



For more information

Grooving and profiling tool

TUNG ^{HEAVY} GROOVE

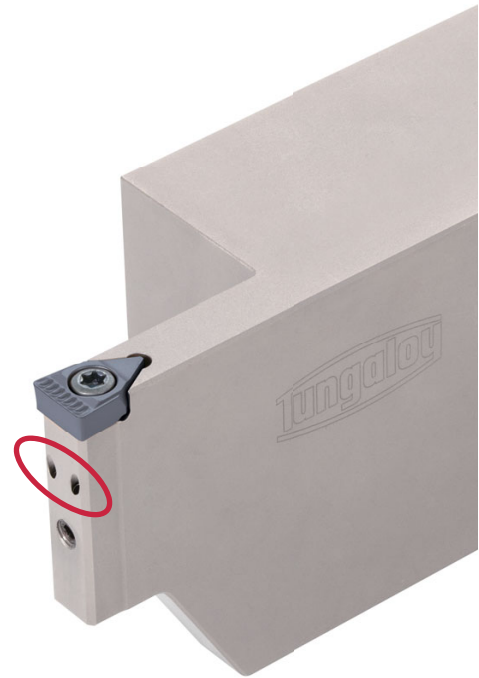
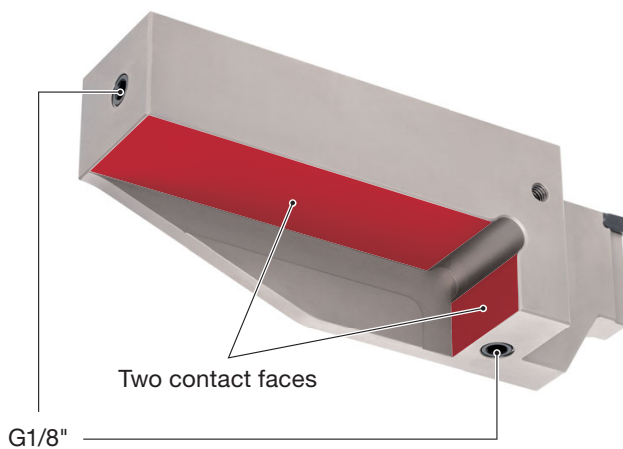
Tungaloy Report No. 427S1-US

New enhanced insert clamping system



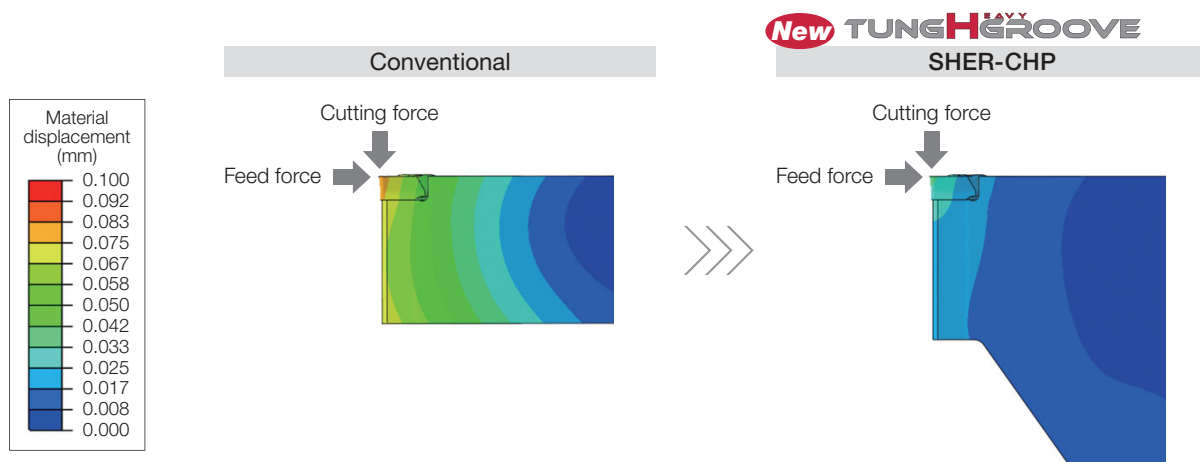
Increased tool rigidity for heavy duty grooving applications

- 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%.

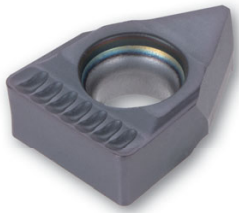


More than 50% higher rigidity!

