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Member IMC Group Tungaloy INDUSTRY 4.0

GrooveLine

TUNGCUT

www.tungaloy.com/us

Tungaloy Report No. 391-US

High pressure **through-coolant blade** and **new holders** for OD grooving / parting applications **DTE inserts / T9225** CVD grade

INDUSTRY 4.0

FEED the SPEED!


ACCELERATED MACHINING

GrooveLine

TUNGCUT

TUNGALOY

TUNGROOVE FORCE

ACCELERATED MACHINING

Multi-functional tool series offering a wide range of grades, geometries and holder variations for **maximum performance with minimum tool investments**

TUNGCUT
TUNGALOY

High-pressure coolant system improves chip flow and tool life

New modular holder system enhances versatility of existing monoblock holder and TungCap (PSC) lines.

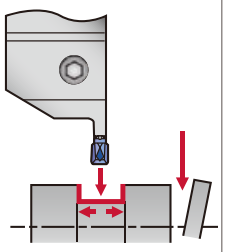
Multi-functional grooving system

Suitable for diverse grooving operations

External grooving, turning and parting

CTER/L-CHP (P.38)
CTER/L (P.34)

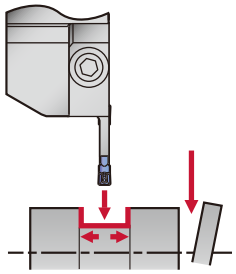
- Screw clamp
- CW (for external coolant) = 0.079" - 0.315" (2 - 8 mm)
- CW (for high pressure coolant) = 0.079" - 0.315" (2 - 8 mm)
- CDX = 0.315" - 1.417" (8 mm - 36 mm)
- Shank size: 0.625" - 1.250" (16 - 32 mm)



JCTER/L-CHP (P.52)
New JCTER/L (P.50)

- Screw clamp
- CW = 0.079" - 0.118" (1.4 - 3 mm)
- CW (for high pressure coolant) = 0.079" (2 mm)
- CDX = 0.394" - 0.630" (10 mm - 16 mm)
- Shank size: 0.500" - 0.750" (10mm - 20 mm)
- Small swiss-type CNC machines

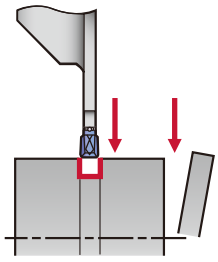
CAER/L-CHP (P.40)
CAER/L (P.58)



- Blade type
- Screw clamp
- CW (for external coolant) = 0.118" - 0.236" (3 mm - 6 mm)
- CW (for high pressure coolant) = 0.118" - 0.236" (3 mm - 6 mm)
- CDX = 0.630" - 0.787" (16 mm - 20 mm)
- Shank size: 0.750" - 1.250" (20mm - 32 mm)
- For 20 x 20 mm (0.750" x 0.750") and 25 x 25 mm (1.000" x 1.000") shanks with CHP capability

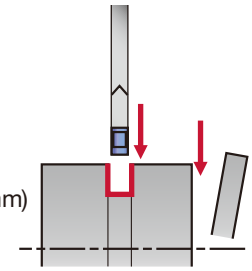
CGER/L (P.52)

- Self clamp
- CW = 1.4 mm - 3 mm
- CDX = 10 mm - 16 mm
- Shank size: 12 mm - 20 mm
- Small swiss-type CNC machines



CGP (P.54)
New CGP-CHP (P.53)

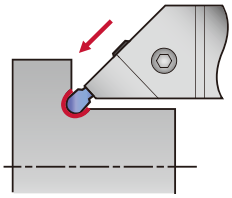
- Self clamp
- CW = 0.055" - 0.315" (1.4 mm - 8 mm)
- Max parting dia: ø4.724" (ø120 mm)
- Shank size: 0.750" - 1.250" (20 mm - 25 mm)



External and internal undercutting

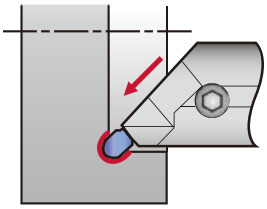
CGEUR/L (P.40)

- Screw clamp
- CW = 3 mm - 6 mm
- CDX = 2.8 mm - 3.4 mm
- Shank size: 16 mm - 25 mm



CGIUR/L (P.47)

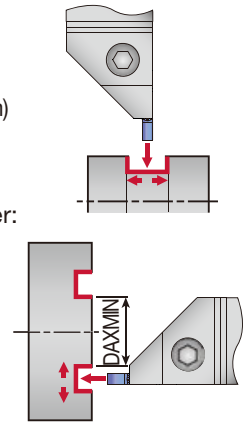
- Screw clamp
- CW = 3 mm - 6 mm
- CDX = 2.8 mm
- Shank size: ø20 mm - ø25 mm



External and face grooving, and turning

CTEFR/L (P.39)

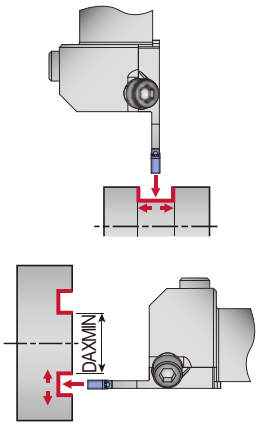
- Screw clamp
- CW = 0.079" - 0.236" (4 mm - 6 mm)
- CDX = 0.189" (4.8 mm)
- Shank size: 0.750" - 1.000" (20 mm - 25 mm)
- Minimum face grooving diameter: DAXMIN = ø0.748" - (ø19 -)



New

CAEFR/L-CHP (P.41)

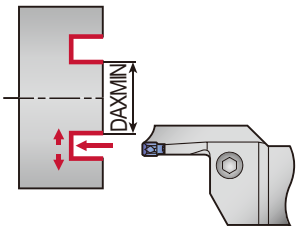
- Blade type
- Screw clamp
- CW (for high pressure coolant) = 0.079" - 0.236" (2 mm - 6 mm)
- CDX = 0.189" (4.8 mm)
- For 0.750" x 0.750" (20 x 20 mm) and 1.000" x 1.000" (25 x 25 mm) shanks with CHP capability
- Minimum face grooving diameter: DAXMIN = ø0.748" - (ø19 -)



Face grooving and turning

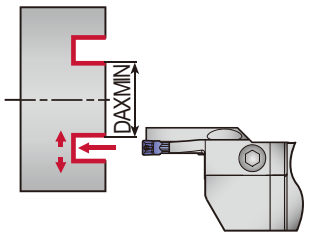
CTFR/L (P.48)

- Screw clamp
- CW = 3 mm - 6 mm
- CDX = 10 mm - 25 mm
- Shank size: 25 mm
- Minimum face grooving diameter: DAXMIN = ø24 -



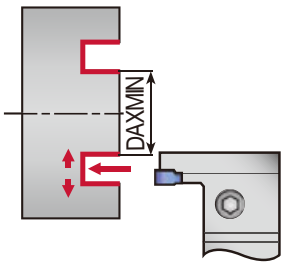
CAFR/L (P.59)

- Blade type
- Screw clamp
- CW = 0.118" - 0.236"(3 mm - 6 mm)
- CDX = 0.472" - 0.984"(12 mm - 25 mm)
- Shank size: 0.750" - 1.250" (20 mm - 32 mm)
- Minimum face grooving diameter: DAXMIN = ø1.575" - (ø40 -)



CTFVR/L (P.49)

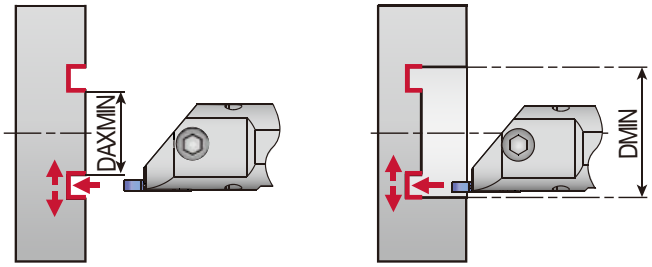
- Screw clamp
- CW = 3 mm - 6 mm
- CDX = 10 mm - 20 mm
- Shank size: 25 mm
- Minimum face grooving diameter: DAXMIN = ø24 -



Face grooving, internal face grooving and turning

CTIFR/L (P.46)

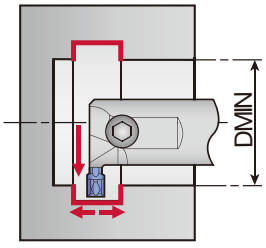
- Screw clamp
- CW = 0.157" - 0.236" (4 mm - 6 mm)
- CDX = 0.217" (5.5 mm)
- Shank size: ø1.000" - ø1.250" (ø25 mm - ø32 mm)
- Minimum face grooving diameter: DAXMIN = ø0.748" - (ø19 -)
- Minimum bore diameter: DMIN = ø1.035" - (ø26.3 -)



Internal grooving and turning

CTIR/L (P.44)

- Screw clamp
- W = 0.079" - 0.315" (2 mm - 8 mm)
- *ar* = 0.157" - 0.394" (4 mm - 10 mm)
- Shank size: ø0.750" - ø1.500" (ø16 mm - ø40 mm)
- Minimum bore diameter: DMIN = ø0.984" - (ø25 -)

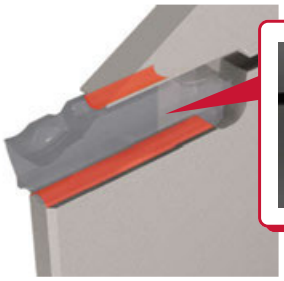


High clamping rigidity

For stable tool life and accuracy

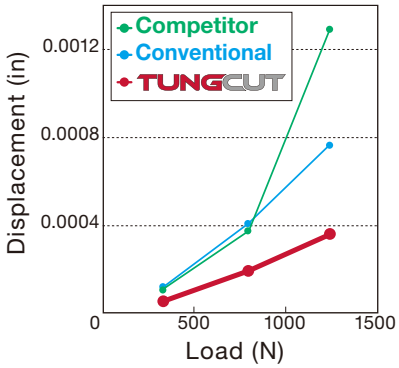
Clamping system

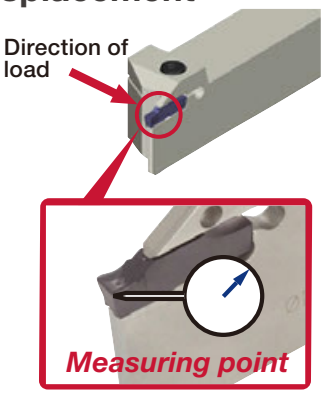
Stable and safe contact areas



High repeatability and durability due to long pocket!

