	0.161	1		○					●
Finishing	SPGN 423 QBN	SPGN120312-QBN	0.031	0.161	1		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TB



IC : 0.156"
S : 0.063"

Triangular Positive 5° without hole

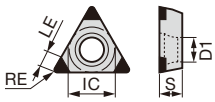
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TBGN 521 QBN	TBGN060104-15-QBN	0.016	-	3		○					●
Finishing	TBGN 522 QBN	TBGN060108-15-QBN	0.031	-	3		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TC



IC : 0.219"
D1 : 0.098"
S : 0.094"

Triangular Positive 7° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	3QP-TCGW 730.5	3QP-TCGW090202	0.008	0.091	3		○					●	●
Finishing	3QP-TCGW 731	3QP-TCGW090204	0.016	0.087	3		○					●	●
Finishing	3QP-TCGW 732	3QP-TCGW090208	0.031	0.075	3		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: SP: Internal toolholder → D053
TC: External toolholder → C098 -, Internal toolholder → D056
J-Series toolholder → G054 -

CBN Insert POSITIVE TYPE

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

TC

IC : 0.250"
D1 : 0.109"
S : 0.094"

Triangular Positive 7° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	3QP-TCGW 21.50.5	3QP-TCGW110202	0.008	0.091	3		○					●	●
	3QP-TCGW 21.51	3QP-TCGW110204	0.016	0.087	3		○					●	●
	3QP-TCGW 21.52	3QP-TCGW110208	0.031	0.075	3		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TC

IC : 0.375"
D1 : 0.173"
S : 0.156"

Triangular Positive 7° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	3QP-TCGW 32.50.5	3QP-TCGW16T302	0.008	0.091	3		○					●	●
	3QP-TCGW 32.51	3QP-TCGW16T304	0.016	0.087	3		○					●	●
	3QP-TCGW 32.52	3QP-TCGW16T308	0.031	0.075	3		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP

IC : 0.187"
D1 : 0.091"
S : 0.094"

Triangular Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
Finishing	3QP-TPGW 630.5	3QP-TPGW080202	0.008	0.091	3		○					●	●								
	3QP-TPGW 631	3QP-TPGW080204	0.016	0.087	3		○					●	●	●	●	●	●				
	3QP-TPMW 631	3QP-TPMW080204		0.087	3		○											●	●	●	●
	Q-TPMW 631	Q-TPMW080204		0.087	1		○												●		
	3QP-TPGW 632	3QP-TPGW080208	0.031	0.075	3		○					●	●								

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: TC: External toolholder → C098 -, Internal toolholder → D056
J-Series toolholder → G054 -
TP: Internal toolholder → D057 -

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

TP

Triangular Positive 11° with hole

IC : 0.219"
D1 : 0.098"
S : 0.094"

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

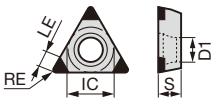
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930									
Finishing	3QP-TPGW 730.5	3QP-TPGW090202	0.008	0.091	3		○					●	●		●	●	●													
	3QP-TPMW 730.5	3QP-TPMW090202		0.091	3		○												●	●	●									
	Q-TPMW 73Y	Q-TPMW090202		0.094	1		○												●											
	3QP-TPGW 731	3QP-TPGW090204	0.016	0.087	3		○					●	●	●	●	●	●													
	3QP-TPMW 731	3QP-TPMW090204		0.087	3		○											●	●	●	●									
	Q-TPMW 731	Q-TPMW090204		0.091	1		○												●											
	3QP-TPGW 732	3QP-TPGW090208	0.031	0.075	3		○					●	●																	

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP

Triangular Positive 11° with hole



IC : 0.250"
D1 : 0.109"
S : 0.094"

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX930								
Finishing	3QP-TPGW 21.50.5	3QP-TPGW110202	0.008	0.091	3		○					●	●		●	●	●													
	3QP-TPMW 21.50.5	3QP-TPMW110202		0.091	3		○											●	●	●		●								
	Q-TPMW 21.50.5	Q-TPMW110202		0.094	1		○												●											
	3QP-TPGW 21.51	3QP-TPGW110204	0.016	0.087	3		○					●	●	●	●	●	●				●									
	3QP-TPMW 21.51	3QP-TPMW110204		0.087	3		○											●	●	●		●								
	Q-TPMW 21.51	Q-TPMW110204		0.087	1		○												●											
	3QP-TPGW 21.52	3QP-TPGW110208	0.031	0.075	3		○					●	●								●									

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Internal toolholder → D057 -

CBN Insert POSITIVE TYPE

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

TP

IC : 0.250"
D1 : 0.134"
S : 0.125"

Triangular Positive 11° with hole

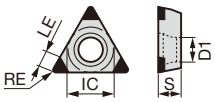
		BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX910	BX930
K	Cast iron											●◐	●	●	
S	Superalloy											●◐			
H	Hard material	●	●◐	✠	●	●◐	●	●◐	●	●	●◐				
	Sintered metal											●◐	◐✠		

