

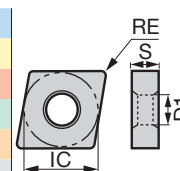
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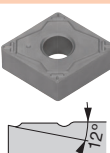
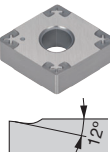
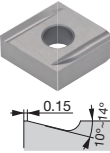
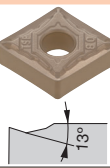
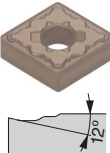
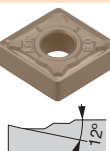
- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊗ : Heavy interrupted cutting

CN



**Rhombic, 80°
with hole**

[illegible]

Application	Chipbreaker	Designation	Material										Coated		Coated cermet		Cermet		Uncoated		Dimension (mm)					
			T9205	T9215	T9225	T9235	T9105	T9115	T9125	T9135	AH120	GH110	GT9530	AT9530		NS9530	NS520		TH10				RE	IC	S	D1
Precision finishing		TF	CNMG120404-TF													●			●				0.4	12.7	4.76	5.16
			CNMG120408-TF													●							0.8	12.7	4.76	5.16
		01	CNGG090302-01													●							0.2	9.525	3.18	3.81
			CNGG090304-01													●							0.4	9.525	3.18	3.81
			CNGG090308-01													●							0.8	9.525	3.18	3.81
			CNGG120402-01													●	●		●				0.2	12.7	4.76	5.16
			CNGG120404-01													●	●		●				0.4	12.7	4.76	5.16
			CNGG120408-01													●	●		●				0.8	12.7	4.76	5.16
		C	CNGG120404R-C									●				●							0.4	12.7	4.76	5.16
			CNGG120404L-C													●							0.4	12.7	4.76	5.16
			CNGG120408R-C													●							0.8	12.7	4.76	5.16
			CNGG120408L-C													●							0.8	12.7	4.76	5.16
Finishing		TSF	CNMG090404E-TSF	●	●			▲	▲				●	●		●						0.4	9.525	4.76	3.81	
			CNMG090408E-TSF		●	●		▲	▲				●	●		●						0.8	9.525	4.76	3.81	
			CNMG120404-TSF	●	●	●		▲	▲	▲		●		●	●		●					0.4	12.7	4.76	5.16	
			CNMG120408-TSF	●	●	●	●	▲	▲	▲	▲	●		●	●		●					0.8	12.7	4.76	5.16	
			CNMG120412-TSF		●	●		▲	▲		●											1.2	12.7	4.76	5.16	
Finishing (wiper)		FW	CNMG090404E-FW	●	●	●		▲	▲	▲			●			●					0.4	9.525	4.76	3.81		
			CNMG090408E-FW	●	●	●		▲	▲	▲			●			●					0.8	9.525	4.76	3.81		
			CNMG120404-FW		●			▲					●			●					0.4	12.7	4.76	5.16		
			CNMG120408-FW	●	●	●		▲	▲	▲			●			●					0.8	12.7	4.76	5.16		
		AFW	CNMG120404-AFW		●	●			▲	▲				●		●					0.4	12.7	4.76	5.16		
			CNMG120408-AFW	●	●	●	●	▲	▲	▲	▲			●							0.8	12.7	4.76	5.16		

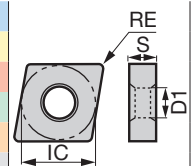
* Please see **L032-L036** about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

● : Line up
▲ : To be discontinued

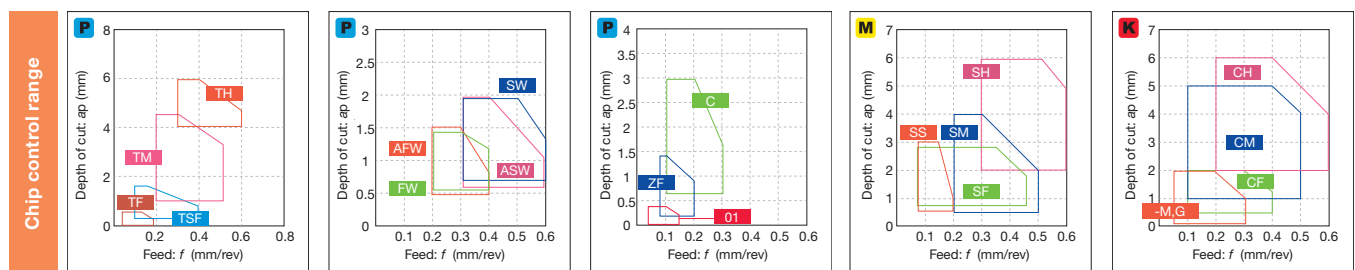
Reference pages: External toolholder → **C016** - Internal toolholder → **D021** -
J-Series toolholder → **G044** TungCap → **K008** -
PINZBOHR® → **K180** - Cartridge → **K199** -

- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊕ : Heavy interrupted cutting

**Rhombic, 80°
with hole**

[illegible][illegible]

● : Line up
▲ : To be discontinued



*-M,G: Without chipbreaker

Reference pages: External toolholder → **C016 -** Internal toolholder → **D021 -**
 J-Series toolholder → **G044** TungCap → **K008 -**
 PINZBOHR® → **K180 -** Cartridge → **K199 -**

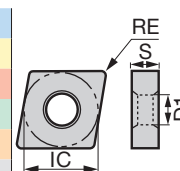
Insert **NEGATIVE TYPE**

- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊗ : Heavy interrupted cutting

CN



**Rhombic, 80°
with hole**

[illegible][illegible]

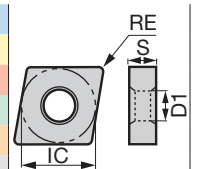
* Please see **L032-L036** about the adjustment of the machining program for rounding or taper machining by using SW/FW.
Please contact our sales representatives if you have any question.

● : Line up
▲ : To be discontinued

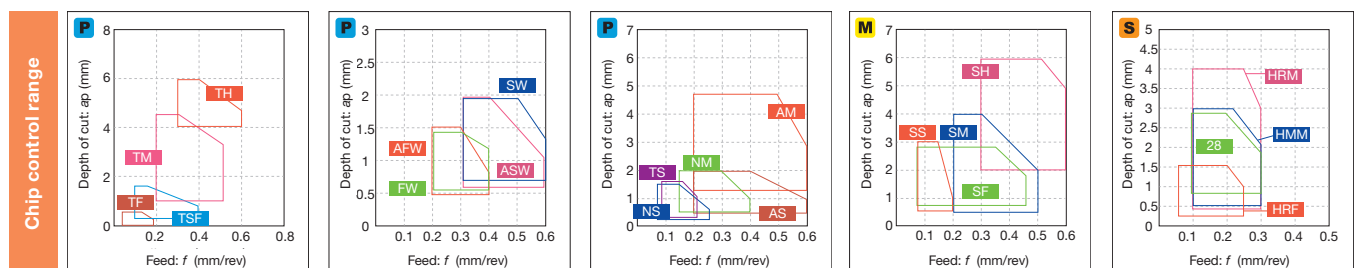
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 J-Series toolholder → **G044** TungCap → **K008 -**
 PINZBOHR® → **K180 -** Cartridge → **K199 -**

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**Rhombic, 80°
with hole**

[illegible]

● : Line up
▲ : To be discontinued



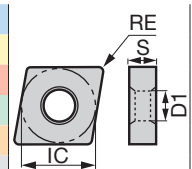
Reference pages: External toolholder → **C016 -** Internal toolholder → **D021 -**
 J-Series toolholder → **G044** TungCap → **K008 -**
 PINZBOHR® → **K180 -** Cartridge → **K199 -**

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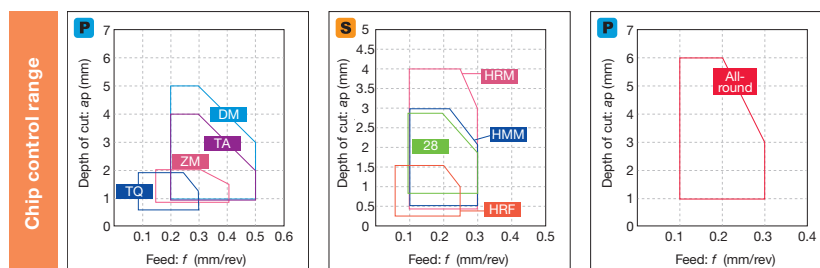
- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊗ : Heavy interrupted cutting



**Rhombic, 80°
with hole**

[illegible]

● : Line up
▲ : To be discontinued



Reference pages: External toolholder → **C018 -** Internal toolholder → **D023 -**
 J-Series toolholder → **G044** TungCap → **K008 -**
 PINZBOHR® → **K180 -** Cartridge → **K199 -**