Minimizes cutting edge displacement



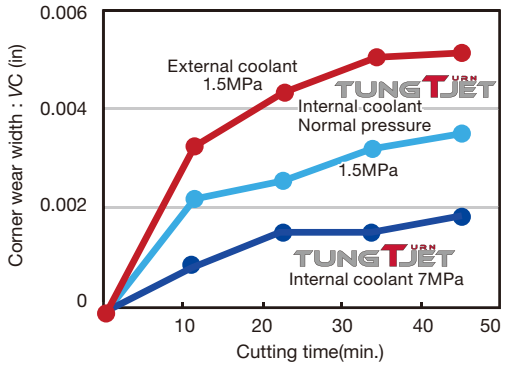


Benefits of TungTurn-Jet high pressure coolant supply

Drastically improved tool life

P Steel : External grooving (1045 , 245HB)

Material : 1045
Toolholder : CHSL16-CHP + CAEL-3T20-CHP
Insert : DGM3-020 AH7025
Cutting speed : *Vc* = 591 sfm
Feed : *f* = 0.005 ipr
Groove width : 0.118"



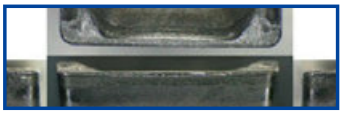
External coolant 1.5MPa 46min

Plastic deformation

Normal pressure 1.5MPa 46min

Corner wear

Internal coolant 7MPa 46min



Excellent chip control

P Steel : External Grooving (1045, 245HB)

DGS

Material : 1045
Holder : CHSL2525-CHP + CAEL-3T20-CHP
Insert : DGS3-020 AH7025
DTX3-030 AH7025
Cutting speed : *Vc* = 591 sfm
Feed rate : *f* = 0.002 ipr
Groove width : 0.118"

TUNGTJET URN 7 MPa	Normal pressure coolant 1.5MPa
	

DTX

TUNGTJET URN 7 MPa	Normal pressure coolant 1.5MPa
	

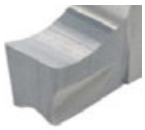
Excellent chip control

S Inconel 718

DGS

Material : Inconel718
Holder : C6CHSL45050 + CAEL-3T20-CHP
Insert : DGS3-020 AH7025
DGG300-020 KS05F
Cutting speed : *Vc* = 131 sfm
Feed rate : *f* = 0.002 ipr
Groove width : 0.118"

TUNGTJET URN 7 MPa	Normal pressure coolant 1.5MPa
	



DGG

TUNGTJET URN 7 MPa	Normal pressure coolant 1.5MPa
	

GROOVING, PARTING, AND TURNING

DTE

Its wide cutting edge is designed to provide good chip control at high feed rates

DTM

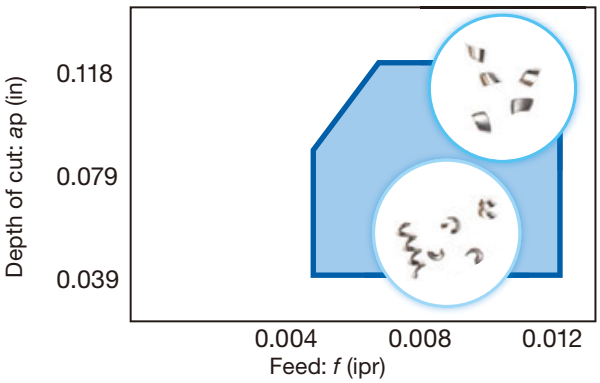
First choice chipbreaker for various applications. Optimized geometry for smooth chip breaking and flow

DTX

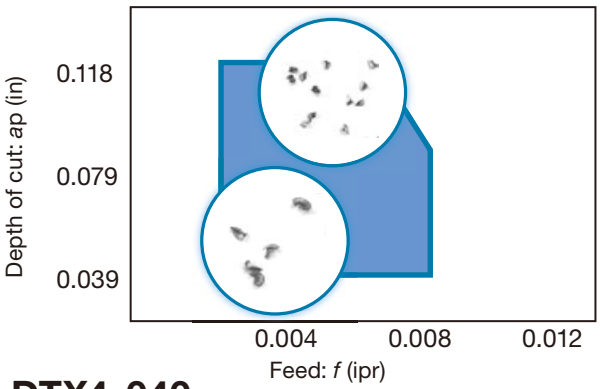
Provides good cutting performance in grooving. Its narrow cutting edge width provides excellent chip formation at low feed rates

P Carbon steel (1045)

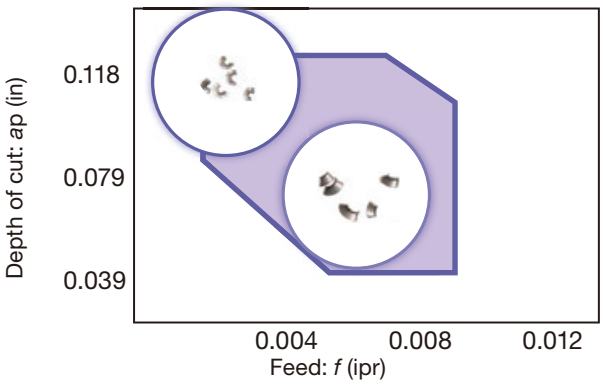
DTE4-040



DTM4-040

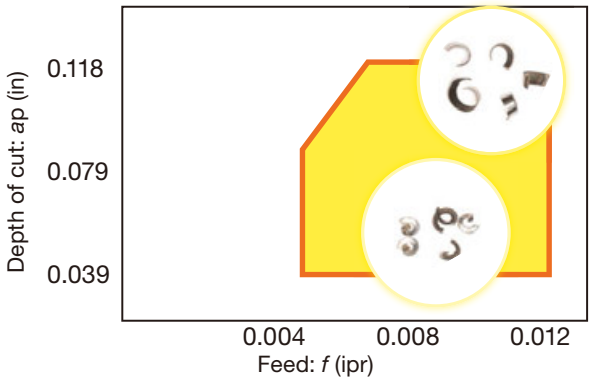


DTX4-040



M Stainless steel (304)

DTE4-040



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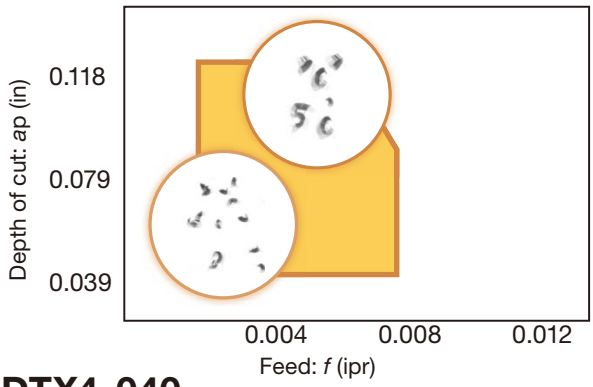

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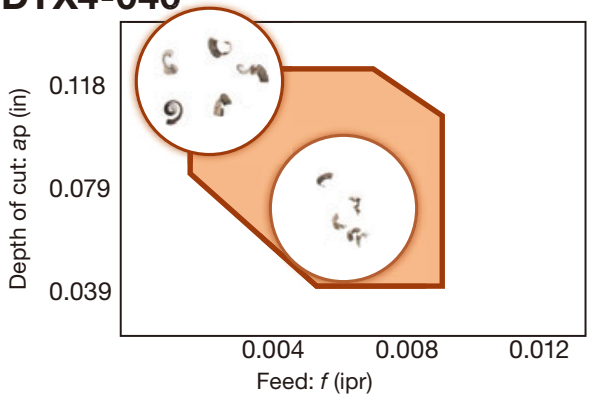
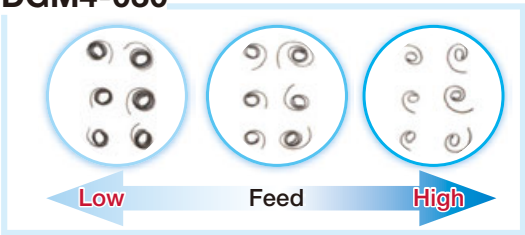


A wide range of chipbreakers provide excellent chip formation in various conditions

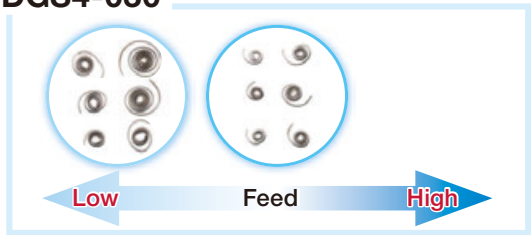
GROOVING AND PARTING

Carbon steel (1045) **P**

DGM4-030



DGS4-030



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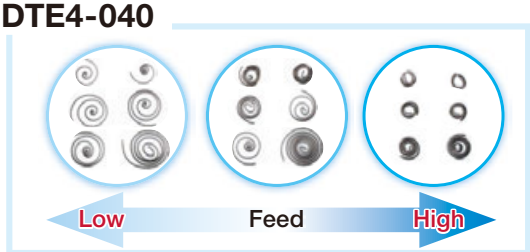

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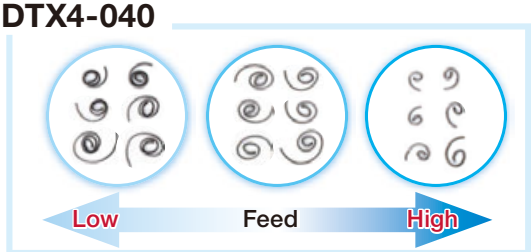

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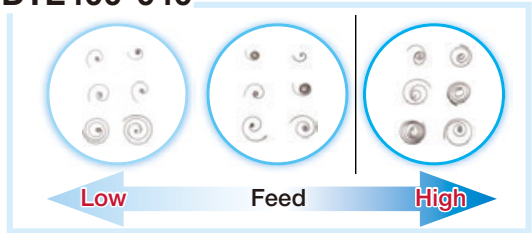

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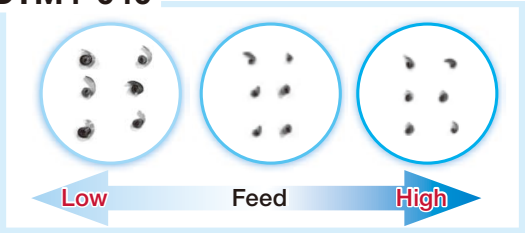
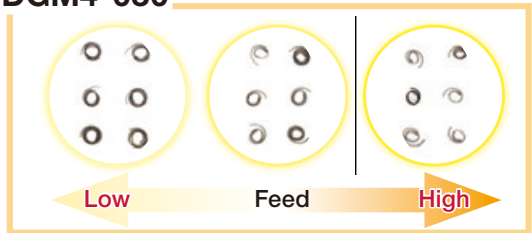