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX470	BX480	BX910	BX930
Precision finishing	3QP-TPGW 220.5-LF	3QP-TPGW110302-LF	0.008	0.091	3			○				●	●												
	3QP-TPGW 220.5-L	3QP-TPGW110302-L		0.091	3				○			●	●												
	3QP-TPGW 221 F	3QP-TPGW110304F	0.016	0.087	3			○														●			
	3QP-TPGW 221-LF	3QP-TPGW110304-LF		0.087	3			○				●	●												
	3QP-TPGW 221-L	3QP-TPGW110304-L		0.087	3				○			●	●												
	3QP-TPGW 222 F	3QP-TPGW110308F	0.031	0.075	3			○														●			
	3QP-TPGW 222-LF	3QP-TPGW110308-LF		0.075	3			○				●	●												
	3QP-TPGW 222-L	3QP-TPGW110308-L		0.075	3				○			●	●												
Finishing	3QP-TPGW 220.5	3QP-TPGW110302	0.008	0.091	3		○					●	●			●	●	●					●		
	3QP-TPMW 220.5	3QP-TPMW110302		0.091	3		○												●	●	●				●
	3QP-TPGW 220.5-LC	3QP-TPGW110302-LC		0.091	3					○		●	●												
	3QP-TPGW 221	3QP-TPGW110304	0.016	0.087	3		○					●	●		●	●	●	●				●	●		
	3QP-TPGW 221-SR	3QP-TPGW110304SR		0.087	3		○							●											
	3QP-TPMW 221	3QP-TPMW110304		0.087	3		○												●	●	●				●
	Q-TPMW 221	Q-TPMW110304		0.087	1		○													●					
	3QP-TPGW 221-LC	3QP-TPGW110304-LC		0.087	3					○		●	●												
	3QP-TPGW 222	3QP-TPGW110308	0.031	0.075	3		○					●	●		●	●	●	●				●	●	●	
	3QP-TPGW 222-SR	3QP-TPGW110308SR		0.075	3		○							●											
	3QP-TPMW 222	3QP-TPMW110308		0.075	3		○												●	●	●				●
	Q-TPMW 222	Q-TPMW110308		0.075	1		○													●					
	3QP-TPGW 222-LC	3QP-TPGW110308-LC		0.075	3					○		●	●												
Medium cutting	3QP-TPGW 220.5-H	3QP-TPGW110302-H	0.008	0.091	3						○		●												
	3QP-TPGW 221-H	3QP-TPGW110304-H	0.016	0.087	3						○		●												
	3QP-TPGW 221-HC	3QP-TPGW110304HC		0.087	3						○			●											
	3QP-TPGW 222-H	3QP-TPGW110308-H	0.031	0.075	3						○		●												
	3QP-TPGW 222-HC	3QP-TPGW110308HC		0.075	3						○			●											

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP with chipbreaker



IC : 0.250"
D1 : 0.134"
S : 0.125"

Triangular Positive 11° with hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10
Precision finishing	3QP-TPGT 221 HP	3QP-TPGT110304-HP	0.016	0.087	3		○					●	●	●	●
	3QP-TPGT 221 HS	3QP-TPGT110304-HS		0.083	3		○					●	●	●	
	3QP-TPGT 222 HP	3QP-TPGT110308-HP	0.031	0.075	3		○					●	●	●	●
	3QP-TPGT 222 HS	3QP-TPGT110308-HS		0.071	3		○					●	●	●	

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

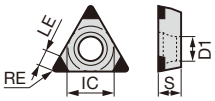
● : Line up

Reference pages: Mounting hole specification → B146
Internal toolholder → D057 -

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

TP

Triangular Positive 11° with hole



IC : 0.313"
D1 : 0.134"
S : 0.125"

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

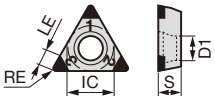
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX480	BX930							
Finishing	3QP-TPGW 2.520.5	3QP-TPGW130302	0.008	0.091	3		○					●	●		●	●	●				●								
	3QP-TPMW 2.520.5	3QP-TPMW130302		0.091	3		○											●	●	●		●							
	Q-TPMW 2.520.5	Q-TPMW130302		0.094	1		○												●										
	3QP-TPGW 2.521	3QP-TPGW130304	0.016	0.087	3		○					●	●	●	●	●	●				●								
	3QP-TPMW 2.521	3QP-TPMW130304		0.087	3		○											●	●	●		●							
	Q-TPMW 2.521	Q-TPMW130304		0.091	1		○												●										
	3QP-TPGW 2.522	3QP-TPGW130308	0.031	0.075	3		○					●	●																

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP

Triangular Positive 11° with hole



IC : 0.375"
D1 : 0.173"
S : 0.156"

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX480	BX930							
Finishing	3QP-TPGW 32.50.5	3QP-TPGW16T302	0.008	0.091	3		○					●	●																
	3QP-TPGW 32.51	3QP-TPGW16T304	0.016	0.087	3		○					●	●	●	●	●	●				●								
	3QP-TPMW 32.51	3QP-TPMW16T304		0.087	3		○											●	●	●		●							
	Q-TPMW 32.51	Q-TPMW16T304		0.091	1		○												●										
	3QP-TPGW 32.52	3QP-TPGW16T308	0.031	0.075	3		○					●	●	●	●	●	●												
	3QP-TPMW 32.52	3QP-TPMW16T308		0.075	3		○											●											

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Internal toolholder → D057 -

CBN Insert POSITIVE TYPE

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

TP

IC : 0.375"
D1 : 0.173"
S : 0.187"

Triangular Positive 11° with hole

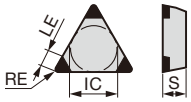
K	Cast iron																													
S	Superalloy																													
H	Hard material	●	●◐	●	●◐	●	●◐	●	●	●◐																				
	Sintered metal																													

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
Finishing	3QP-TPGW 330.5	3QP-TPGW160402	0.008	0.091	3		○					●	●								
	3QP-TPGW 331	3QP-TPGW160404	0.016	0.087	3		○					●	●	●	●	●	●				
	3QP-TPMW 331	3QP-TPMW160404		0.087	3		○											●	●	●	●
	Q-TPMW 331	Q-TPMW160404		0.091	1		○												●		
	3QP-TPGW 332	3QP-TPGW160408	0.031	0.075	3		○					●	●		●	●	●				
	3QP-TPMW 332	3QP-TPMW160408		0.075	3		○											●	●	●	●
	Q-TPMW 332	Q-TPMW160408		0.079	1		○												●		
Medium cutting	3QP-TPGW 330.5-H	3QP-TPGW160402-H	0.008	0.091	3						○	●	●								
	3QP-TPGW 331-H	3QP-TPGW160404-H	0.016	0.087	3						○	●	●								
	3QP-TPGW 332-H	3QP-TPGW160408-H	0.031	0.075	3						○	●	●								

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP



IC : 0.250"
S : 0.125"

Triangular Positive 11° without hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX330	BX360	BX480	BX910	BX930
Finishing	3QP-TPGN 220.5	3QP-TPGN110302	0.008	0.091	3		○							●		
	3QP-TPMN 220.5	3QP-TPMN110302		0.091	3		○					●	●			●
	3QP-TPGN 221	3QP-TPGN110304	0.016	0.087	3		○							●		
	3QP-TPMN 221	3QP-TPMN110304		0.087	3		○					●	●			●
	Q-TPGN 221	Q-TPGN110304		0.087	1		○					●				
	3QP-TPGN 222	3QP-TPGN110308	0.031	0.075	3		○							●	●	
	3QP-TPMN 222	3QP-TPMN110308		0.075	3		○					●	●			●
	Q-TPGN 222	Q-TPGN110308		0.087	1		○					●				
	3QP-TPGN 223	3QP-TPGN110312	0.047	0.094	3		○								●	