Index	User's Guide	Drilling tool	Endmill	Milling cutter	Miniature tool	Grooving	Threading	Int. toolholder	Ext. toolholder	Insert	Grade
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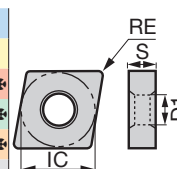
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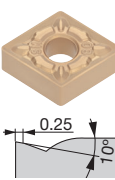
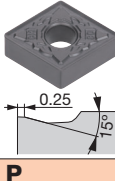
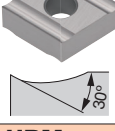
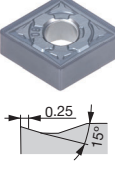
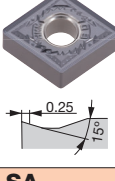
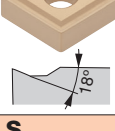
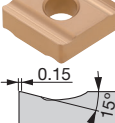
- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊗ : Heavy interrupted cutting

CN



**Rhombic, 80°
with hole**

[illegible]

Application	Chipbreaker	Designation	Coated																			Coated cermet	Cer- met	Uncoated		Dimension (mm)						
			T9225	T9235	T9125	T9135	T6120	T6130	AH630	AH645	AH110	AH120	T515	T5105	T5115	T5125	AH725	AH8005	AH8015	AH905	GH110	GH330	GT720	NS9530	TH10	KS05F	KS20	RE	IC	S	D1	
Medium cutting		SM CNMG090404E-SM					●	●	●																			0.4	9.525	4.76	3.81	
		CNMG090408E-SM					●	●	●																				0.8	9.525	4.76	3.81
		CNMG090412E-SM					●	●	●																				1.2	9.525	4.76	3.81
		CNMG120404-SM					●	●	●	●						●												0.4	12.7	4.76	5.16	
		CNMG120408-SM					●	●	●	●						●				●								0.8	12.7	4.76	5.16	
		CNMG120412-SM					●	●	●	●						●												1.2	12.7	4.76	5.16	
		CM CNMG120404-CM										●	●	●	●													0.4	12.7	4.76	5.16	
		CNMG120408-CM										●	●	●	●													0.8	12.7	4.76	5.16	
		CNMG120412-CM										●	●	●	●													1.2	12.7	4.76	5.16	
		CNMG160608-CM											●	●	●	●												0.8	15.875	6.35	6.35	
		CNMG160612-CM											●	●	●	●												1.2	15.875	6.35	6.35	
			P CNGG120404R-P																				●		●	●		0.4	12.7	4.76	5.16	
CNGG120404L-P																						●		●		0.4	12.7	4.76	5.16			
CNGG120408R-P																							●		●	0.8	12.7	4.76	5.16			
CNGG120408L-P																								●		0.8	12.7	4.76	5.16			
Finishing to medium cutting		HRM CNMG120404-HRM															●	●									0.4	12.7	4.76	5.16		
		CNMG120408-HRM																●	●								0.8	12.7	4.76	5.16		
		CNMG120412-HRM																●	●								1.2	12.7	4.76	5.16		
		CNMG160608-HRM																●	●								0.8	15.875	6.35	6.35		
		CNMG160612-HRM																●	●								1.2	15.875	6.35	6.35		
		CNMG190612-HRM																●	●								1.2	19.05	6.35	7.93		
		CNMG190616-HRM																●	●								1.6	19.05	6.35	7.93		
Medium cutting		HMM CNMG120404-HMM																	●								0.4	12.7	4.76	5.16		
		CNMG120408-HMM																		●					●		0.8	12.7	4.76	5.16		
		CNMG120412-HMM																		●							1.2	12.7	4.76	5.16		
		CNMG160608-HMM																		●							0.8	15.875	6.35	6.35		
		CNMG160612-HMM																		●							1.2	15.875	6.35	6.35		
		CNMG160616-HMM																		●							1.6	15.875	6.35	6.35		
	SA CNMG120404-SA					●	●	●	●		●																0.4	12.7	4.76	5.16		
	CNMG120408-SA					●	●	●	●	●	●														●		0.8	12.7	4.76	5.16		
	CNMG120412-SA					●	●	●	●		●														●		1.2	12.7	4.76	5.16		
	CNMG190612-SA										●														●		1.2	19.05	6.35	7.93		
	CNMG190616-SA										●														●		1.6	19.05	6.35	7.93		
	S CNMG120404R-S	●	●	▲	▲		●	●	●												●	●		●		0.4	12.7	4.76	5.16			
	CNMG120404L-S	●	●	▲	▲		●	●	●													●		●		0.4	12.7	4.76	5.16			
	CNMG120408R-S	●	●	▲	▲		●	●	●													●	●		●		0.8	12.7	4.76	5.16		
	CNMG120408L-S	●	●	▲	▲		●	●	●													●		●		0.8	12.7	4.76	5.16			