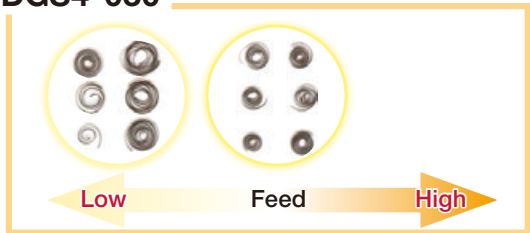
GROOVING AND PARTING

Stainless steel (304) **M**

DGM4-030



DGS4-030



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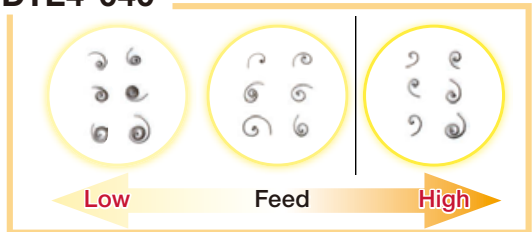
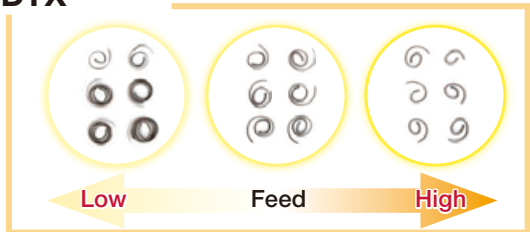


DTX



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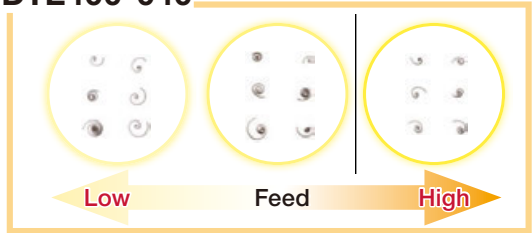

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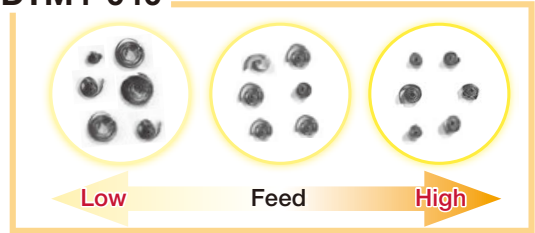


Excellent chip control at low feed rates

P Bearing steel (52100)

First choice chipbreaker for bearing steel. Excellent chip control at low feed rates.

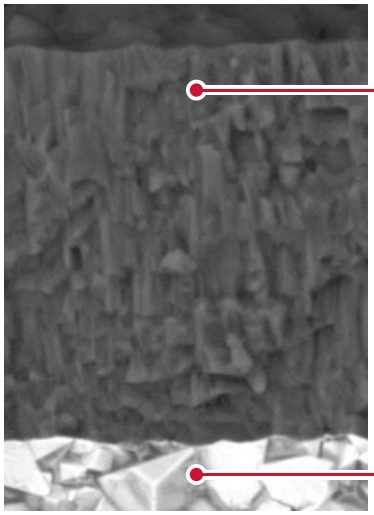
DGL

Material : SUJ2
Holder : CTER16-3T09
Insert : DGL3-025
Cutting speed : *Vc* = 164, 328 sfm
Groove width : 0.118"

	f = 0.001 ipr	*f* = 0.002 ipr	*f* = 0.003 ipr	*f* = 0.004 ipr
Vc = 164				
Vc = 328				

The latest standard grades

AH7025

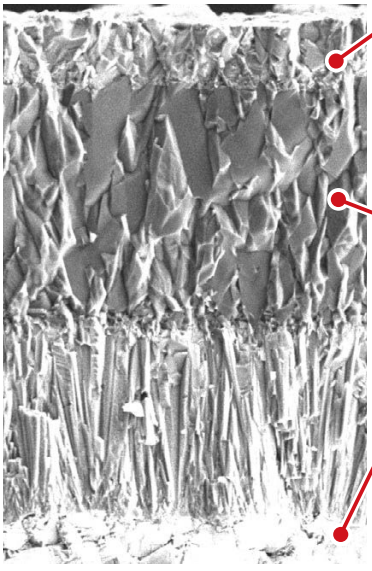


AH7025 uses the world's first coating technology of a nano-scale multi-layered AlTiN PVD coating with high Al content, featuring

- Coating hardness increased by 20%
- A multi-layered coating structure impedes micro-crack propagation, reducing insert failures
- Enhanced adhesion strength between the coating and carbide substrate layer

High wear and fracture resistant carbide substrate for optimal grooving performance

T9200 SERIES New



Hard outer layer.
A newly developed hard coating layer, with a high resistance to flank wear.

Thick Al_2O_3 layer with excellent resistance to high heat and crater wear, especially effective for high-speed machining.

New cemented carbide substrate.
Exclusively designed for T9200 series drastically reduces defects in alloys, which greatly improves fracture resistance.

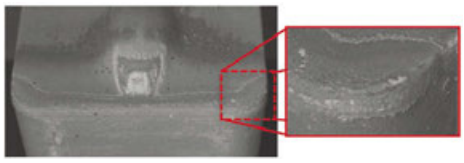
CUTTING PERFORMANCE

First choice grade for grooving

AH7025 grade - Tungaloy's unique coating technology for drastically improved reliability

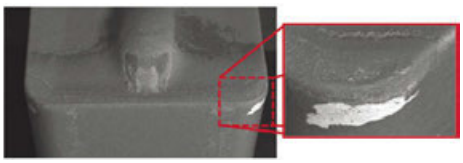
Tool life comparison

AH7025



Tool wear after 60 grooves

Conventional grade



Tool wear after 30 grooves

AH7025 provides stability, while preventing coating from peeling off even after machining twice the number of passes compared to the conventional grade.

P Alloy steel (4140)

Insert	: DTE3-040 AH7025
Cutting speed	: *Vc* = 492 sfm
Feed	: *f* = 0.007 ipr
Groove depth	: 0.670"
Machining	: External grooving
Coolant	: Wet

GRADES

AH7025 P M K S

- First choice for various applications
- New PVD coating with high Al content provides excellent adhesion strength
- Improved wear and chipping resistance

AH725 P M S

- Recommended for various applications
- Newly developed coating with well controlled crystal structure and fracture resistance
- Improved adhesion strength

T515 K

- First recommended grade for cast iron
- Exellent wear resistance in high speed machining

New

T9225 P

- Suitable for steel machining at high speeds
- New CVD coating and substrate deliver an outstanding balance of wear and chipping resistance

T9125 P

- Suitable for steel machining at high speeds
- Balance of wear and chipping resistance

NS9530 P

- Advanced cermet for finish cutting of steel
- Innovative grade with incredible fracture and high wear resistance

GH130 P M K

- Recommended for interrupted machining
- TiCNO PVD coating layer with high wear resistance
- High hardness wear resistance

AH905 S

- Remarkable for machining of heat resistant alloys
- Exclusive coating layer improves adhesion strength and wear resistance

KS05F N S

- Recommended for non-ferrous materials and titanium

TH10 N

- Recommended for non-ferrous materials

BX360 H

- Suitable for hardened steel machining
- Ideal balance of wear and chipping resistance due to the optimum CBN content and grain size

GRADES

Grade	Substrate		Coating layer		Features
	Specific gravity	Hard-ness	Main Composition	Thickness (µm)	
AH7025	14.4	91.3 HRA	(Al,Ti)N	3.5	First recommended grade with excellent wear resistance and toughness, that is suitable for machining of a wide range of materials.
AH725	14.4	91.5 HRA	(Ti,Al)N	2	PVD coated on fine grain cemented carbide
T515	14.8	91.5 HRA	TiCN + Al_2O_3	16	Good wear resistance even in high speed machining First choice for roughing cast iron
T9225	13.8	89.8 HRA	Ti compound +Al_2O_3	18	Exhibits excellent wear and fracture resistance at high cutting speeds
T9125	13.7	90.0 HRA	TiCN + Al_2O_3	16	Versatile grade for improved chipping resistance
NS9530	6.8	91.7 HRA	-	-	Versatile cermet grade with incredible fracture and wear resistance
GH130	14.1	89.5 HRA	TiCNO	3	Superior resistance to chipping and fracture Excels in interrupted cutting
AH905	15.0	93.0 HRA	(Al,Ti)N	1.5	Excels in both cutting edge sharpness and wear resistance
TH10	14.7	92.0 HRA	-	-	Carbide grade with excellent wear resistance and toughness
KS05F	15.0	93.0 HRA	-	-	Carbide grade with excellent wear, fracture, and chip-welding resistances
BX360	-	3200 - 3400 Hv	-	-	CBN grade with exceptional balance of wear and chipping resistance

COMPENSATION OF TOOL LENGTH

The insert may be deflected by axial cutting force during turning, causing the workpiece diameter to be smaller than the required dimension. A minor tool length compensation may, therefore, be required. Exact amount of change can be measured by running a test workpiece. Refer to the chart below for diameter compensation values.

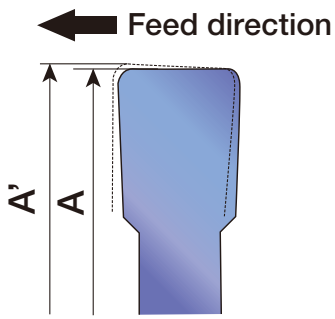


Fig. 1

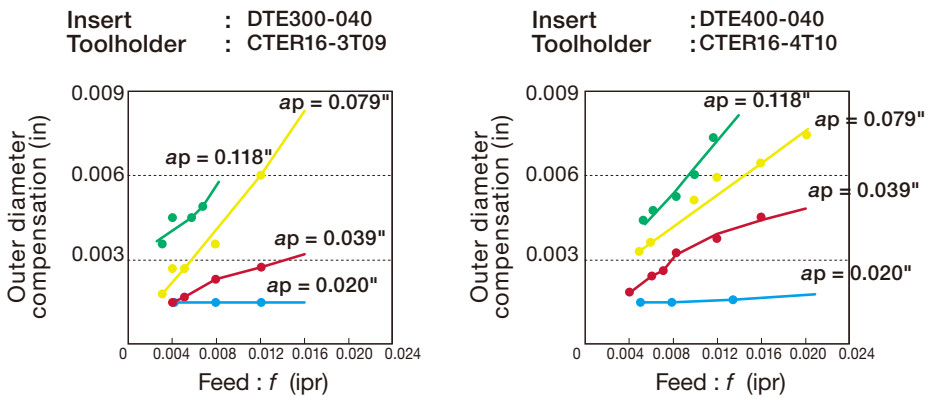
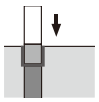
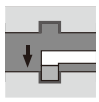
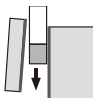
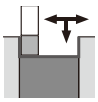


Fig. 2 Value of compensation

INSERT APPLICATION

Insert	Application						
	Grooving			Parting	Turning		
	External	Internal	Face		External	Internal	Face
							
DGM / SGM	●		●	●			
DGS / SGS	●		●	●			
DGG	●		●	●			
DGL	●		●	●			
DGE	●						
DTM	●		●	●	●		●
DTE	●		●		●		●
DTX	●	●	●	●	●	●	●
DTR	●		●		●		●
DTIU	● Undercutting	● Undercutting					
DTI		●				●	
DGIM / DGIS		●					
DTF			●				●
DTA					● Al wheel machining	● Al wheel machining	
SGN	●						