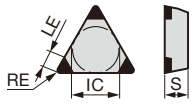
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Internal toolholder → D057 -

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

TP



IC : 0.375"
S : 0.125"

Triangular Positive 11° without hole

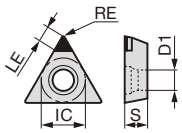
K	Cast iron			●◐	●																										
S	Superalloy			●◐																											
H	Hard material	●	●◐																												
	Sintered metal			◐✠																											

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX330	BX360	BX480	BX930
Finishing	3QP-TPGN 321	3QP-TPGN160304	0.016	0.087	3		○							●	
	3QP-TPMN 321	3QP-TPMN160304		0.087	3		○					●	●		●
	Q-TPGN 321	Q-TPGN160304		0.091	1		○					●			
	3QP-TPGN 322	3QP-TPGN160308	0.031	0.075	3		○							●	
	3QP-TPMN 322	3QP-TPMN160308		0.075	3		○					●	●		●
	Q-TPGN 322	Q-TPGN160308		0.075	1		○					●			

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP



IC : 0.219"
D1 : 0.098"
S : 0.094"

Triangular Positive 11° with hole

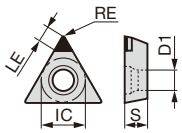
K	Cast iron																														
S	Superalloy																														
H	Hard material	●◐																													
	Sintered metal																														

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGW 73Y QBN	TPGW090202-QBN	0.008	0.130	1		○					●
	TPGW 731 QBN	TPGW090204-QBN	0.016	0.125	1		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP



IC : 0.250"
D1 : 0.109"
S : 0.094"

Triangular Positive 11° with hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGW 21.50.5 QBN	TPGW110202-QBN	0.008	0.154	1		○					●
	TPGW 21.51 QBN	TPGW110204-QBN	0.016	0.146	1		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

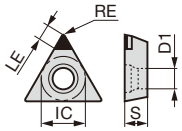
● : Line up

Reference pages: Internal toolholder → D057 -

CBN Insert POSITIVE TYPE

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

TP



IC : 0.313"
D1 : 0.134"
S : 0.125"

Triangular Positive 11° with hole

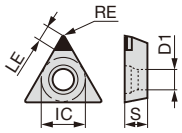
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGW 2.520.5 QBN	TPGW130302-QBN	0.008	0.154	1		○					●
	TPGW 2.521 QBN	TPGW130304-QBN	0.016	0.146	1		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP



IC : 0.375"
D1 : 0.173"
S : 0.156"

Triangular Positive 11° with hole

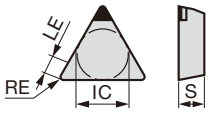
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGW 32.50.5 QBN	TPGW16T302-QBN	0.008	0.173	1		○					●
	TPGW 32.51 QBN	TPGW16T304-QBN	0.016	0.165	1		○					●
	TPGW 32.52 QBN	TPGW16T308-QBN	0.031	0.157	1		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP



IC : 0.250"
S : 0.125"

Triangular Positive 11° without hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGN 221 QBN	TPGN110304-QBN	0.016	0.146	1		○					●
	TPGN 222 QBN	TPGN110308-QBN	0.031	0.138	1		○					●

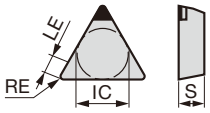
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Internal toolholder → D057 -

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

TP



IC : 0.375"
S : 0.125"

Triangular Positive 11° without hole

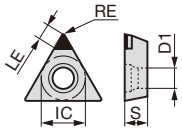
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGN 321 QBN	TPGN160304-QBN	0.016	0.165	1		○					●
	TPGN 322 QBN	TPGN160308-QBN	0.031	0.157	1		○					●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP



IC : 0.219"
D1 : 0.125"
S : 0.094"

Triangular Positive 11° with hole

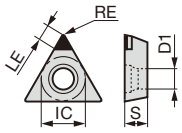
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGA 73Y QBN	TPGA090202-QBN	0.008	0.122	1		○					●
	TPGA 731 QBN	TPGA090204-QBN	0.016	0.114	1		○					●

Tungaloy's standard hole specifi cation (ISO non-compliant)
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP



IC : 0.250"
D1 : 0.118"
S : 0.094"

Triangular Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGA 21.50.5 QBN	TPGA110202-QBN	0.008	0.154	1		○					●
	TPGA 21.51 QBN	TPGA110204-QBN	0.016	0.146	1		○					●

Tungaloy's standard hole specifi cation (ISO non-compliant)
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

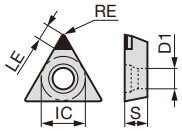
● : Line up

Reference pages: Mounting hole specification → B146
Internal toolholder → D057 -

CBN Insert POSITIVE TYPE

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

TP



IC : 0.250"
D1 : 0.125"
S : 0.118"

Triangular Positive 11° with hole

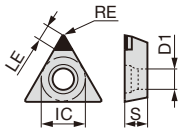
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGA 220.5 QBN	TPGA110302-QBN	0.008	0.154	1		○					●
	TPGA 221 QBN	TPGA110304-QBN	0.016	0.146	1		○					●

Tungaloy's standard hole specifi cation (ISO non-compliant)
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

TP



IC : 0.375"
D1 : 0.157"
S : 0.125"

Triangular Positive 11° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BX360
Finishing	TPGA 320.5 QBN	TPGA160302-QBN	0.008	0.173	1		○					●
	TPGA 321 QBN	TPGA160304-QBN	0.016	0.165	1		○					●
	TPGA 322 QBN	TPGA160308-QBN	0.031	0.157	1		○					●

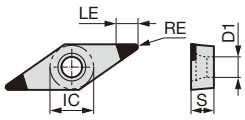
Tungaloy's standard hole specifi cation (ISO non-compliant)
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: Mounting hole specification → B146
Internal toolholder → D057 -

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

VB



IC : 0.250"
D1 : 0.110"
S : 0.094"

35° Rhombic Positive 5° with hole

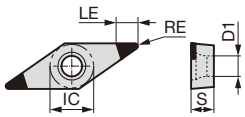
K	Cast iron	
S	Superalloy	
H	Hard material	● ●◐
	Sintered metal	

