



For more information

Grooving and profiling tool

TUNG ^{HEAVY} GROOVE

Tungaloy Report No. 427S1-G

New enhanced insert clamping system



Increased tool rigidity for heavy duty grooving applications

- A thick support material under the insert seat, combined with two-face contact design of the holder, provides extra tool stability during demanding operations with heavy cutting loads
- Internal coolant system with high pressure capability (with G1/8" connecting screw threads)



■ Comparison of toolholder stiffness

Tool deflection is reduced by more than 50%.

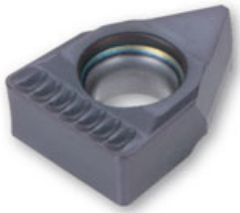


More than 50% higher rigidity!

HGM insert

- Pressed chipbreaker optimized for stable chip control
- Available in wear-resistant **T9215** CVD grade or versatile **AH8015** PVD grade

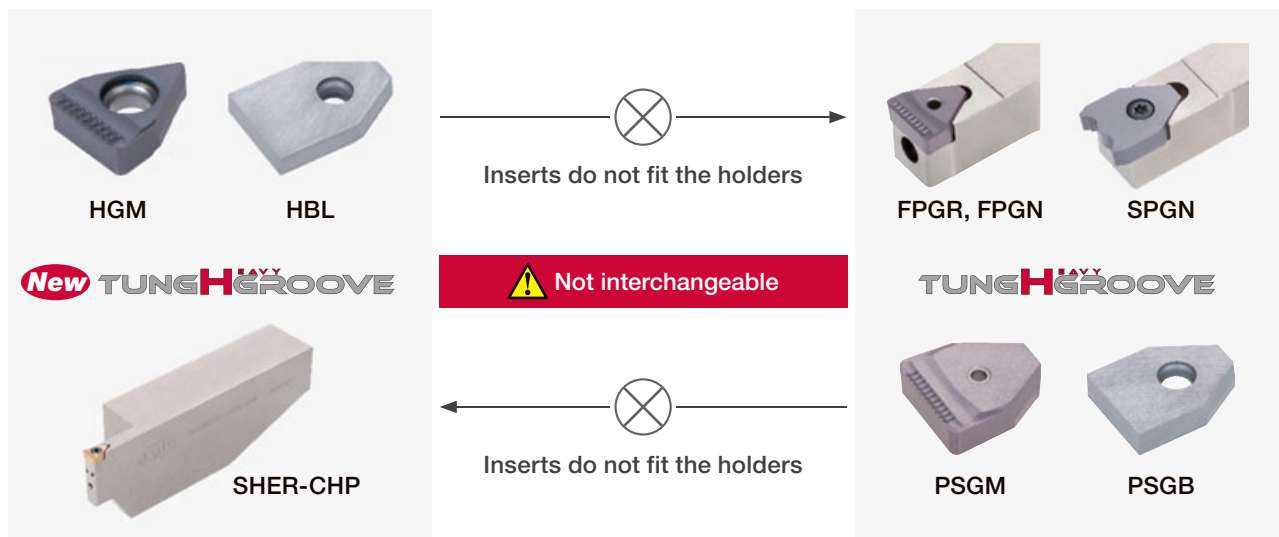
Chip control



P Insert : HGM10-08 AH8015
 Workpiece material : S45C / C45
 Groove width : CW = 10 mm
 Groove depth : 30 mm
 Coolant : Wet (1MPa)

Cutting speed: Vc (m/min)	120					
	100					
	80					
		0.2	0.25	0.3	0.35	0.4
		Feed: f (mm/rev)				