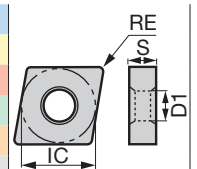
● : Line up
▲ : To be discontinued

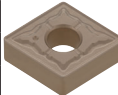
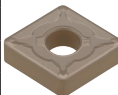
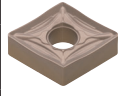
Reference pages: External toolholder → **C016** - Internal toolholder → **D021** -
J-Series toolholder → **G044** TungCap → **K008** -
PINZBOHR® → **K180** - Cartridge → **K199** -

- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊕ : Heavy interrupted cutting

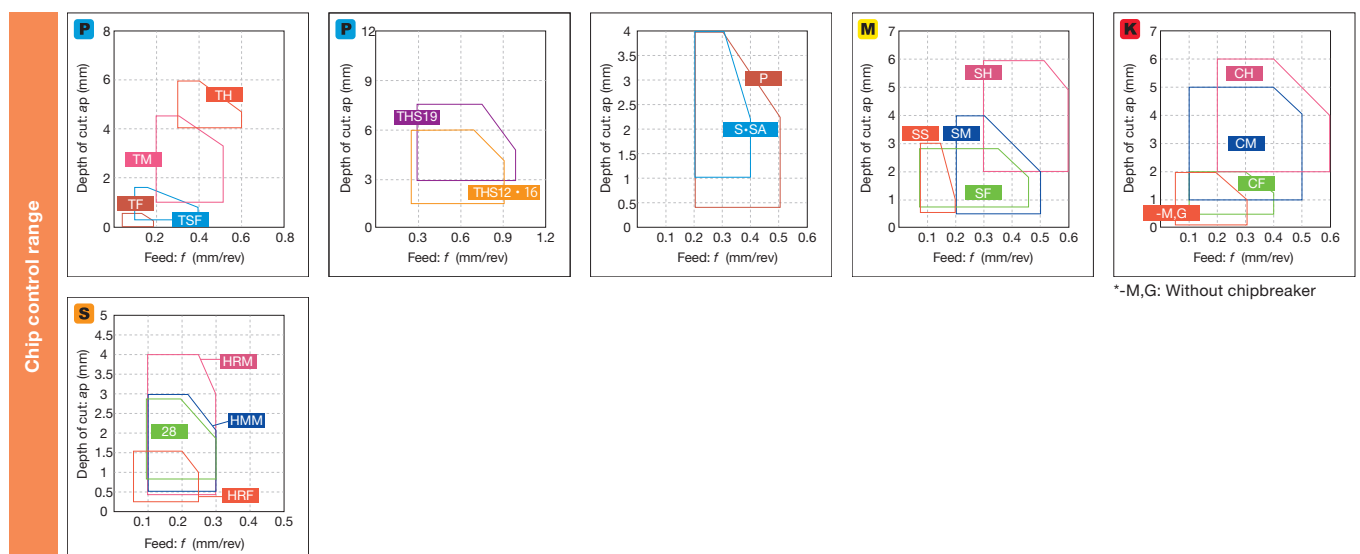


**Rhombic, 80°
with hole**

[illegible]