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	2QP-VBGW 21.50.5	2QP-VBGW110202	0.008	0.138	2		○					●	●
	2QP-VBGW 21.51	2QP-VBGW110204	0.016	0.122	2		○					●	●
	2QP-VBGW 21.52	2QP-VBGW110208	0.031	0.087	2		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

VB



IC : 0.250"
D1 : 0.110"
S : 0.125"

35° Rhombic Positive 5° with hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360	BX930
Precision finishing	2QP-VBGW 220.5-LF	2QP-VBGW110302-LF	0.008	0.138	2			○				●	●									
	2QP-VBGW 220.5-L	2QP-VBGW110302-L		0.138	2				○			●	●									
	2QP-VBGW 221-LF	2QP-VBGW110304-LF	0.016	0.122	2			○				●	●									
	2QP-VBGW 221-L	2QP-VBGW110304-L		0.122	2				○			●	●									
	2QP-VBGW 222-LF	2QP-VBGW110308-LF	0.031	0.087	2			○				●	●									
	2QP-VBGW 222-L	2QP-VBGW110308-L		0.087	2				○			●	●									
Finishing	2QP-VBGW 220.2	2QP-VBGW110301	0.004	0.122	2		○					●	●									
	2QP-VBGW 220.5	2QP-VBGW110302	0.008	0.138	2		○					●	●									
	2QP-VBGW 220.5-LC	2QP-VBGW110302-LC		0.138	2					○		●	●									
	2QP-VBGW 221	2QP-VBGW110304	0.016	0.122	2		○					●	●		●	●	●	●				
	2QP-VBGW 221-SR	2QP-VBGW110304SR		0.122	2		○							●								
	2QP-VBMW 221	2QP-VBMW110304		0.122	2		○												●	●	●	●
	2QP-VBGW 221-LC	2QP-VBGW110304-LC		0.122	2					○		●	●									
	2QP-VBGW 222	2QP-VBGW110308	0.031	0.087	2		○					●	●		●	●	●	●				
	2QP-VBGW 222-SR	2QP-VBGW110308SR		0.087	2		○							●								
	2QP-VBMW 222	2QP-VBMW110308		0.087	2		○												●	●	●	●
	2QP-VBGW 222-LC	2QP-VBGW110308-LC		0.087	2					○		●	●									

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

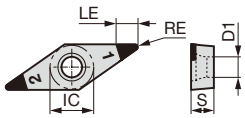
● : Line up

Reference pages: Internal toolholder → D068 - J-Series toolholder → G058 -
TungCap → K027

CBN Insert POSITIVE TYPE

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

VB with chipbreaker



IC : 0.250"
D1 : 0.110"
S : 0.125"

35° Rhombic Positive 5° with hole

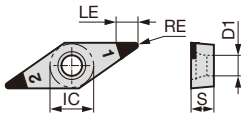
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10
Precision finishing	2QP-VBGT 331 HP	2QP-VBGT110304-HP	0.016	0.118	2		○					●	●	●
	2QP-VBGT 221 HS	2QP-VBGT110304-HS		0.118	2		○					●	●	
	2QP-VBGT 221 HS	2QP-VBGT110308-HP	0.031	0.087	2		○					●	●	●
	2QP-VBGT 222 HS	2QP-VBGT110308-HS		0.087	2		○					●	●	

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

VB



IC : 0.375"
D1 : 0.173"
S : 0.187"

35° Rhombic Positive 5° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F	BXM10	BXM20	BXA30	BXA40	BX310	BX330	BX360
Precision finishing	2QP-VBGW 330.5-LF	2QP-VBGW160402-LF	0.008	0.138	2			○				●	●								
	2QP-VBGW 330.5-L	2QP-VBGW160402-L		0.138	2				○			●	●								
	2QP-VBGW 331-LF	2QP-VBGW160404-LF	0.016	0.122	2			○				●	●								
	2QP-VBGW 331-L	2QP-VBGW160404-L		0.122	2				○			●	●								
	2QP-VBGW 332-LF	2QP-VBGW160408-LF	0.031	0.087	2			○				●	●								
	2QP-VBGW 332-L	2QP-VBGW160408-L		0.087	2				○			●	●								
Finishing	2QP-VBGW 330.5	2QP-VBGW160402	0.008	0.138	2		○					●	●								
	2QP-VBGW 330.5-LC	2QP-VBGW160402-LC		0.138	2					○		●	●								
	2QP-VBGW 331	2QP-VBGW160404	0.016	0.122	2		○					●	●		●	●	●	●			
	2QP-VBGW 331-SR	2QP-VBGW160404SR		0.122	2		○							●							
	2QP-VBMW 331	2QP-VBMW160404		0.122	2		○												●	●	●
	2QP-VBGW 331-LC	2QP-VBGW160404-LC		0.122	2					○		●	●								
	2QP-VBGW 332	2QP-VBGW160408	0.031	0.087	2		○					●	●		●	●	●	●			
	2QP-VBGW 332-SR	2QP-VBGW160408SR		0.087	2		○							●							
	2QP-VBMW 332	2QP-VBMW160408		0.087	2		○												●	●	●
	2QP-VBGW 332-LC	2QP-VBGW160408-LC		0.087	2					○		●	●								
	2QP-VBGW 333	2QP-VBGW160412	0.047	0.118	2		○					●	●								
Medium cutting	2QP-VBGW 330.5-H	2QP-VBGW160402-H	0.008	0.138	2						○		●								
	2QP-VBGW 331-H	2QP-VBGW160404-H	0.016	0.122	2						○		●								
	2QP-VBGW 331-HC	2QP-VBGW160404HC		0.122	2						○			●							
	2QP-VBGW 332-H	2QP-VBGW160408-H	0.031	0.087	2						○		●								
	2QP-VBGW 332-HC	2QP-VBGW160408HC		0.087	2						○			●							

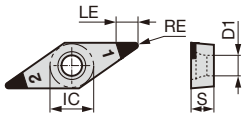
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: VB: Internal toolholder → D068 -, J-Series toolholder → G058 -, TungCap → K027
VC: External toolholder → C113 -, Internal toolholder → D072 -, TungCap → K015 -