INSERT AND HOLDER COMPATIBILITIES



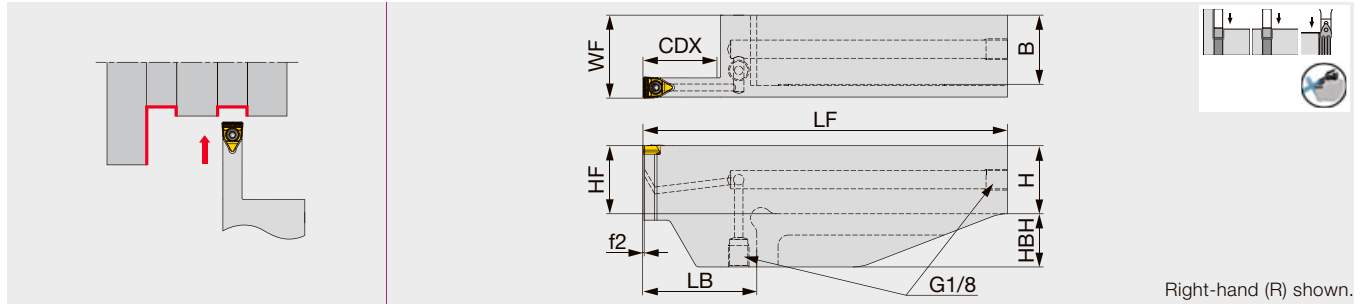
The new version of TungHeavyGroove is always the first choice. The previous version is recommended only when the tool-workpiece collision is anticipated.

TOOLHOLDER

SHER-CHP

Tube connection

External grooving and profiling toolholder, with high pressure coolant capability



Designation	CW	CDX ⁽¹⁾	LB ⁽¹⁾	H	B	LF ⁽¹⁾	HF	WF	HBH	f2 ⁽¹⁾	Insert	Torque*
SHER2525-10T20-CHP	10	20	37.5	25	25.5	150	25	32	25	0.5	HGM10..., HBL10	3.5
SHER3232-10T36-CHP	10	36	53.5	32	32.5	170	32	39	25	0.5	HGM10..., HBL10	3.5
SHER2525-15T20-CHP	15	20	37.5	25	25.5	150	25	32	25	0.5	HGM15..., HBL15	5
SHER3232-15T40-CHP	15	40	57.5	32	32.5	170	32	39	25	0.5	HGM15..., HBL15	5
SHER3232-20T40-CHP	20	40	57.7	32	32.5	170	32	39	25	0.7	HGM20..., HBL20	7
SHER4040-20T50-CHP	20	50	67.7	40	40.5	180	40	47	25	0.7	HGM20..., HBL20	7
SHER3232-25T40-CHP	25	40	57.7	32	32.5	170	32	39	25	0.7	HGM25..., HBL25	7
SHER4040-25T50-CHP	25	50	67.7	40	40.5	180	40	47	25	0.7	HGM25..., HBL25	7


(1) The values for CDX, LB, LF, and f2 are true when HGM insert is assembled. Note that these values differs when HBL insert is assembled.
Torque*: Recommended clamping torque (N·m)

SPARE PARTS

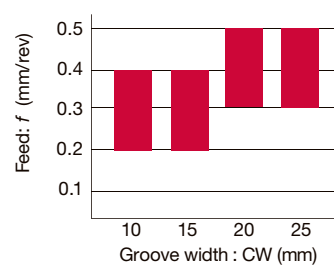
Designation	Clamping screw	Wrench	Grip	Torx bit	Coolant plug
SHER**-10T...	CSTB-4S	T-15F	-	-	PLUGG1/8-6.5TL360
SHER**-15T...	CSTB-5S	T-20F	-	-	PLUGG1/8-6.5TL360
SHER**-20T..., 25T...	CSTB-6	-	H-TB2W	BLDT25/S7	PLUGG1/8-6.5TL360

CHIPBREAKER GUIDE

HGM




For wide grooving
Designed to provide stable chip control during high feed rate machining
CW = 10 - 25 mm



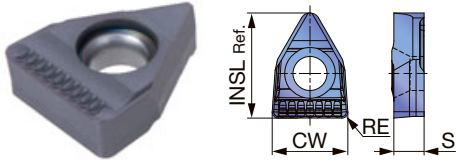
Feed: f (mm/rev)

Groove width : CW (mm)



INSERT

HGM



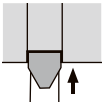
P	Steel	★	★						
M	Stainless	★	☆						
K	Cast iron	★	☆						
N	Non-ferrous								
S	Superalloys	★							
H	Hard materials								