Application	Chipbreaker	Designation	Material										Coated								Dimension (mm)				
			T9205	T9215	T9225	T9235	T9105	T9115	T9125	T9135	T6130	AH120										RE	IC	S	D1
Medium to heavy cutting	TH	CNMG120408-TH	●	●	●	●	▲	▲	▲	▲	●	●										0.8	12.7	4.76	5.16
		CNMG120412-TH	●	●	●	●	▲	▲	▲	▲	●	●										1.2	12.7	4.76	5.16
		CNMG120416-TH	●	●	●	●	▲	▲	▲	▲												1.6	12.7	4.76	5.16
		CNMG160612-TH	●	●	●	●	▲	▲	▲	▲		●										1.2	15.875	6.35	6.35
		CNMG160616-TH	●	●	●	●	▲	▲	▲	▲		●										1.6	15.875	6.35	6.35
		CNMG190612-TH	●	●	●	●	▲	▲	▲	▲		●										1.2	19.05	6.35	7.93
		CNMG190616-TH	●	●	●	●	▲	▲	▲	▲		●										1.6	19.05	6.35	7.93
	THS	CNMG120408-THS	●	●	●	●	▲	▲	▲	▲												0.8	12.7	4.76	5.16
		CNMG120412-THS	●	●	●	●	▲	▲	▲	▲												1.2	12.7	4.76	5.16
		CNMG120416-THS	●	●	●	●	▲	▲	▲	▲												1.6	12.7	4.76	5.16
		CNMG160612-THS	●	●	●	●	▲	▲	▲	▲												1.2	15.875	6.35	6.35
		CNMG160616-THS	●	●	●	●	▲	▲	▲	▲												1.6	15.875	6.35	6.35
		CNMG190612-THS		●	●	●		▲	▲	▲												1.2	19.05	6.35	7.93
CNMG190616-THS			●	●	●		▲	▲	▲												1.6	19.05	6.35	7.93	
CNMG190624-THS			●	●	●		▲	▲	▲												2.4	19.05	6.35	7.93	
CNMG250924-THS			●	●	●		▲	▲	▲												2.4	25.4	9.52	9.12	
Medium to heavy cutting (single side)	57	CNMM120404-57			●				▲													0.4	12.7	4.76	5.16
		CNMM120408-57		●	●				▲	▲												0.8	12.7	4.76	5.16
		CNMM120412-57			●					▲												1.2	12.7	4.76	5.16
		CNMM190612-57			●					▲												1.2	12.7	4.76	5.16
		CNMM190616-57			●					▲												1.6	12.7	4.76	5.16

● : Line up
▲ : To be discontinued



Reference pages: External toolholder → **C018 -** Internal toolholder → **D023 -**
 J-Series toolholder → **G044** TungCap → **K008 -**
 PINZBOHR® → **K180 -** Cartridge → **K199 -**

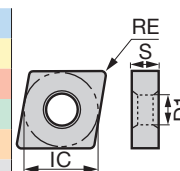
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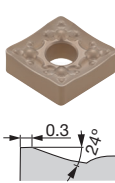
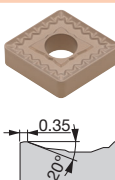
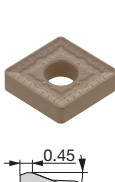
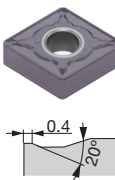
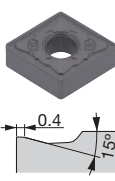
- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊗ : Heavy interrupted cutting

CN



**Rhombic, 80°
with hole**

[illegible]