CHIPBREAKER GUIDE

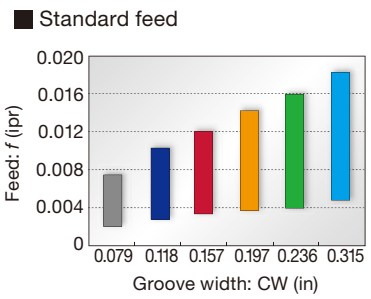
External grooving and parting

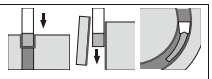
DGM type (2 corners) SGM type (1 corner)

P.20, 21

1st choice for grooving and parting

Smooth chip evacuation
Well-designed edge with high strength
Handed insert available
CW = 0.079" - 0.315"



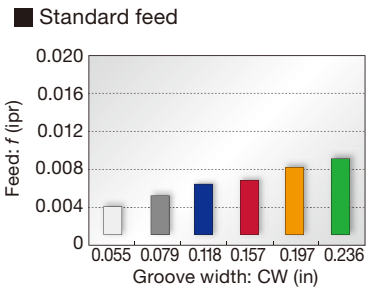


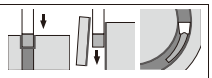
DGS type (2 corners) SGS type (1 corner)

P.22, 23

Lower cutting force and superior sharpness

Unique-designed edge and chipbreaker
Handed insert available
CW = 0.055" - 0.236"



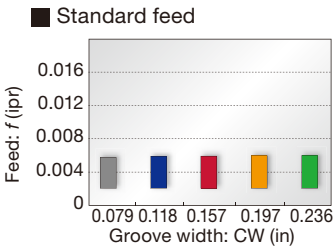


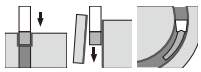
DGG type (2 corners)

P.24

For non-ferrous materials and titanium

Chipbreaker with low cutting force
Sharp cutting edge that prevents vibration and delivers fine surface finish
CW = 0.079" - 0.236"



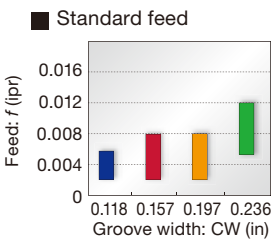


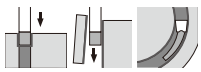
DGL type (2 corners)

P.24

1st choice for mild steel

Chipbreaker with excellent chip control at low feed
Suitable for mild steel that often gives difficulties in chip control
CW = 0.118" - 0.236"



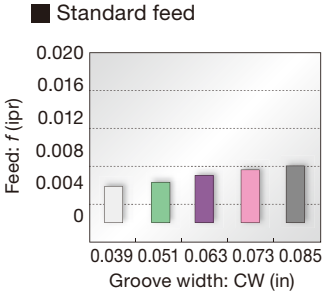


DGE type (2 corners)

P.25

For high accurate and shallow groove

Excellent chip control
CW = 0.039" - 0.085"



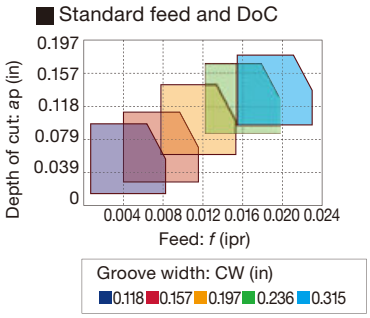
External and face grooving, and turning

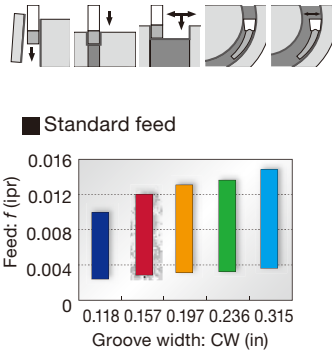
DTM type (2 corners)

P.26

General purpose

1st choice for grooving and turning
Suitable for light to medium cutting
Excellent chip control in machining steel, alloy steel, stainless steel, and heat-resistant alloy
CW = 0.118" - 0.315"



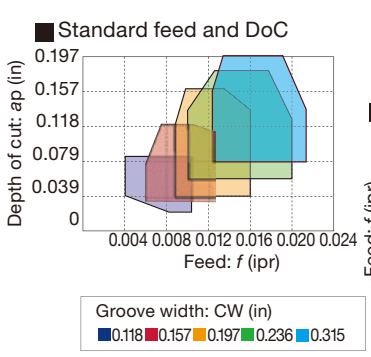


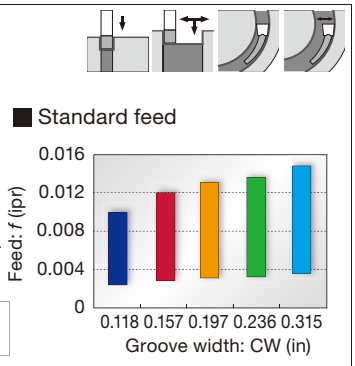
DTE type (2 corners)

P.27, 28

General purpose

Unique chipbreaker makes chips shorter
Molded and ground insert available
CW = 0.118" - 0.315"





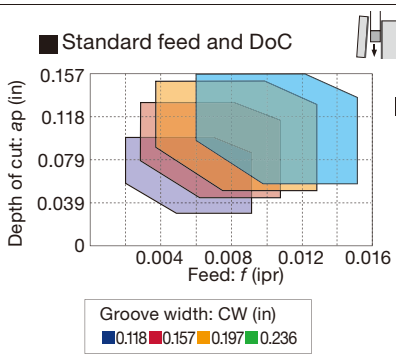
External, internal and face grooving, and turning

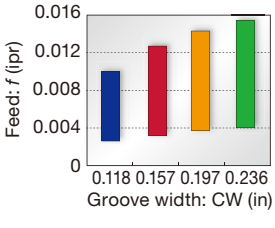
DTX type (2 corners)

P.28

Multi-functional type

Well balanced sharpness and strength
Multi-functional insert
CW = 0.118" - 0.315"





Profiling and undercutting

DTR type (2 corners)

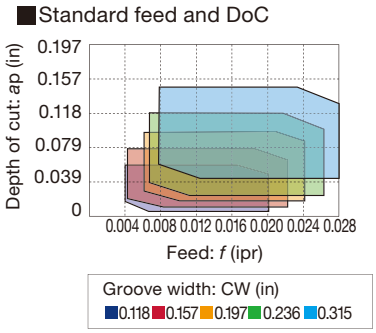
Molded

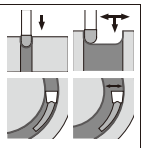
Ground

P.29

Full radius type

Excellent chip control
Molded and ground inserts available
CW = 0.118" - 0.315"



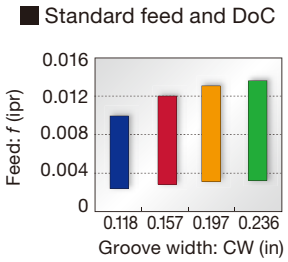


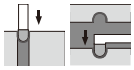
DTIU type (2 corners)

P.30

Full radius type

Excellent chip control for undercutting
CW = 0.118" - 0.236"





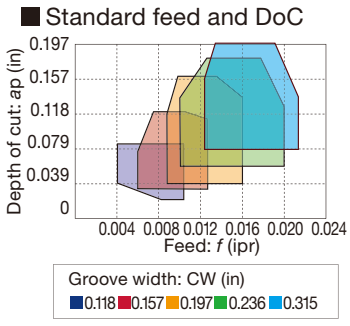
Internal grooving and turning

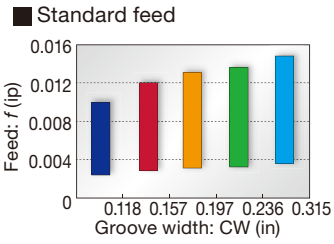
DTI type (2 corners)

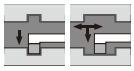
P.30, 31

Internal

Unique chipbreaker makes chips shorter
Molded and ground inserts available
CW = 0.118" - 0.315"







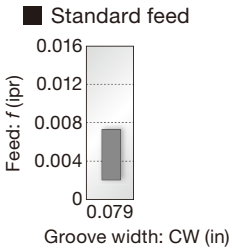
Small diameter internal grooving

DGIM type (2 corners)

P.31

0.079" insert width only (For general purpose)

Unique chipbreaker for excellent chip control
Excellent fracture resistance due to optimum land on the cutting edge
For general applications on steels & stainless steels
CW = 0.079"

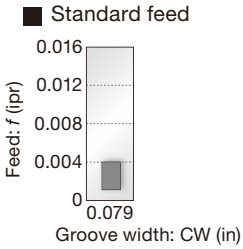


DGIS type (2 corners)

P.32

0.079" insert width only (Lower cutting force)

Lower cutting force
Excellent fracture resistance due to optimum land on the cutting edge
Applicable for low carbon steels & stainless steels
CW = 0.079"



Face grooving and turning

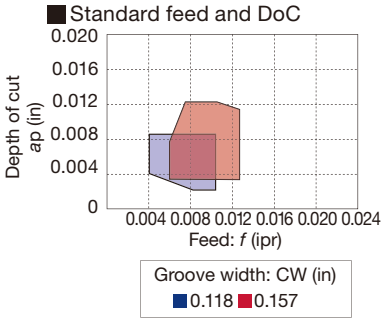
DTF type (2 corners)

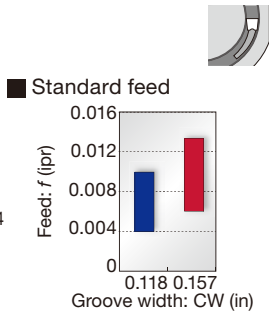
P.32

1st choice for face grooving

Unique chipbreaker makes chips shorter
Molded and ground insert available

CW = 0.118" - 0.157"





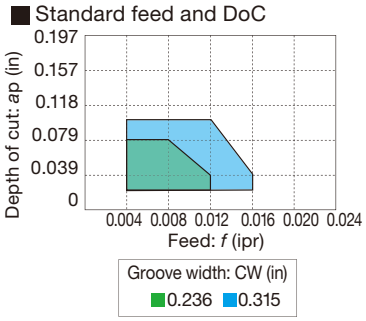
Aluminum wheel machining

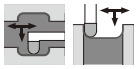
DTA type (2 corners)

P.33

Full radius type

Excellent chip control
For aluminum wheel profiling
Ground insert
CW = 0.236" - 0.315"





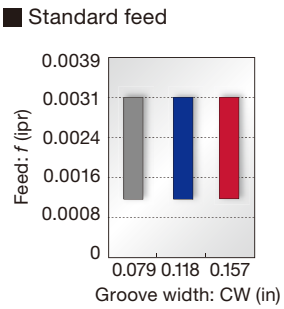
External grooving of hardened steel

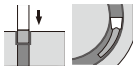
SGN-CBN type (1 corner)

P.33

For hardened steel cutting

Optimum cutting edge shape for grooving of hardened steels
High tolerance width for finishing
CW = 0.079" - 0.157"
(CW = ±0.001")