HGM insert

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

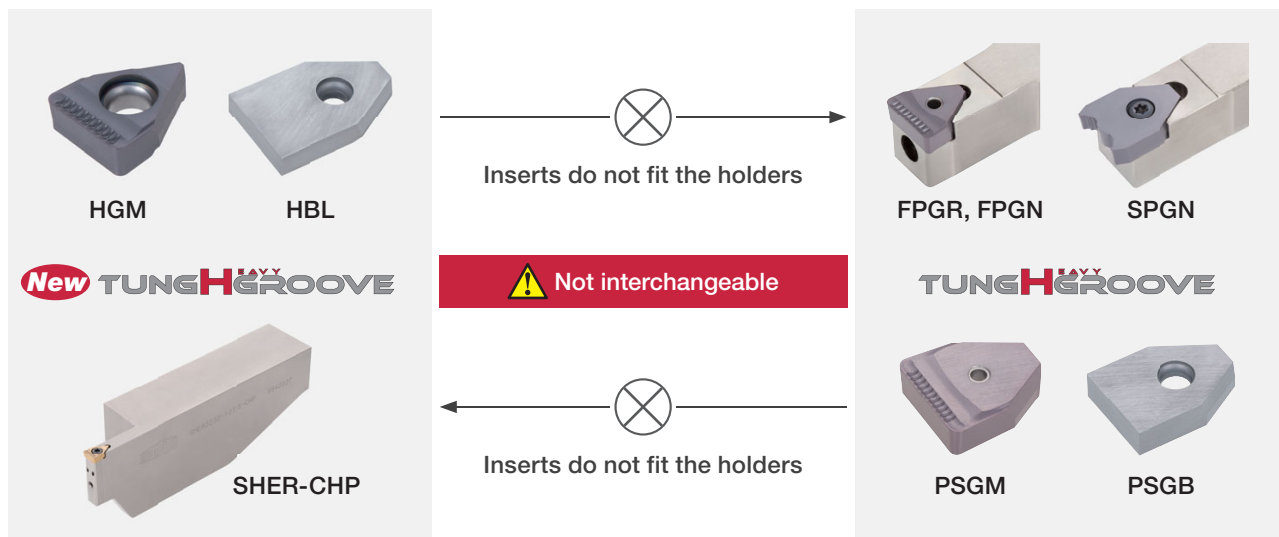
Chip control



P Insert : HGM10-08 AH8015
 Workpiece material : S45C / C45 / 1045
 Grooving width : CW = 0.394"
 Grooving depth : 1.18"
 Coolant : Wet (145 PSI)

Cutting speed: V_c (sfm)	390					
	330					
	260					
		0.008	0.010	0.012	0.014	0.016
		Feed: f (ipr)				

INSERT AND HOLDER COMPATIBILITIES



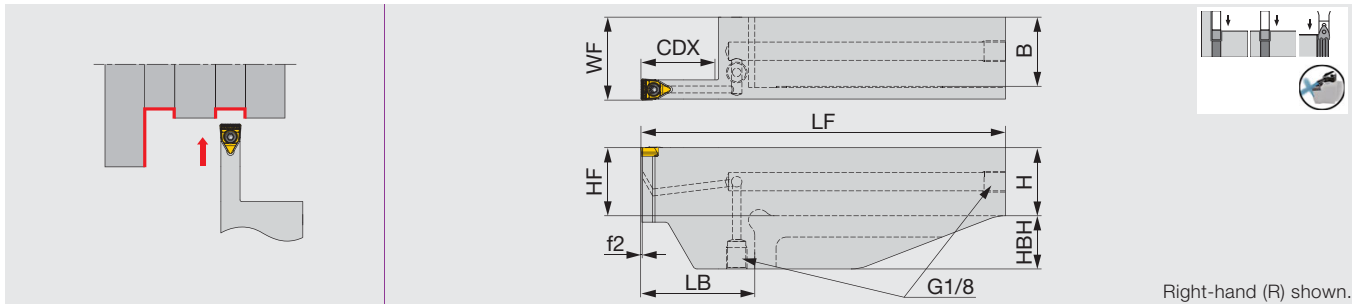
The new version of TungHeavyGroove is always the first choice. The previous version is recommended only when the tool-workpiece collision is anticipated.

TOOLHOLDER

SHER-CHP

Tube connection

External grooving and profiling toolholder, with high pressure coolant capability



Right-hand (R) shown.