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

VB with chipbreaker



IC : 0.375"
D1 : 0.173"
S : 0.187"

35° Rhombic Positive 5° with hole

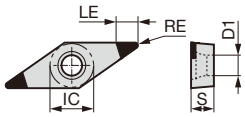
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10
Precision finishing	2QP-VBGT 331 HP	2QP-VBGT160404-HP	0.016	0.118	2		○					●	●	●
	2QP-VBGT 331 HS	2QP-VBGT160404-HS		0.118	2		○					●	●	
	2QP-VBGT 332 HP	2QP-VBGT160408-HP	0.031	0.087	2		○					●	●	●
	2QP-VBGT 332 HS	2QP-VBGT160408-HS		0.087	2		○					●	●	

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

VC



IC : 0.187"
D1 : 0.091"
S : 0.094"

35° Rhombic Positive 7° with hole

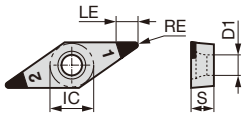
K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20
Finishing	2QP-VCGW 630.5	2QP-VCGW080202	0.008	0.138	2		○					●	●
	2QP-VCGW 631	2QP-VCGW080204	0.016	0.122	2		○					●	●
	2QP-VCGW 632	2QP-VCGW080208	0.031	0.087	2		○					●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

VC



IC : 0.375"
D1 : 0.173"
S : 0.187"

35° Rhombic Positive 7° with hole

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BXM10	BXM20	BXA40	BX330	BX360	BX815	BX930
Precision finishing	2QP-VCGW 332-E	2QP-VCGW160408-E	0.031	0.087	2		○												●	
	2QP-VCGW 332-LT	2QP-VCGW160408-LT		0.087	2						○								●	
	2QP-VCGW 333-E	2QP-VCGW160412-E	0.047	0.118	2		○												●	
	2QP-VCGW 333-LT	2QP-VCGW160412-LT		0.118	2						○								●	
Finishing	2QP-VCGW 330.5	2QP-VCGW160402	0.008	0.138	2		○					●	●							
	2QP-VCGW 331	2QP-VCGW160404	0.016	0.122	2		○					●	●	●	●	●				
	2QP-VCMW 331	2QP-VCMW160404		0.122	2		○										●	●		●
	2QP-VCGW 332	2QP-VCGW160408	0.031	0.087	2		○					●	●							
Medium cutting	2QP-VCGW 330.5-H	2QP-VCGW160402-H	0.008	0.138	2						○	●	●							
	2QP-VCGW 331-H	2QP-VCGW160404-H	0.016	0.122	2						○	●	●							
	2QP-VCGW 332-H	2QP-VCGW160408-H	0.031	0.087	2						○	●	●							

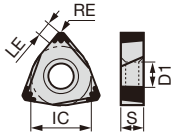
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

CBN Insert POSITIVE TYPE

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

WX



IC : 0.250"
D1 : 0.106"
S : 0.125"

80° Trigon with hole

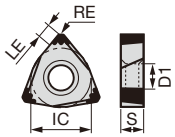
		BXA10	BXA20	BR35F
K	Cast iron			
S	Superalloy			
H	Hard material	●	●◐	✠
	Sintered metal			

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F
Finishing	6QS-WXGQ 220.5SPR	6QS-WXGQ040302SPR	0.008	0.071	6		○					●	●	●
	6QS-WXGQ 220.5SPL	6QS-WXGQ040302SPL		0.071	6		○					●	●	●
	6QS-WXGQ 221SPR	6QS-WXGQ040304SPR	0.016	0.071	6		○					●	●	●
	6QS-WXGQ 221SPL	6QS-WXGQ040304SPL		0.071	6		○					●	●	●
	6QS-WXGQ 222SPR	6QS-WXGQ040308SPR	0.031	0.067	6		○					●	●	●
	6QS-WXGQ 222SPL	6QS-WXGQ040308SPL		0.067	6		○					●	●	●

*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

WX with chipbreaker



IC : 0.250"
D1 : 0.106"
S : 0.125"

80° Trigon with hole

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

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Wiper	Standard	Improve issue* Burr	Flank wear	Crater wear	Chipping	BXA10	BXA20	BR35F
Precision finishing	6QS-WXGU 221R HP	6QS-WXGU040304R-HP	0.016	0.071	6		○					●	●	●
	6QS-WXGU 221L HP	6QS-WXGU040304L-HP		0.071	6		○					●	●	●
	6QS-WXGU 222R HP	6QS-WXGU040308R-HP	0.031	0.067	6		○					●	●	●
	6QS-WXGU 222L HP	6QS-WXGU040308L-HP		0.067	6		○					●	●	●

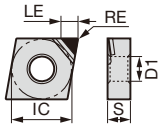
*Indicates the insert to use if the wear indicated is what happens with the standard hone.

● : Line up

Reference pages: External toolholder → C128 - Internal toolholder → D081 -
J-Series toolholder → G069 - TungCap → K025

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

CN



IC : 0.500"
D1 : 0.203"
S : 0.187"

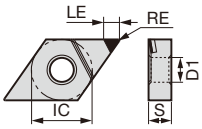
80°Rhombic with hole

N	Non-ferrous	●◐	●◐	●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX110	DX120	DX140
Finishing	1QP-CNMM 430.5	1QP-CNMM120402	0.008	0.109	1	○	●		
	CNMM 430.5-DIA	CNMM120402-DIA		0.138	1	○		●	
	1QP-CNMM 431	1QP-CNMM120404	0.016	0.109	1	○	●		
	CNMM 431-DIA	CNMM120404-DIA		0.138	1	○		●	
	CNGA 431 DIA	CNGA120404-DIA		0.138	1				●
	CNGA 432 DIA	CNGA120408-DIA	0.031	0.109	1				●

● : Line up

DN



IC : 0.500"
D1 : 0.203"
S : 0.187"

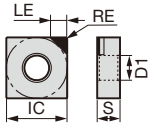
55° Rhombic with hole

N	Non-ferrous	●◐	●◐	●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX120	DX140	DX160
Finishing	DNMM 430.5-DIA	DNMM150402-DIA	0.008	0.130	1	○	●		
	DNMM 431-DIA	DNMM150404-DIA	0.016	0.122	1	○	●		
	DNGA 431 DIA	DNGA150404-DIA		0.122	1			●	●
	DNGA 432 DIA	DNGA150408-DIA	0.031	0.109	1			●	