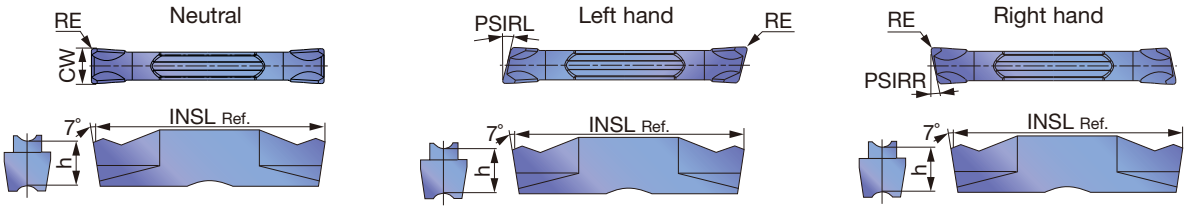




INSERT

DGM

External grooving and parting, 2 corners



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

★ : First choice
☆ : Second choice

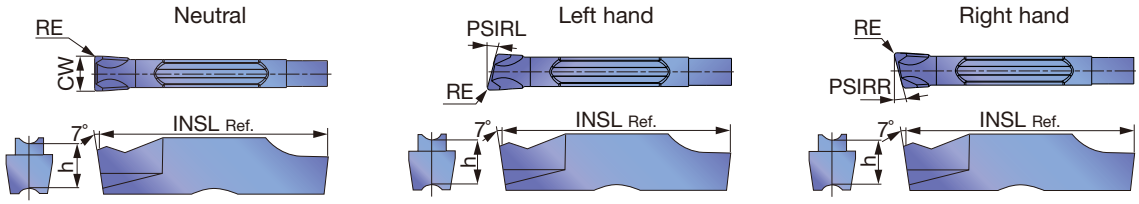
Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated								Cermet				INSL (in)	h (in)	PSIRL	PSIRR
						T9225	T9125	AH7025	AH725	AH905	GH130			NS9530							
DGM2-020	2	N	2	0.079	0.008	●	▲	●	●		●			●				0.787	0.197	0°	0°
DGM2-020-6R	2	R	2	0.079	0.008			●	●		●							0.787	0.197	0°	6°
DGM2-020-6L	2	L	2	0.079	0.008			●	●		●							0.787	0.197	6°	0°
DGM2-020-8R	2	R	2	0.079	0.008			●	●		●							0.787	0.197	0°	8°
DGM2-020-8L	2	L	2	0.079	0.008			●	●		●							0.787	0.197	8°	0°
DGM2-020-15R	2	R	2	0.079	0.008			●	●		●							0.787	0.197	0°	15°
DGM2-020-15L	2	L	2	0.079	0.008			●	●		●							0.787	0.197	15°	0°
DGM2-002-15R	2	R	2	0.079	0.0008				●		●							0.762	0.197	0°	15°
DGM2-002-15L	2	L	2	0.079	0.0008				●		●							0.762	0.197	15°	0°
DGM3-020	3	N	3	0.118	0.008	●	▲	●	●	●	●			●				0.787	0.197	0°	0°
DGM3-020-6R	3	R	3	0.118	0.008			●	●		●							0.787	0.197	0°	6°
DGM3-020-6L	3	L	3	0.118	0.008			●	●		●							0.787	0.197	6°	0°
DGM3-002-6R	3	R	3	0.118	0.0008				●		●							0.766	0.197	0°	6°
DGM3-002-6L	3	L	3	0.118	0.0008				●		●							0.766	0.197	6°	0°
DGM3-020-15R	3	R	3	0.118	0.008			●	●		●							0.787	0.197	0°	15°
DGM3-020-15L	3	L	3	0.118	0.008			●	●		●							0.787	0.197	15°	0°
DGM4-030	4	N	4	0.157	0.012	●	▲	●	●	●	●			●				0.787	0.197	0°	0°
DGM4-030-4R	4	R	4	0.157	0.012			●	●		●							0.787	0.197	0°	4°
DGM4-030-4L	4	L	4	0.157	0.012			●	●		●							0.787	0.197	4°	0°
DGM4-030-15R	4	R	4	0.157	0.012			●	●		●							0.787	0.197	0°	15°
DGM4-030-15L	4	L	4	0.157	0.012			●	●		●							0.787	0.197	15°	0°
DGM5-030	5	N	5	0.197	0.012	●	▲	●	●	●	●			●				0.984	0.217	0°	0°
DGM5-030-4R	5	R	5	0.197	0.012			●	●		●							0.984	0.217	0°	4°
DGM6-030	6	N	6	0.236	0.012	●	▲	●	●	●	●							0.984	0.217	0°	0°
DGM8-040	8	N	8	0.315	0.016	●	▲	●	●		●							1.181	0.264	0°	0°

● : Line up
▲ : To be discontinued

Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

SGM

External deep grooving and parting, 1 corner



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

★ : First choice
☆ : Second choice

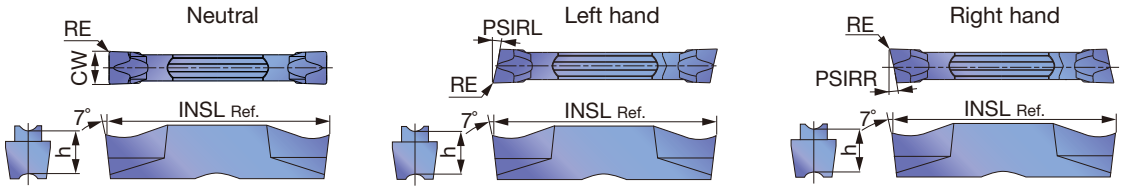
Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated AH7025	Coated AH725	Coated GH130	INSL (in)	h (in)	PSIRL	PSIRR
SGM2-020	2	N	2	0.079	0.008	●	●	●	0.787	0.197	0°	0°
SGM2-020-6R	2	R	2	0.079	0.008	●	●	●	0.787	0.197	0°	6°
SGM2-020-6L	2	L	2	0.079	0.008	●	●	●	0.787	0.197	6°	0°
SGM3-020	3	N	3	0.118	0.008	●	●	●	0.787	0.197	0°	0°
SGM3-020-6R	3	R	3	0.118	0.008	●	●	●	0.787	0.197	0°	6°
SGM3-020-6L	3	L	3	0.118	0.008	●	●	●	0.787	0.197	6°	0°
SGM3-020-15R	3	R	3	0.118	0.008	●	●	●	0.787	0.197	0°	15°
SGM3-020-15L	3	L	3	0.118	0.008	●	●	●	0.787	0.197	15°	0°
SGM4-030	4	N	4	0.157	0.012	●	●	●	0.787	0.197	0°	0°
SGM4-030-4R	4	R	4	0.157	0.012	●	●	●	0.787	0.197	0°	4°
SGM4-030-4L	4	L	4	0.157	0.012	●	●	●	0.787	0.197	4°	0°
SGM5-030	5	N	5	0.197	0.012	●	●	●	0.984	0.217	0°	0°
SGM6-030	6	N	6	0.236	0.012	●	●	●	0.984	0.217	0°	0°

● : Line up

Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

DGS

External grooving and parting, 2 corners



		T9225	T9125	AH7025	AH725	GH130	NS9530
P	Steel	★	★	★	☆	☆	★
M	Stainless	★		★	☆	★	
K	Cast iron	☆		★		☆	☆
N	Non-ferrous						
S	Superalloys			★	☆		
H	Hard materials						

★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated					Cermet	INSL (in)	h (in)	PSIRL	PSIRR
						T9225	T9125	AH7025	AH725	GH130	NS9530				
DGS1.4-016	1	N	1.4	0.055	0.006			●	●	●		0.630	0.169	0°	0°
DGS2-020	2	N	2	0.079	0.008	●	▲	●	●	●	●	0.787	0.197	0°	0°
DGS2-020-6R	2	R	2	0.079	0.008			●	●	●		0.787	0.197	0°	6°
DGS2-020-6L	2	L	2	0.079	0.008			●	●	●		0.787	0.197	6°	0°
DGS2-002-6R	2	R	2	0.079	0.0008				●	●		0.768	0.197	0°	6°
DGS2-002-6L	2	L	2	0.079	0.0008				●	●		0.768	0.197	6°	0°
DGS2-020-15R	2	R	2	0.079	0.008			●	●	●		0.787	0.197	0°	15°
DGS2-020-15L	2	L	2	0.079	0.008			●	●	●		0.787	0.197	15°	0°
DGS2-002-15R	2	R	2	0.079	0.0008				●	●		0.768	0.197	0°	15°
DGS2-002-15L	2	L	2	0.079	0.0008				●	●		0.768	0.197	15°	0°
DGS3-020	3	N	3	0.118	0.008	●	▲	●	●	●	●	0.787	0.197	0°	0°
DGS3-020-6R	3	R	3	0.118	0.008			●	●	●		0.787	0.197	0°	6°
DGS3-020-6L	3	L	3	0.118	0.008			●	●	●		0.787	0.197	6°	0°
DGS3-002-6R	3	R	3	0.118	0.0008				●	●		0.766	0.197	0°	6°
DGS3-002-6L	3	L	3	0.118	0.0008				●	●		0.766	0.197	6°	0°
DGS3-020-15R	3	R	3	0.118	0.008			●	●	●		0.787	0.197	0°	15°
DGS3-020-15L	3	L	3	0.118	0.008			●	●	●		0.787	0.197	15°	0°
DGS3-002-15R	3	R	3	0.118	0.0008				●	●		0.766	0.197	0°	15°
DGS3-002-15L	3	L	3	0.118	0.0008				●	●		0.766	0.197	15°	0°
DGS4-030	4	N	4	0.157	0.012	●	▲	●	●	●	●	0.787	0.197	0°	0°
DGS4-030-4R	4	R	4	0.157	0.012			●	●	●		0.787	0.197	0°	4°
DGS4-030-4L	4	L	4	0.157	0.012			●	●	●		0.787	0.197	4°	0°
DGS5-030	5	N	5	0.197	0.012	●	▲	●	●	●	●	0.984	0.217	0°	0°
DGS6-030	6	N	6	0.236	0.012	●	▲	●	●	●		0.984	0.217	0°	0°

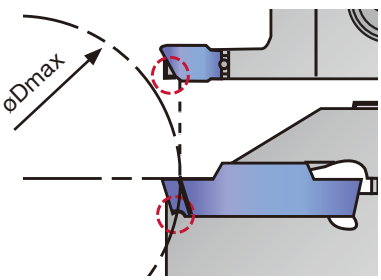
● : Line up
▲ : To be discontinued

Caution

The tool will interfere with the workpiece when grooving larger diameters than øDmax.