Inch	CW	CDX ⁽¹⁾	LB ⁽¹⁾	H	B	LF ⁽¹⁾	HF	WF	HBH	f2 ⁽¹⁾	Insert	Torque*
SHER16-10T20-CHP	0.394	0.787	1.476	1.000	1.020	6.000	1.000	1.276	0.984	0.020	HGM10..., HBL10	2.58
SHER20-10T36-CHP	0.394	1.417	2.106	1.250	1.270	7.000	1.250	1.526	0.984	0.020	HGM10..., HBL10	2.58
SHER16-15T20-CHP	0.591	0.787	1.476	1.000	1.020	6.000	1.000	1.276	0.984	0.020	HGM15..., HBL15	3.69
SHER20-15T40-CHP	0.591	1.575	2.264	1.250	1.270	7.000	1.250	1.526	0.984	0.020	HGM15..., HBL15	3.69
SHER20-20T40-CHP	0.787	1.575	2.272	1.250	1.270	7.000	1.250	1.526	0.984	0.028	HGM20..., HBL20	5.16
SHER24-20T50-CHP	0.787	1.969	2.665	1.500	1.520	7.000	1.500	1.776	0.984	0.028	HGM20..., HBL20	5.16
SHER20-25T40-CHP	0.984	1.575	2.272	1.250	1.270	7.000	1.250	1.526	0.984	0.028	HGM25..., HBL25	5.16
SHER24-25T50-CHP	0.984	1.969	2.665	1.500	1.520	7.000	1.500	1.776	0.984	0.028	HGM25..., HBL25	5.16

(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 (lbf-ft)

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

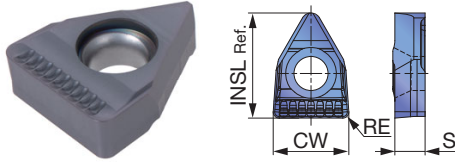
HGM

For wide grooving
Designed to provide stable chip control during high feed rate machining
CW = 0.394" - 0.984"

Grooving width : CW (in)	Feed : f (ipr)
0.394	0.016
0.591	0.016
0.787	0.020
0.985	0.020

INSERT

HGM



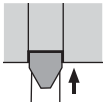
P	Steel	★	★							
M	Stainless	★	☆							
K	Cast iron	★	☆							
N	Non-ferrous									
S	Superalloys	★								
H	Hard materials									

★ : First choice
☆ : Second choice

Designation	CW±0.1 (mm)	CW ±0.00393 (in)	RE	Coated		INSL (in)	S (in)
				AH8015	T9215		
HGM10-08	10	0.394	0.032	●	●	0.547	0.157
HGM15-15	15	0.591	0.059	●	●	0.709	0.197
HGM20-20	20	0.787	0.079	●	●	0.866	0.256
HGM25-20	25	0.984	0.079	●	●	1.063	0.256

5 pieces per package
● : Line up

STANDARD CUTTING CONDITIONS

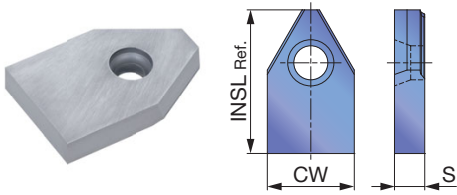


Wide grooving (HGM insert)

ISO	Workpiece material	Hardness	Priority	Grade	Cutting speed Vc (sfm)
P	Steel 1045, 4137, etc.	< 300 HB	First choice	AH8015	262 - 591
		< 300 HB	Wear resistance	T9215	328 - 1148
M	Stainless steel 302, 304, etc.	< 200 HB	First choice	AH8015	164 - 427
		< 200 HB	Wear resistance	T9215	328 - 820
K	Grey cast iron No.35, etc.	-	First choice	AH8015	164 - 591
		-	Wear resistance	T9215	459 - 984
	Ductile cast iron 65-45-12, etc.	-	First choice	AH8015	164 - 394
		-	Wear resistance	T9215	459 - 984
S	Superalloys Inconel718, etc.	< HRC 40	First choice	AH8015	66 - 262
	Titanium alloys Ti-6Al-4V	< HRC 40	First choice	AH8015	66 - 262

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 (mm)	CW ±0.00196 (in)	Coated						INSL (in)	S (in)
			TH10							
HBL10	11.5	0.453	●						0.748	0.157
HBL15	15.5	0.610	●						0.984	0.197
HBL20	20.5	0.807	●						1.181	0.256
HBL25	25.5	1.004	●						1.535	0.256

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

5 pieces per package

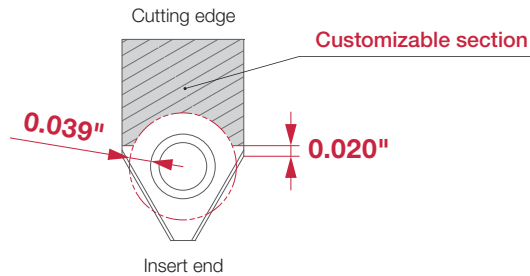
● : Line up

Customizable section of the blank

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

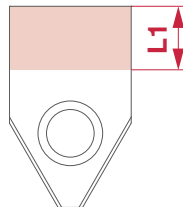
Excluding:

- The ring section enclosed between the outer circle of the screw hole and the circle **0.039"** larger in radius
- The triangular section for clamping and the section extended by **0.020"** towards the cutting edge



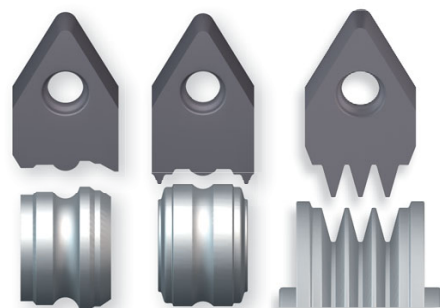
2 Requirement of additional modification

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.