Application	Chipbreaker	Designation	Coated												Dimension (mm)												
			T9205	T9215	T9225	T9235	T9115	T9125	T9135	T6130	AH630	AH645	T515	T5105	T5115	T5125					RE	IC	S	D1			
Medium to heavy cutting (single side)		TRS	CNMM120408-TRS	●	●	●	▲	▲	▲												0.8	12.7	4.76	5.16			
			CNMM120412-TRS	●	●	●	▲	▲	▲													1.2	12.7	4.76	5.16		
			CNMM160612-TRS	●	●	●	▲	▲	▲													1.2	15.875	6.35	6.35		
			CNMM160616-TRS	●	●	●	▲	▲	▲													1.6	15.875	6.35	6.35		
			CNMM190616-TRS	●	●	●	▲	▲	▲													1.6	19.05	6.35	7.93		
			CNMM190624-TRS	●	●	●	▲	▲	▲													2.4	19.05	6.35	7.93		
			CNMM250924-TRS	●	●	●	▲	▲	▲													2.4	25.4	9.52	9.12		
Heavy cutting (single side)		TU	CNMM190612-TU			●	●		▲	▲											1.2	19.05	6.35	7.93			
			CNMM190616-TU			●	●		▲	▲												1.6	19.05	6.35	7.93		
			CNMM190624-TU	●	●	●	▲	▲	▲													2.4	19.05	6.35	7.93		
			CNMM250924-TU			●	●		▲	▲												2.4	25.4	9.52	9.12		
		TUS	CNMM190608-TUS	●	●			▲	▲													0.8	19.05	6.35	7.93		
			CNMM190612-TUS	●	●	●	▲	▲	▲														1.2	19.05	6.35	7.93	
			CNMM190616-TUS	●	●	●	▲	▲	▲														1.6	19.05	6.35	7.93	
			CNMM190624-TUS	●	●	●	▲	▲	▲														2.4	19.05	6.35	7.93	
			CNMM190632-TUS	●	●			▲	▲														3.2	19.05	6.35	7.93	
			CNMM250916-TUS	●	●	●	▲	▲	▲														1.6	25.4	9.52	9.12	
			CNMM250924-TUS	●	●	●	▲	▲	▲														2.4	25.4	9.52	9.12	
			CNMM250932-TUS	●	●			▲	▲														3.2	25.4	9.52	9.12	
Medium to heavy cutting (single side)	65	CNMM120412-65			●			▲														1.2	12.7	4.76	5.16		
Medium to heavy cutting		SH	CNMG120408-SH							●	●	●										0.8	12.7	4.76	5.16		
			CNMG120412-SH								●	●	●										1.2	12.7	4.76	5.16	
			CNMG120416-SH								●	●	●										1.6	12.7	4.76	5.16	
			CNMG160612-SH								●	●	●										1.2	15.875	6.35	6.35	
			CNMG160616-SH								●	●	●										1.6	15.875	6.35	6.35	
			CNMG190612-SH								●	●	●										1.2	19.05	6.35	7.93	
			CNMG190616-SH								●	●	●										1.6	19.05	6.35	7.93	
		CH	CNMG120404-CH										●	●	●								0.4	12.7	4.76	5.16	
			CNMG120408-CH										●	●	●	●								0.8	12.7	4.76	5.16
			CNMG120412-CH										●	●	●	●								1.2	12.7	4.76	5.16
			CNMG160612-CH											●	●	●								1.2	15.875	6.35	6.35
			CNMG160616-CH											●	●	●								1.6	15.875	6.35	6.35
			CNMG190612-CH											●	●	●								1.2	19.05	6.35	7.93
	CNMG190616-CH											●	●	●								1.6	19.05	6.35	7.93		

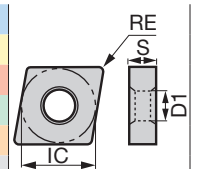
● : Line up
▲ : To be discontinued

Reference pages: External toolholder → **C018 -** Internal toolholder → **D023 -**
 J-Series toolholder → **G044** TungCap → **K008 -**
 PINZBOHR® → **K180 -** Cartridge → **K199 -**

- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊗ : Heavy interrupted cutting

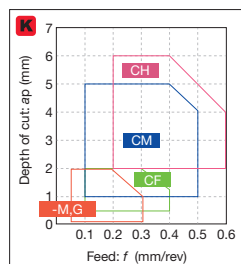
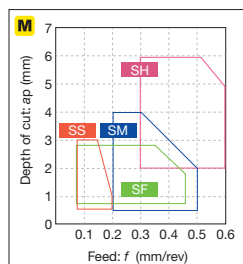


**Rhombic, 80°
with hole**

[illegible][illegible]

● : Line up
▲ : To be discontinued

Figure 10 is a line graph showing the relationship between Depth of cut: a_p (mm) on the y-axis and Feed: f (mm/rev) on the x-axis. The y-axis ranges from 0 to 21 with increments of 3. The x-axis ranges from 0 to 1.8 with increments of 0.3. Three data series are plotted: TU 19 (blue), TUS 19 (pink), and TBS 12-16 (orange). TU 19 starts at 0.3 mm/rev with a depth of 12 mm, peaks at 0.6 mm/rev with a depth of 12 mm, and ends at 0.9 mm/rev with a depth of 9 mm. TUS 19 starts at 0.3 mm/rev with a depth of 6 mm, peaks at 0.9 mm/rev with a depth of 9 mm, and ends at 1.2 mm/rev with a depth of 6 mm. TBS 12-16 starts at 0.3 mm/rev with a depth of 6 mm, peaks at 0.3 mm/rev with a depth of 6 mm, and ends at 0.6 mm/rev with a depth of 3 mm.



*-M,G: Without chipbreaker

Reference pages: External toolholder → **C018 -** Internal toolholder → **D021 -**
 J-Series toolholder → **G044** TungCap → **K008 -**
 PINZBOHR® → **K180 -** Cartridge → **K199 -**

[illegible]