Designation	øDmax (in)
DGM2-002-15R/L	1.102
DGM3-002-15R/L	1.141
DGM4-030-15R/L	1.181
SGM3-020-15R/L	4.055

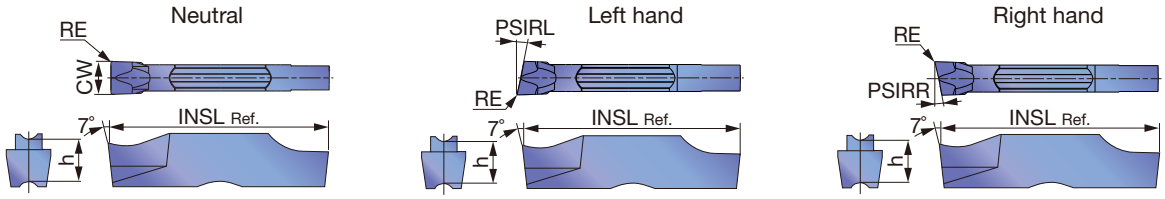
Designation	øDmax (in)
DGS2-002-15R/L	1.102
DGS3-002-15R/L	1.141
SGS3-020-15R/L	4.055
SGS3-002-15R/L	1.338



Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

SGS

External deep grooving and parting, 1 corner



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

★ : First choice
☆ : Second choice

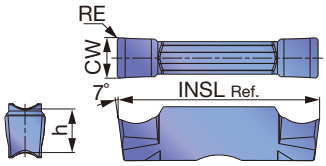
Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated AH7025	Coated AH725	Coated GH130	INSL (in)	h (in)	PSIRL	PSIRR
SGS2-020	2	N	2	0.079	0.008	●	●	●	0.787	0.197	0°	0°
SGS2-020-6R	2	R	2	0.079	0.008	●	●	●	0.787	0.197	0°	6°
SGS2-020-6L	2	L	2	0.079	0.008	●	●	●	0.787	0.197	6°	0°
SGS2-020-15R	2	R	2	0.079	0.008	●	●	●	0.787	0.197	0°	15°
SGS2-020-15L	2	L	2	0.079	0.008	●	●	●	0.787	0.197	15°	0°
SGS3-020	3	N	3	0.118	0.008	●	●	●	0.787	0.197	0°	0°
SGS3-020-6R	3	R	3	0.118	0.008	●	●	●	0.787	0.197	0°	6°
SGS3-020-6L	3	L	3	0.118	0.008	●	●	●	0.787	0.197	6°	0°
SGS3-002-6R	3	R	3	0.118	0.0008		●	●	0.780	0.197	0°	6°
SGS3-002-6L	3	L	3	0.118	0.0008		●	●	0.780	0.197	6°	0°
SGS3-020-15R	3	R	3	0.118	0.008	●	●	●	0.787	0.197	0°	15°
SGS3-020-15L	3	L	3	0.118	0.008	●	●	●	0.787	0.197	15°	0°
SGS3-002-15R	3	R	3	0.118	0.0008		●	●	0.780	0.197	0°	15°
SGS3-002-15L	3	L	3	0.118	0.0008		●	●	0.780	0.197	15°	0°
SGS4-030	4	N	4	0.157	0.012	●	●	●	0.787	0.197	0°	0°
SGS5-030	5	N	5	0.197	0.012	●	●	●	0.984	0.217	0°	0°
SGS6-030	6	N	6	0.236	0.012	●	●	●	0.984	0.217	0°	0°

● : Line up

Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

DGG

External grooving (for high precision)



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

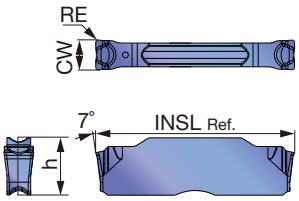
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.02 (mm)	CW±0.0008 (in)	RE (in)	Coated AH7025	Cermet NS9530	Uncoated KS05F	INSL (in)	h (in)
DGG200-020	2	2	0.079	0.008	●	●	●	0.787	0.197
DGG300-020	3	3	0.118	0.008	●	●	●	0.787	0.197
DGG400-040	4	4	0.157	0.016	●	●	●	0.787	0.197
DGG500-040	5	5	0.197	0.016	●	●	●	0.984	0.217
DGG600-040	6	6	0.236	0.016	●	●	●	0.984	0.217

● : Line up

DGL

External grooving and parting



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

★ : First choice
☆ : Second choice

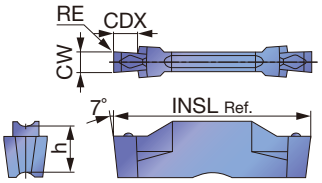
Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated AH7025	INSL (in)	h (in)
DGL3-025	3	3	0.118	0.010	●	0.787	0.197
DGL4-030	4	4	0.157	0.012	●	0.787	0.197
DGL5-030	5	5	0.197	0.012	●	0.984	0.217
DGL6-080	6	6	0.236	0.031	●	0.984	0.217

● : Line up

Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

DGE

External grooving (for high precision)



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

★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05 (mm)	CW±0.0008 (in)	RE (in)	Coated				Cermet				CDX (in)	INSL (in)	h (in)
					AH7025	AH725	GH130		NS9530						
DGE100-000	2	1	0.039	0		●	●		●				0.098	0.787	0.197
DGE130-000	2	1.3	0.051	0		●	●		●				0.098	0.787	0.197
DGE160-010	2	1.6	0.063	0.004	●	●	●		●				0.098	0.787	0.197
DGE185-010	2	1.85	0.073	0.004	●	●	●		●				0.138	0.787	0.197
DGE215-015	2	2.15	0.085	0.006	●	●	●		●				0.138	0.787	0.197

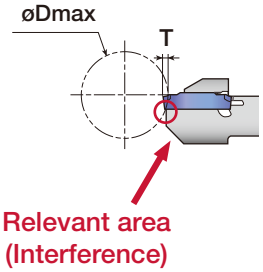
● : Line up

Caution

øDmax is limited as shown in the picture to the right according to the groove depth, G.D. Please refer to the following table.

G.D = Groove depth

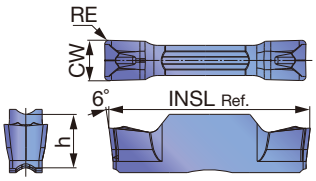
Designation	Max. groove depth (mm)	øDmax (in)				
		T = 0.039	T = 0.059	T = 0.079	T = 0.098	T = 0.118
DGE100-000	0.079	∞	0.73	0.45	-	-
DGE130-000						
DGE160-010						
DGE185-010	0.118				0.35	0.28
DGE215-015						



Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

DTM

External face grooving and turning



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

★ : First choice
☆ : Second choice

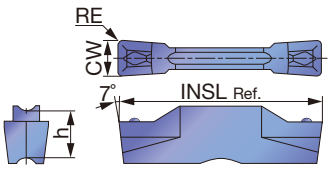
Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated									INSL (in)	h (in)
					AH7025										
DTM3-030	3	3	0.118	0.012	●									0.787	0.197
DTM4-040	4	4	0.157	0.016	●									0.787	0.197
DTM4-080	4	4	0.157	0.031	●									0.787	0.197
DTM5-080	5	5	0.197	0.031	●									0.984	0.217
DTM6-080	6	6	0.236	0.031	●									0.984	0.217
DTM8-080	8	8	0.315	0.031	●									1.181	0.264

● : Line up

Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

DTE

External face grooving and turning (for high precision)



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

★ : First choice
☆ : Second choice

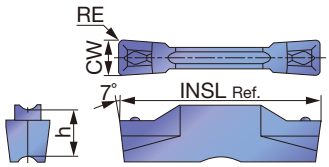
Designation	Seat size	CW±0.02 (mm)	CW±0.0008 (in)	RE (in)	Coated							Cermet				INSL (in)	h (in)
					T9225	T9125	AH7025	AH725	GH130			NS9530					
DTE265-015	3	2.65	0.104	0.006	●	▲	●	●	●			●				0.787	0.197
DTE300-020	3	3	0.118	0.008	●	▲	●	●	●			●				0.787	0.197
DTE300-040	3	3	0.118	0.016	●	▲	●	●	●			●				0.787	0.197
DTE315-015	3	3.15	0.124	0.006	●	▲	●	●	●			●				0.787	0.197
DTE400-040	4	4	0.157	0.016	●	▲	●	●	●			●				0.787	0.197
DTE400-080	4	4	0.157	0.031	●	▲	●	●	●			●				0.787	0.197
DTE415-015	4	4.15	0.163	0.006	●	▲	●	●	●			●				0.787	0.197
DTE478-055	5	4.78	0.188	0.022	●	▲	●	●	●			●				0.984	0.217
DTE500-040	5	5	0.197	0.016	●	▲	●	●	●			●				0.984	0.217
DTE500-080	5	5	0.197	0.031	●	▲	●	●	●			●				0.984	0.217
DTE515-015	5	5.15	0.203	0.006	●	▲	●	●	●							0.984	0.217
DTE600-080	6	6	0.236	0.031	●	▲	●	●	●							0.984	0.217
DTE600-120	6	6	0.236	0.047	●	▲	●	●	●							0.984	0.217
DTE800-080	8	8	0.315	0.031	●	▲	●	●	●							1.181	0.264
DTE800-120	8	8	0.315	0.047	●	▲	●	●	●							1.181	0.264

● : Line up
▲ : To be discontinued

Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

DTE

External face grooving and turning



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

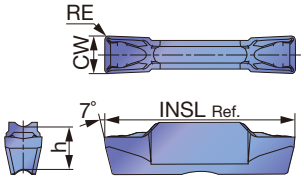
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated							Cermet				INSL (in)	h (in)
					T9225	T9125	T515	AH7025	AH725	GH130		NS9530					
DTE3-040	3	3	0.118	0.016	●	▲	●	●	●	●		●				0.787	0.197
DTE4-040	4	4	0.157	0.016	●	▲	●	●	●	●		●				0.787	0.197
DTE5-040	5	5	0.197	0.016			●	●								0.984	0.217
DTE6-080	6	6	0.236	0.031			●	●								0.984	0.217

● : Line up
▲ : To be discontinued

DTX

External/Internal face grooving and turning



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

★ : First choice
☆ : Second choice

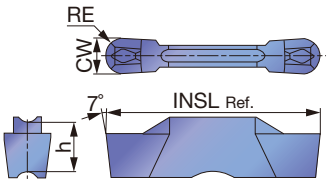
Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated							Cermet				INSL (in)	h (in)
					T9225	T9125	AH7025	AH725	GH130			NS9530					
DTX3-030	3	3	0.118	0.012	●	▲	●	●	●			●				0.787	0.197
DTX4-040	4	4	0.157	0.016	●	▲	●	●	●			●				0.787	0.197
DTX5-040	5	5	0.197	0.016	●	▲	●	●	●			●				0.984	0.217
DTX6-080	6	6	0.236	0.031			●	●	●							0.984	0.197

● : Line up
▲ : To be discontinued

Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

DTR

Profiling and undercutting (for high precision)



		T9225	T9125	AH7025	AH725	GH130	NS9530
P	Steel	★	★	★	☆	☆	★
M	Stainless	★		★	☆	★	
K	Cast iron	☆		★		☆	☆
N	Non-ferrous						
S	Superalloys			★	☆		
H	Hard materials						