★ : First choice
☆ : Second choice

Designation	CW±0.1	RE	Coated						INSL	S
			AH8015	T9215						
HGM10-08	10	0.8	●	●					13.9	4
HGM15-15	15	1.5	●	●					18	5
HGM20-20	20	2	●						22	6.5
HGM25-20	25	2	●						27	6.5

5 pieces per package
● : Line up

STANDARD CUTTING CONDITIONS

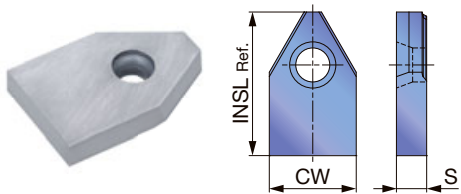


Wide grooving (HGM insert)

ISO	Workpiece material	Hardness	Priority	Grade	Cutting speed Vc (m/min)
P	Steel S45C, SCM435, etc. C45, 34CrMo4, etc.	< 300 HB	First choice	AH8015	80 - 180
		< 300 HB	Wear resistance	T9215	100 - 350
M	Stainless steel SUS303, SUS304, etc. X10CrNiS18-9, X5CrNi18-9, etc.	< 200 HB	First choice	AH8015	50 - 130
		< 200 HB	Wear resistance	T9215	100 - 250
K	Grey cast iron FC250, etc. 250, etc.	-	First choice	AH8015	50 - 180
		-	Wear resistance	T9215	140 - 300
K	Ductile cast iron FCD450, etc. 450-10S, etc.	-	First choice	AH8015	50 - 120
		-	Wear resistance	T9215	140 - 300
S	Superalloys Inconel718, etc.	< HRC 40	First choice	AH8015	20 - 80
		< HRC 40	First choice	AH8015	20 - 80
S	Titanium alloys Ti-6Al-4V, etc.	< HRC 40	First choice	AH8015	20 - 80

BLANK INSERT

HBL (Blank for wide profile grooving)



P	Steel	★							
M	Stainless	★							
K	Cast iron	★							
N	Non-ferrous	★							
S	Superalloys								
H	Hard materials								★ : First choice

Designation	CW±0.05	Uncoated						INSL	S
		TH10							
HBL10	11.5	●						19	4
HBL15	15.5	●						25	5
HBL20	20.5	●						30	6.5
HBL25	25.5	●						39	6.5

These are blanks (semi-finished products) for wide profile grooving inserts that can be tailored.

5 pieces per package

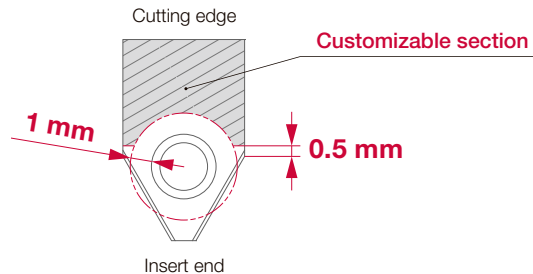
● : Line up

Customizable section of the blank

1 Customizable section of the blank is the part indicated by .

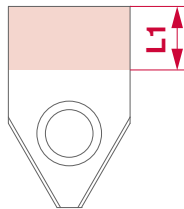
Excluding:

- The ring section enclosed between the outer circle of the screw hole and the circle **1.0 mm** larger in radius
- The triangular section for clamping and the section extended by **0.5 mm** towards the cutting edge



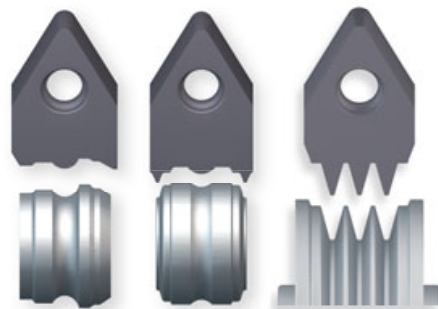
2 Requirement of additional modification

When the groove profile depth required exceeds the L1 value per in the right list, an additional modification may be required for the holder to avoid tool collision.



Designation	L1 (mm)
HBL10	6
HBL15	8.5
HBL20	8
HBL25	12

- Custom shaped inserts can be requested based on customers part drawing specifications
- Semi-finished blanks HBL types are offered for purchase



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