● : Line up

SN



IC : 0.500"
D1 : 0.203"
S : 0.187"

Square with hole

N	Non-ferrous	●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140
Finishing	SNGA 431 DIA	SNGA120404-DIA	0.016	0.142	1		●
	SNGA 432 DIA	SNGA120408-DIA	0.031	0.142	1		●

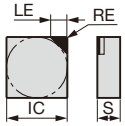
● : Line up

Reference pages: CN: External toolholder → C019 -, Internal toolholder → D027 -
J-Series toolholder → G036, TungCap → K008 -
DN: External toolholder → C036 -, Internal toolholder → D042 -
J-Series toolholder → G052, TungCap → K011 -
SN: External toolholder → C076 -, Internal toolholder → D054 -

PCD Insert NEGATIVE TYPE

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

SN



IC : 0.500"
S : 0.187"

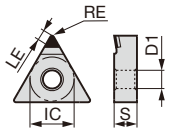
Square without hole

N Non-ferrous ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140
Finishing	SNGN 432-DIA	SNGN120408-DIA	0.031	0.142	1		●

● : Line up

TN



IC : 0.375"
D1 : 0.150"
S : 0.187"

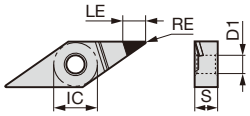
Triangular with hole

N Non-ferrous ●◐ ●◐ ●◐ ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX110	DX120	DX140	DX160
Finishing	1QP-TNMM 330.5	1QP-TNMM160402	0.008	0.106	1	○	●			
	TNMM 330.5-DIA	TNMM160402-DIA		0.130	1	○		●		
	1QP-TNMM 331	1QP-TNMM160404	0.016	0.102	1	○	●			
	TNMM 331-DIA	TNMM160404-DIA		0.125	1	○		●		
	TNGA 331 DIA	TNGA160404-DIA		0.125	1				●	●
	TNGA 332 DIA	TNGA160408-DIA	0.031	0.114	1				●	●

● : Line up

VN



IC : 0.375"
D1 : 0.150"
S : 0.187"

35° Rhombic with hole

N Non-ferrous ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX120
Finishing	VNMM 330.5-DIA	VNMM160402-DIA	0.008	0.189	1	○	●
	VNMM 331-DIA	VNMM160404-DIA	0.016	0.173	1	○	●
	VNMM 332-DIA	VNMM160408-DIA	0.031	0.142	1	○	●

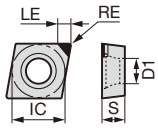
● : Line up

Reference pages: TN: External toolholder → C088 -, Internal toolholder → D063 -
J-Series toolholder → G056 -, TungCap → K013 -
VN: External toolholder → C103 -, Internal toolholder → D077 -, TungCap → K014 -

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

CC

80°Rhombic Positive 7° with hole



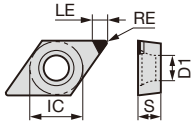
IC : 0.250"
D1 : 0.109"
S : 0.094"

| | | |

PCD Insert POSITIVE TYPE

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

DC



IC : 0.250"
D1 : 0.110"
S : 0.094"

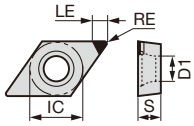
55° Rhombic Positive 7° with hole

N Non-ferrous ●◐ ●◐ ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX110	DX120	DX140
Finishing	DCGW 21.5V DIA	DCGW070200-DIA	0.002	0.094	1				●
	DCMT 21.50.5 DIA	DCMT070202-DIA	0.008	0.091	1	○		●	
	DCGW 21.50.5 DIA	DCGW070202-DIA		0.091	1			●	●
	1QP-DCGT 21.51 NS	1QP-DCGT070204-NS	0.016	0.118	1	○	●		
	DCMT 21.51 DIA	DCMT070204-DIA		0.083	1	○		●	
	DCGW 21.51 DIA	DCGW070204-DIA		0.083	1				●

● : Line up

DC



IC : 0.375"
D1 : 0.173"
S : 0.156"

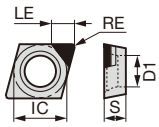
55° Rhombic Positive 7° with hole

N Non-ferrous ●◐ ●◐ ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX110	DX120	DX140
Finishing	DCMT 32.50.5 DIA	DCMT11T302-DIA	0.008	0.125	1	○		●	
	DCGW 32.50.5 DIA	DCGW11T302-DIA		0.125	1				●
	1QP-DCGT 32.51 NS	1QP-DCGT11T304-NS	0.016	0.118	1	○	●		
	DCMT 32.51 DIA	DCMT11T304-DIA		0.118	1	○		●	
	DCGW 32.51 DIA	DCGW11T304-DIA		0.118	1				●
	1QP-DCGT 32.52 NS	1QP-DCGT11T308-NS	0.031	0.118	1	○	●		
	DCGW 32.52 DIA	DCGW11T308-DIA		0.106	1				●

● : Line up

EP



IC : 0.156"
D1 : 0.091"
S : 0.063"

75° Rhombic Positive 11° with hole

N Non-ferrous ●◐

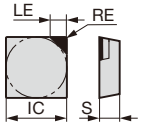
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140
Finishing	EPGW 520.5 DIA	EPGW040102-DIA	0.008	0.079	1		●
	EPGW 521 DIA	EPGW040104-DIA	0.016	0.075	1		●

● : Line up

Reference pages: DC: External toolholder → C052 -, Internal toolholder → D032 -
J-Series toolholder → G037 -, TungCap → K015 -
EP : Internal toolholder → D048 -

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

SP



IC : 0.375"
S : 0.125"

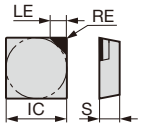
Square Positive 11° without hole

N Non-ferrous ●ᴄ

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140
Finishing	SPGN 322 DIA	SPGN090308-DIA	0.031	0.142	1		●

● : Line up

SP



IC : 0.500"
S : 0.125"

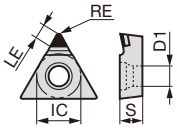
Square Positive 11° without hole

N Non-ferrous ●ᴄ ●ᴄ

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140	DX160
Finishing	SPGN 420 DIA	SPGN120302-DIA	0.008	0.142	1		●	
	SPGN 421 DIA	SPGN120304-DIA	0.016	0.142	1		●	
	SPGN 422 DIA	SPGN120308-DIA	0.031	0.142	1		●	●