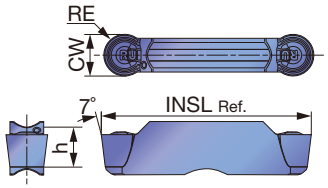
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.02 (mm)	CW±0.0008 (in)	RE (in)	Coated						Cermet				INSL (in)	h (in)
					T9225	T9125	AH7025	AH725	GH130		NS9530					
DTR300-150	3	3	0.118	0.059	●	▲	●	●	●		●				0.787	0.197
DTR400-200	4	4	0.157	0.079	●	▲	●	●	●		●				0.787	0.197
DTR478-239	5	4.78	0.188	0.094	●	▲	●	●	●		●				0.984	0.217
DTR500-250	5	5	0.197	0.098	●	▲	●	●	●		●				0.984	0.217
DTR600-300	6	6	0.236	0.118	●	▲	●	●	●						0.984	0.217

● : Line up
▲ : To be discontinued

DTR

Profiling and undercutting



		T9225	T9125	AH7025	AH725	AH905	GH130	NS9530
P	Steel	★	★	★	☆		☆	★
M	Stainless	★		★	☆		★	
K	Cast iron	☆		★		☆	☆	☆
N	Non-ferrous							
S	Superalloys			★	☆	★		
H	Hard materials							

★ : First choice
☆ : Second choice

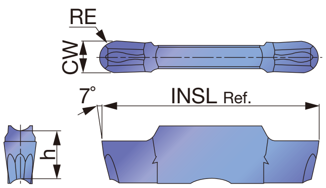
Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated							Cermet				INSL (in)	h (in)
					T9225	T9125	AH7025	AH725	AH905	GH130		NS9530					
DTR3-150	3	3	0.118	0.059	●	▲	●	●	●	●		●				0.787	0.197
DTR4-200	4	4	0.157	0.079	●	▲	●	●	●	●		●				0.787	0.197
DTR5-250	5	5	0.197	0.098	●	▲	●	●	●	●		●				0.984	0.217
DTR6-300	6	6	0.236	0.118	●	▲	●	●		●						0.984	0.217
DTR8-400	8	8	0.315	0.157	●	▲	●	●		●						1.181	0.264

● : Line up
▲ : To be discontinued

Reference pages: Toolholders → P.34 - 61, Standard cutting conditions → P.62

DTIU

Profiling and undercutting (for high precision)



	Material	AH7025	AH725	GH130
P	Steel	★	☆	☆
M	Stainless	★	☆	★
K	Cast iron	★		☆
N	Non-ferrous			
S	Superalloys	★	☆	
H	Hard materials			

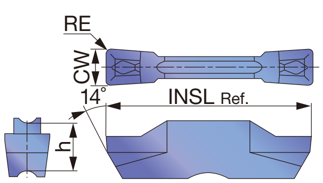
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.02 (mm)	CW±0.0008 (in)	RE (in)	Coated AH7025	Coated AH725	Coated GH130	INSL (in)	h (in)
DTIU300-150	3	3	0.118	0.059	●	●	●	0.787	0.197
DTIU400-200	4	4	0.157	0.079	●	●	●	0.787	0.197
DTIU500-250	5	5	0.197	0.098	●	●	●	0.984	0.217
DTIU600-300	6	6	0.236	0.118	●	●	●	0.984	0.217

● : Line up

DTI

Internal grooving and turning (for high precision)



	Material	T9225	T9125	AH7025	AH725	GH130	NS9530
P	Steel	★	☆	★	☆	☆	★
M	Stainless	★		★	☆	★	
K	Cast iron	☆		★		☆	☆
N	Non-ferrous						
S	Superalloys			★	☆		
H	Hard materials						

★ : First choice
☆ : Second choice

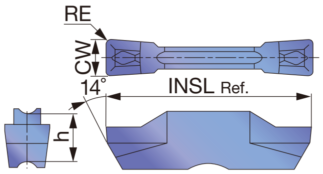
Designation	Seat size	CW±0.02 (mm)	CW±0.0008 (in)	RE (in)	Coated T9225	Coated T9125	Coated AH7025	Coated AH725	Coated GH130	Cermet NS9530	INSL (in)	h (in)
DTI300-040	3	3	0.118	0.016	●	▲	●	●	●	●	0.787	0.197
DTI400-040	4	4	0.157	0.016	●	▲	●	●	●	●	0.787	0.197
DTI400-080	4	4	0.157	0.031	●	▲	●	●	●	●	0.787	0.197
DTI500-040	5	5	0.197	0.016	●	▲	●	●	●	●	0.984	0.217
DTI500-080	5	5	0.197	0.031	●	▲	●	●	●	●	0.984	0.217
DTI600-080	6	6	0.236	0.031	●	▲	●	●	●		0.984	0.217
DTI600-120	6	6	0.236	0.047	●	▲	●	●	●		0.984	0.217
DTI800-080	8	8	0.315	0.031	●	▲	●	●	●		1.181	0.264
DTI800-120	8	8	0.315	0.047	●	▲	●	●	●		1.181	0.264

● : Line up
▲ : To be discontinued

Reference pages: DTIU : Toolholders → P.40, 47, Standard cutting conditions → P.62
DTI : Toolholders → P.44, Standard cutting conditions → P.62

DTI

Internal grooving and turning



		T9225	T9125	AH7025	AH725	GH130			NS9530			
P	Steel	★	☆	★	☆	☆			★			
M	Stainless	★		★	☆	★						
K	Cast iron	☆		★		☆			☆			
N	Non-ferrous											
S	Superalloys			★	☆							
H	Hard materials											

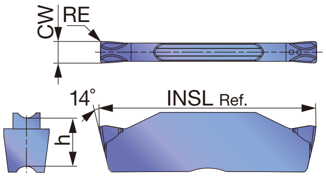
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.02 (mm)	CW±0.001 (in)	RE (in)	Coated							Cermet						INSL (in)	h (in)
					T9225	T9125	AH7025	AH725	GH130			NS9530							
DTI3-040	3	3	0.118	0.016	●	▲	●	●	●			●						0.787	0.197
DTI4-040	4	4	0.157	0.016	●	▲	●	●	●			●						0.787	0.197

● : Line up
▲ : To be discontinued

DGIM

Small diameter internal grooving



		T9225	T9125	AH7025	AH725	GH130			NS9530			
P	Steel	★	☆	★	☆	☆			★			
M	Stainless	★		★	☆	★						
K	Cast iron	☆		★		☆			☆			
N	Non-ferrous											
S	Superalloys			★	☆							
H	Hard materials											

★ : First choice
☆ : Second choice

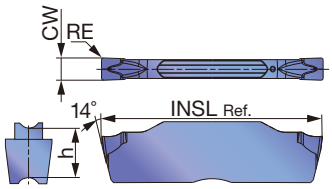
Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated							Cermet						INSL (in)	h (in)
					T9225	T9125	AH7025	AH725	GH130			NS9530							
DGIM2-020	2	2	0.079	0.008	●	▲	●	●	●			●						0.787	0.197

● : Line up
▲ : To be discontinued

Reference pages: Toolholders → P.44, Standard cutting conditions → P.62

DGIS

Small diameter internal grooving



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

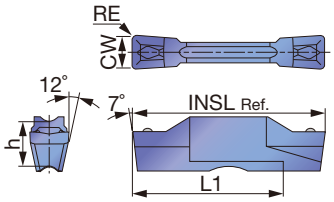
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated							Cermet				INSL (in)	h (in)
					T9225	T9125	AH7025	AH725	GH130			NS9530					
DGIS2-020	2	2	0.079	0.008	●	▲	●	●	●			●				0.787	0.197

● : Line up
▲ : To be discontinued

DTF

Face grooving and turning



Right hand (R) shown.

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

★ : First choice
☆ : Second choice

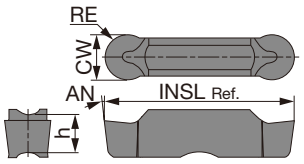
Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated							Cermet				INSL (in)	h (in)	L1 (in)
						T9225	T9125	AH7025	AH725	GH130			NS9530						
DTF3-040-R	3	R	3	0.118	0.016	●	▲	●	●	●			●				0.787	0.197	0.630
DTF3-040-L	3	L	3	0.118	0.016	●	▲	●	●	●			●				0.787	0.197	0.630
DTF4-040-R	4	R	4	0.157	0.016	●	▲	●	●	●			●				0.787	0.197	0.630
DTF4-040-L	4	L	4	0.157	0.016	●	▲	●	●	●			●				0.787	0.197	0.630

● : Line up
▲ : To be discontinued

Reference pages: DGIS : Toolholders → P.44, Standard cutting conditions → P.62
DTF : Toolholders → P.48 - 49, 59, Standard cutting conditions → P.62

DTA

Aluminum wheel machining (for high precision)



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

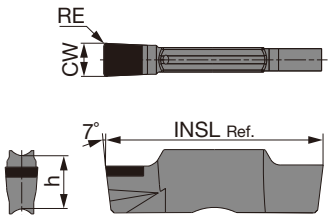
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.02 (mm)	CW±0.0008 (in)	RE (in)	Uncoated TH10	INSL (in)	h (in)	AN
DTA600-300	6	6	0.236	0.118	●	0.984	0.217	7°
DTA800-400	8	8	0.315	0.157	●	1.181	0.264	10°

● : Line up

SGN

External grooving of hardened steel



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

★ : First choice
☆ : Second choice

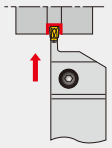
Designation	Seat size	CW±0.025 (mm)	CW±0.001 (in)	RE (in)	CBN BX360	INSL (in)	h (in)
SGN200-020	2	2	0.079	0.008	●	0.787	0.197
SGN300-020	3	3	0.118	0.008	●	0.787	0.197
SGN400-020	4	4	0.157	0.008	●	0.787	0.197

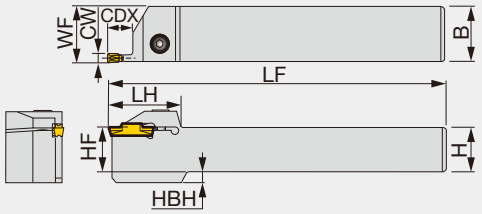
● : Line up

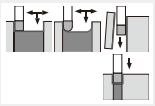
Reference pages: DTA : Toolholders → P.57, Standard cutting conditions → P.62
SGN : Toolholders → P.34 - 61, Standard cutting conditions → P.62