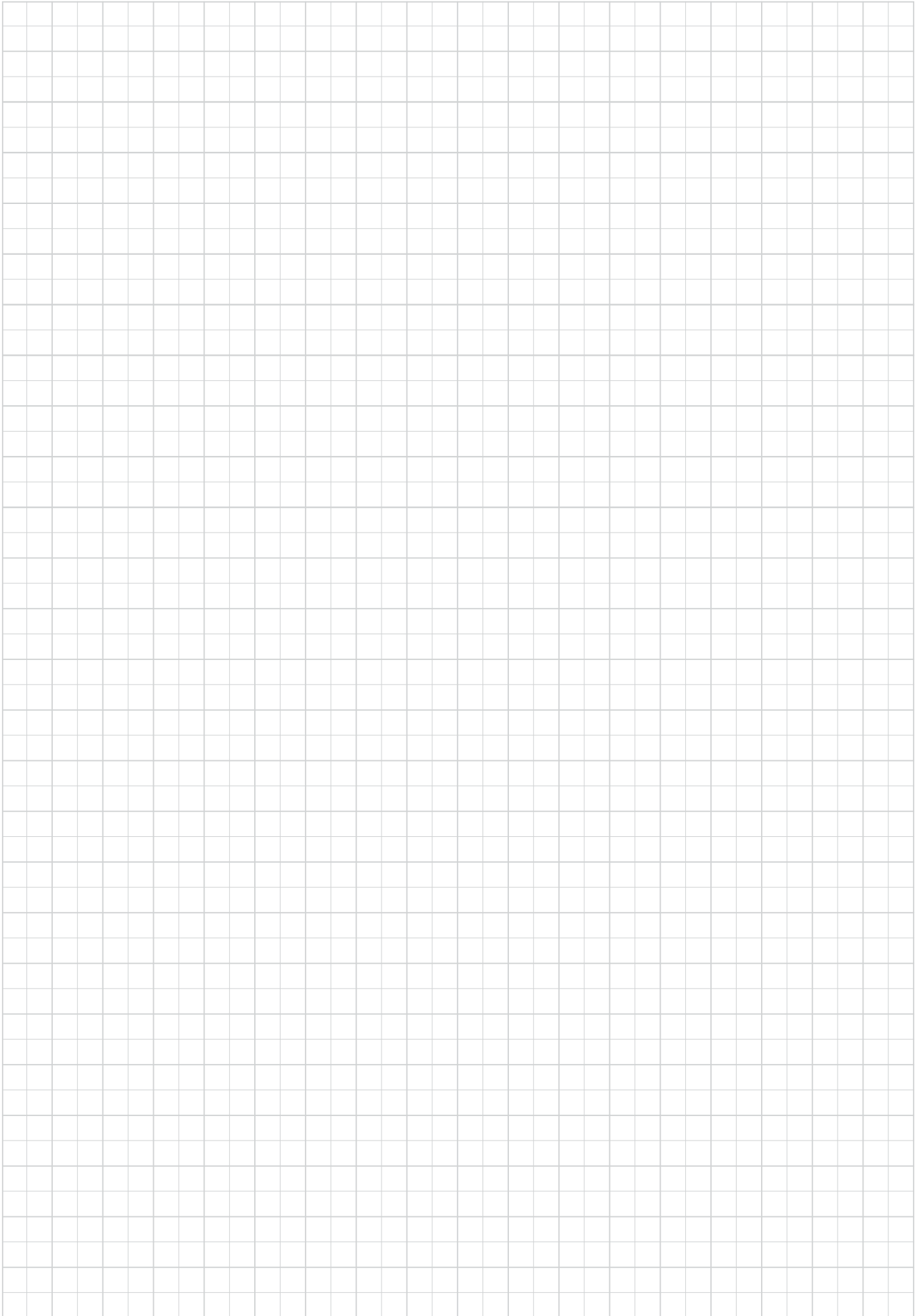


Designation	L1 (in)
HBL10	0.236
HBL15	0.335
HBL20	0.315
HBL25	0.472

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



MEMO



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