● : Line up

TC



IC : 0.187"
D1 : 0.106"
S : 0.094"

Triangular Positive 7° with hole

N Non-ferrous ●ᴄ

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX120
Finishing	TCMT 63Y DIA	TCMT080202-DIA	0.008	0.087	1	○	●
	TCMT 631 DIA	TCMT080204-DIA	0.016	0.079	1	○	●

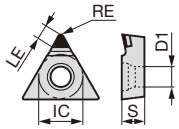
● : Line up

Reference pages: SP: Internal toolholder → D053
TC: External toolholder → C098 -, Internal toolholder → D056
J-Series toolholder → G054 -

PCD Insert POSITIVE TYPE

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

TC



IC : 0.250"
D1 : 0.109"
S : 0.094"

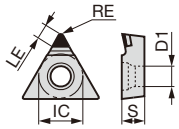
Triangular Positive 7° with hole

N Non-ferrous

Application	Designation Inch	Designation Metric	RE (Dimension (in))	LE (Dimension (in))	No. of corners	Chipbreaker	DX120
Finishing	TCMT 21.50.5 DIA	TCMT110202-DIA	0.008	0.094	1	○	●
Finishing	TCMT 21.51 DIA	TCMT110204-DIA	0.016	0.087	1	○	●

● : Line up

TC



IC : 0.250"
D1 : 0.109"
S : 0.125"

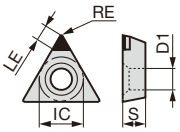
Triangular Positive 7° with hole

N Non-ferrous

Application	Designation Inch	Designation Metric	RE (Dimension (in))	LE (Dimension (in))	No. of corners	Chipbreaker	DX110	DX120
Finishing	TCMT 220.5 DIA	TCMT110302-DIA	0.008	0.094	1	○		●
Finishing	1QP- TCMT 221	1QP-TCMT110304	0.016	0.087	1	○	●	
Finishing	TCMT 221 DIA	TCMT110304-DIA		0.087	1	○		●

● : Line up

TP



IC : 0.219"
D1 : 0.098"
S : 0.094"

Triangular Positive 11° with hole

N Non-ferrous

Application	Designation Inch	Designation Metric	RE (Dimension (in))	LE (Dimension (in))	No. of corners	Chipbreaker	DX140
Finishing	TPGA 73Y DIA	TPGA090202-DIA	0.008	0.094	1		●
Finishing	TPGA 731 DIA	TPGA090204-DIA	0.016	0.087	1		●

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

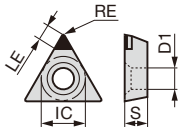
● : Line up

Reference pages: TC: External toolholder → C098 -, Internal toolholder → D056
J-Series toolholder → G054 -
TP: Mounting hole specification → B146, Internal toolholder → D057 -

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

TP

Triangular Positive 11° with hole



IC : 0.250"
D1 : 0.110"
S : 0.094"

N Non-ferrous ●◐

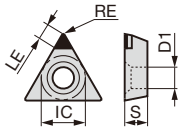
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140
Finishing	TPGA 21.50 DIA	TPGA110202-DIA	0.008	0.094	1		●
Finishing	TPGA 21.51 DIA	TPGA110204-DIA	0.016	0.087	1		●

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

● : Line up

TP

Triangular Positive 11° with hole



IC : 0.250"
D1 : 0.118"
S : 0.125"

N Non-ferrous ●◐

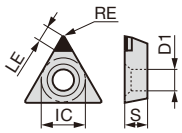
Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140
Finishing	TPGA 220.5 DIA	TPGA110302-DIA	0.008	0.094	1		●
Finishing	TPGA 221 DIA	TPGA110304-DIA	0.016	0.087	1		●
Finishing	TPGA 222 DIA	TPGA110308-DIA	0.031	0.114	1		●

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

● : Line up

TP

Triangular Positive 11° with hole



IC : 0.375"
D1 : 0.157"
S : 0.125"

N Non-ferrous ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140
Finishing	TPGA 320.5 DIA	TPGA160302-DIA	0.008	0.130	1		●
Finishing	TPGA 321 DIA	TPGA160304-DIA	0.016	0.125	1		●
Finishing	TPGA 322 DIA	TPGA160308-DIA	0.031	0.114	1		●

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

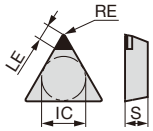
● : Line up

Reference pages: Mounting hole specification → B146
Internal toolholder → D057 -

PCD Insert POSITIVE TYPE

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

TP



IC : 0.219"
S : 0.094"

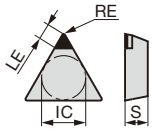
Triangular Positive 11° without hole

N Non-ferrous ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX140
Finishing	TPGN 731 DIA	TPGN090204-DIA	0.016	0.087	1		●

● : Line up

TP



IC : 0.250"
S : 0.125"

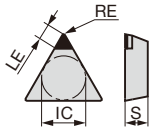
Triangular Positive 11° without hole

N Non-ferrous ●◐ ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX120	DX140
Finishing	TPGN 221 DIA	TPGN110304-DIA	0.016	0.125	1		●	●
	TPGN 222 DIA	TPGN110308-DIA	0.031	0.114	1			●

● : Line up

TP



IC : 0.375"
S : 0.125"

Triangular Positive 11° without hole

N Non-ferrous ●◐ ●◐

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	DX120	DX140
Finishing	TPGN 320.5 DIA	TPGN160302-DIA	0.008	0.130	1			●
	TPGN 321 DIA	TPGN160304-DIA	0.016	0.125	1		●	●
	TPGN 322 DIA	TPGN160308-DIA	0.031	0.114	1			●

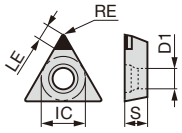
● : Line up

Reference pages: Internal toolholder → D058

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

TP

Triangular Positive 11° with hole



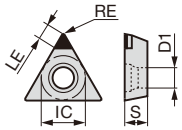
IC : 0.187"
D1 : 0.091"
S : 0.094"

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	N Non-ferrous DX140
Finishing	TPGW 63Y DIA	TPGW080202-DIA	0.008	0.094	1		●
Finishing	TPGW 631 DIA	TPGW080204-DIA	0.016	0.091	1		●

● : Line up

TP

Triangular Positive 11° with hole



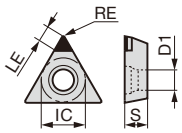
IC : 0.219"
D1 : 0.098"
S : 0.094"

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	N Non-ferrous DX120	DX140
Finishing	TPGW 73Y DIA	TPGW090202-DIA	0.008	0.094	1		●	●
Finishing	TPGW 731 DIA	TPGW090204-DIA	0.016	0.087	1			●

● : Line up

TP

Triangular Positive 11° with hole



IC : 0.250"
D1 : 0.109"
S : 0.094"

Application	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	N Non-ferrous DX120	DX140
Finishing	TPGW 21.50.5 DIA	TPGW110202-DIA	0.008	0.094	1		●	●
Finishing	TPGW 21.51 DIA	TPGW110204-DIA	0.016	0.087	1			●

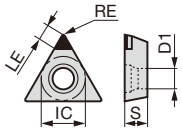
● : Line up

Reference pages: Internal toolholder → D057 -

PCD Insert POSITIVE TYPE

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

TP



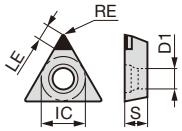
IC : 0.313"
D1 : 0.134"
S : 0.125"

Triangular Positive 11° with hole

	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	N Non-ferrous ●◐ DX120	●◐ DX140
Finishing	TPGW 2.520.5 DIA	TPGW130302-DIA	0.008	0.130	1		●	●
Finishing	TPGW 2.521 DIA	TPGW130304-DIA	0.016	0.125	1			●

● : Line up

TP



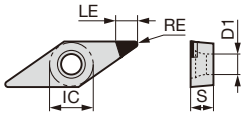
IC : 0.375"
D1 : 0.173"
S : 0.156"

Triangular Positive 11° with hole

	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	N Non-ferrous ●◐ DX140
Finishing	TPGW 32.50.5 DIA	TPGW16T302-DIA	0.008	0.130	1		●
Finishing	TPGW 32.51 DIA	TPGW16T304-DIA	0.016	0.125	1		●
Finishing	TPGW 32.52 DIA	TPGW16T308-DIA	0.031	0.114	1		●

● : Line up

VC



IC : 0.375"
D1 : 0.173"
S : 0.187"

35° Rhombic Positive 7° with hole

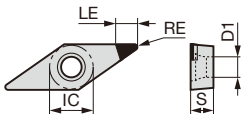
	Designation Inch	Designation Metric	Dimension (in) RE	Dimension (in) LE	No. of corners	Chipbreaker	N Non-ferrous ●◐ DX110	●◐ DX120	●◐ DX140
Finishing	VCMT 330.5 DIA	VCMT160402-DIA	0.008	0.189	1	○		●	
Finishing	VCGW 330.5 DIA	VCGW160402-DIA		0.189	1				●
Finishing	1QP-VCGT 331 NS	1QP-VCGT160404-NS	0.016	3	1	○	●		
Finishing	VCMT 331 DIA	VCMT160404-DIA		0.173	1	○		●	
Finishing	VCGW 331 DIA	VCGW160404-DIA		0.173	1				●
Finishing	1QP-VCGT 332 NS	1QP-VCGT160408-NS	0.031	3	1	○	●		

● : Line up

Reference pages: TP: Internal toolholder → D057 -
VC: External toolholder → C113 -, Internal toolholder → D072 -, TungCap → K015 -

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

VB



IC : 0.375"
D1 : 0.173"
S : 0.187"

35° Rhombic Positive 5° with hole

							N Non-ferrous	●◐
Application	Designation		Dimension (in)		No. of corners	Chipbreaker		
	Inch	Metric	RE	LE				DX110
Finishing	1QP-VBGT 331 NS	1QP-VBGT160404-NS	0.016	3	1	○		●
	1QP-VBGT 332 NS	1QP-VBGT160408-NS	0.031	3	1	○		●

● : Line up

Reference pages: Internal toolholder → D068 - TungCap → K027

● CVD Coated Grades for Turning

ISO Classification	ISO Symbol	Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	NTK	Kennametal	Seco Tools	Walter	Iscar	TaeguTec	Ceratizit
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 Classification	ISO Symbol	Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	NTK	Kennametal	Seco Tools	Walter	Iscar	TaeguTec	Ceratizit
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 Classification	ISO Symbol	Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	NTK	Kennametal	Seco Tools	Walter	Iscar	TaeguTec	Ceratizit
P	P01	**NS520**	AP25N VP25N	T1000A		TN610 PV710						IC20N IC520N	PV3010	CTEP10 TCM407
P	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
P	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
P	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
M	M20	**AT9530** **GT9530** **NS9530** **J9530**	AP25N VP25N NX2525	T1500A		TN620 PV720 PV730	CZ25					IC30N IC530N	PV3010 CT3000	
M	M30	**NS9530**		T3000Z			CZ25							
K	K01	**NS520**	AP25N VP25N	T1000A		PV7005							PV3010	CTEP10 TCM10 TCM407
K	K10	**AT9530** **GT9530** **NS9530** **J9530**	AP25N VP25N NX2525		CT5015	TN60 CCX	CZ25		KT315 KTP10				PV3010 CT3000	TCM10
K	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 Classification	ISO Symbol	Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	NTK	Kennametal	Seco Tools	Walter	Iscar	TaeguTec	Ceratizit
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 Classification	ISO Symbol	Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	Dijet	NTK	Seco Tools	Kennametal	Iscar	Ingersoll	TaeguTec	Widia	Walter	Ceratizit
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 Classification	ISO Symbol	Tungaloy	Mitsubishi Carbide	Sumitomo Electric	Sandvik	Kyocera	Moldino	Dijet	NTK	Seco Tools	Kennametal	Iscar	Ingersoll	TaeguTec	Widia	Walter	Ceratizit
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
P	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
P	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
P	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		
M	Finishing to Medium cutting	**PSS PS**	LM SV	SI, GU LB, SU	MQ	MM UM			LF, FP	M3			PF4	SF, SMF
M	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
S	Finishing to Medium cutting	**PSS PS**	LS.MS	SU, GU		MM SM			LF, FP	MF2				F23
S	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	

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