CTER/L

External grooving, parting and turning toolholder







Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CDX	H	B	LF	LH	HF	WF (1)	HBH	Torque
CTER/L10-2T08	0.079	2	2	0.315	0.625	0.625	4.500	1.299	0.625	0.629	0.157	3.69
CTER/L12-2T08	0.079	2	2	0.315	0.750	0.750	5.000	1.299	0.750	0.754	-	3.69
CTER/L16-2T08	0.079	2	2	0.315	1.000	1.000	6.000	1.299	1.000	1.004	-	3.69
CTER/L10-2T12	0.079	2	2	0.472	0.625	0.625	4.500	1.260	0.625	0.629	0.157	3.69
CTER/L12-2T12	0.079	2	2	0.472	0.750	0.750	5.000	1.260	0.750	0.754	-	3.69
CTER/L16-2T12	0.079	2	2	0.472	1.000	1.000	6.000	1.260	1.000	1.004	-	3.69
CTER/L10-2T17	0.079	2	2	0.669	0.625	0.625	4.500	1.457	0.625	0.629	0.157	3.69
CTER/L12-2T17	0.079	2	2	0.669	0.750	0.750	5.000	1.457	0.750	0.754	-	3.69
CTER/L16-2T17	0.079	2	2	0.669	1.000	1.000	6.000	1.457	1.000	1.004	-	3.69
CTER/L10-3T09	0.118	3	3	0.354	0.625	0.625	4.500	1.260	0.625	0.637	0.157	3.69
CTER/L12-3T09	0.118	3	3	0.354	0.750	0.750	5.000	1.260	0.750	0.762	-	3.69
CTER/L16-3T09	0.118	3	3	0.354	1.000	1.000	6.000	1.260	1.000	1.012	-	3.69
CTER/L12-3T12	0.118	3	3	0.472	0.750	0.750	5.000	1.260	0.750	0.763	-	3.69
CTER/L16-3T12	0.118	3	3	0.472	1.000	1.000	6.000	1.260	1.000	1.012	-	3.69
CTER/L10-3T20	0.118	3	3	0.787	0.625	0.625	4.500	1.516	0.625	0.637	0.157	3.69
CTER/L12-3T20	0.118	3	3	0.787	0.750	0.750	5.000	1.516	0.750	0.762	-	3.69
CTER/L16-3T20	0.118	3	3	0.787	1.000	1.000	6.000	1.516	1.000	1.012	-	3.69
CTER/L16-3T25	0.118	3	3	0.984	1.000	1.000	6.000	1.752	1.000	1.012	-	3.69
CTER/L10-4T10	0.157	4	4	0.394	0.625	0.625	4.500	1.260	0.625	0.645	0.157	6.27
CTER/L12-4T10	0.157	4	4	0.394	0.750	0.750	5.000	1.260	0.750	0.770	-	6.27
CTER/L16-4T10	0.157	4	4	0.394	1.000	1.000	6.000	1.260	1.000	1.020	-	6.27
CTER/L12-4T15	0.157	4	4	0.590	0.750	0.750	5.000	1.299	0.750	0.770	-	6.27
CTER/L16-4T15	0.157	4	4	0.590	1.000	1.000	6.000	1.299	1.000	1.020	-	6.27
CTER/L10-4T25	0.157	4	4	0.984	0.625	0.625	4.500	1.772	0.625	0.645	0.157	6.27
CTER/L12-4T25	0.157	4	4	0.984	0.750	0.750	5.000	1.772	0.750	0.770	-	6.27
CTER/L16-4T25	0.157	4	4	0.984	1.000	1.000	6.000	1.772	1.000	1.020	-	6.27
CTER/L20-4T25	0.157	4	4	0.984	1.250	1.250	7.000	1.772	1.250	1.270	-	6.27
CTER/L12-5T12	0.197	5	5	0.472	0.750	0.750	5.000	1.457	0.750	0.774	-	6.27
CTER/L16-5T12	0.197	5	5	0.472	1.000	1.000	6.000	1.457	1.000	1.024	-	6.27
CTER/L16-5T20	0.197	5	5	0.787	1.000	1.000	6.000	1.457	1.000	1.024	-	6.27
CTER/L16-5T32	0.197	5	5	1.260	1.000	1.000	6.000	2.205	1.000	1.024	-	6.27
CTER/L20-5T32	0.197	5	5	1.260	1.250	1.250	7.000	2.205	1.250	1.274	-	8.85
CTER/L12-6T12	0.236	6	6	0.472	0.750	0.750	5.000	1.457	0.750	0.770	-	8.85
CTER/L16-6T12	0.236	6	6	0.472	1.000	1.000	6.000	1.457	1.000	1.020	0.276	8.85
CTER/L16-6T20	0.236	6	6	0.787	1.000	1.000	6.000	1.614	1.000	1.023	0.276	8.85
CTER/L16-6T32	0.236	6	6	1.260	1.000	1.000	6.000	2.205	1.000	1.020	0.276	8.85
CTER/L20-6T32	0.236	6	6	1.260	1.250	1.250	7.000	2.205	1.250	1.270	-	8.85
CTER/L16-8T16	0.315	8	8	0.630	1.000	1.000	6.000	1.850	1.000	1.039	0.276	8.85
CTER/L16-8T25	0.315	8	8	0.984	1.000	1.000	6.000	1.850	1.000	1.039	0.276	8.85
CTER/L20-8T25	0.315	8	8	0.984	1.250	1.250	7.000	1.850	1.250	1.289	-	8.85
CTER/L16-8T36	0.315	8	8	1.417	1.000	1.000	6.000	2.362	1.000	1.039	0.276	8.85
CTER/L20-8T36	0.315	8	8	1.417	1.250	1.250	7.000	2.362	1.250	1.289	-	8.85

When groove depth is larger than (insert length - 0.059"), please use 1-cornered insert.
(1) "WF" value is calculated with groove width "CW" shown in the table.
Torque: Recommended clamping torque: lbs·ft

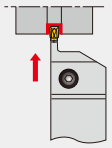
SPARE PARTS

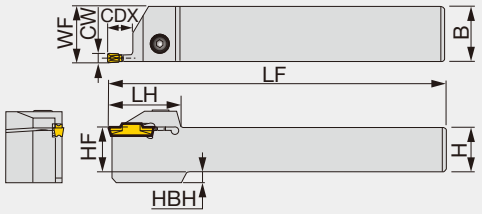

Designation	Clamping screw	Wrench
CTER/L10-2T08	CM5X0.8X16-A	P-4
CTER/L12-2T08	CM5X0.8X20-A	P-4
CTER/L16-2T08	CM5X0.8X25-A	P-4
CTER/L10-2T12	CM5X0.8X16-A	P-4
CTER/L12-2T12	CM5X0.8X20-A	P-4
CTER/L16-2T12	CM5X0.8X25-A	P-4
CTER/L10-2T17	CM5X0.8X16-A	P-4
CTER/L12-2T17	CM5X0.8X20-A	P-4
CTER/L16-2T17	CM5X0.8X25-A	P-4
CTER/L10-3T09	CM5X0.8X16-A	P-4
CTER/L12-3T09	CM5X0.8X20-A	P-4
CTER/L12-3T12	CM5X0.8X25-A	P-4
CTER/L16-3T12	CM5X0.8X20-A	P-4
CTER/L10-3T20	CM5X0.8X25-A	P-4
CTER/L12-3T20	CM5X0.8X16-A	P-4
CTER/L16-3T20	CM5X0.8X20-A	P-4
CTER/L16-3T25	CM5X0.8X25-A	P-4
CTER/L10-4T10	CM6X1X16-A	P-5
CTER/L12-4T10	CM6X1X20-A	P-5
CTER/L16-4T10	CM6X1X25-A	P-5
CTER/L12-4T15	CM6X1X20-A	P-5
CTER/L16-4T15	CM6X1X25-A	P-5
CTER/L10-4T25	CM6X1X16-A	P-5
CTER/L12-4T25	CM6X1X20-A	P-5
CTER/L16-4T25	CM6X1X25-A	P-5
CTER/L20-4T25	CM6X1X25-A	P-5
CTER/L12-5T12	CM6X1X20-A	P-5
CTER/L16-5T12	CM6X1X25-A	P-5
CTER/L16-5T20	CM6X1X25-A	P-5
CTER/L16-5T32	CM6X1X25-A	P-5
CTER/L20-5T32	CM8X1.25X20-A	P-6
CTER/L12-6T12, CTER/L16-6T12	CM8X1.25X25-A	P-6
CTER/L16-6T20	CM8X1.25X25-A	P-6
CTER/L16-6T32, CTER/L20-6T32	CM8X1.25X25-A	P-6
CTER/L16-8T16	CM8X1.25X25-A	P-6
CTER/L16-8T25, CTER/L20-8T25	CM8X1.25X25-A	P-6
CTER/L16-8T36, CTER/L20-8T36	CM8X1.25X25-A	P-6

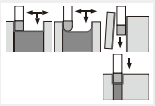
Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62

CTER/L

External grooving, parting and turning toolholder







Right hand (R) shown.

Metric	CW	Seat size	CDX	H	B	LF	LH	HF	WF (1)	HBH	Torque*
CTER/L1616-2T08	2	2	8	16	16	110	33	16	16.1	4	5
CTER/L2020-2T08	2	2	8	20	20	125	33	20	20.1	-	5
CTER/L2525-2T08	2	2	8	25	25	150	33	25	25.1	-	5
CTER/L1616-2T12	2	2	12	16	16	110	32	16	16.1	4	5
CTER/L2020-2T12	2	2	12	20	20	125	32	20	20.1	-	5
CTER/L2525-2T12	2	2	12	25	25	150	32	25	25.1	-	5
CTER/L1616-2T17	2	2	17	16	16	110	37	16	16.1	4	5
CTER/L2020-2T17	2	2	17	20	20	125	37	20	20.1	-	5
CTER/L2525-2T17	2	2	17	25	25	150	37	25	25.1	-	5
CTER/L2525-2T20	2	2	20	25	25	150	38.5	25	25.1	-	5
CTER/L1616-3T09	3	3	9	16	16	110	32	16	16.3	4	5
CTER/L2020-3T09	3	3	9	20	20	125	32	20	20.3	-	5
CTER/L2525-3T09	3	3	9	25	25	150	32	25	25.3	-	5
CTER/L1616-3T12	3	3	12	16	16	110	32	16	16.3	4	5
CTER/L2020-3T12	3	3	12	20	20	125	32	20	20.3	-	5
CTER/L2525-3T12	3	3	12	25	25	150	32	25	25.3	-	5
CTER/L1616-3T20	3	3	20	16	16	110	38.5	16	16.3	4	5
CTER/L2020-3T20	3	3	20	20	20	125	38.5	20	20.3	-	5
CTER/L2525-3T20	3	3	20	25	25	150	38.5	25	25.3	-	5
CTER/L2525-3T25	3	3	25	25	25	150	44.5	25	25.3	-	5
CTER/L1616-4T10	4	4	10	16	16	110	32	16	16.5	4	8.5
CTER/L2020-4T10	4	4	10	20	20	125	32	20	20.5	-	8.5
CTER/L2525-4T10	4	4	10	25	25	150	32	25	25.5	-	8.5
CTER/L2020-4T15	4	4	15	20	20	125	33	20	20.5	-	8.5
CTER/L2525-4T15	4	4	15	25	25	150	33	25	25.5	-	8.5
CTER/L1616-4T25	4	4	25	16	16	110	45	16	16.5	4	8.5
CTER/L2020-4T25	4	4	25	20	20	125	45	20	20.5	-	8.5
CTER/L2525-4T25	4	4	25	25	25	150	45	25	25.5	-	8.5
CTER/L3232-4T25	4	4	25	32	32	170	45	32	32.5	-	8.5
CTER/L2020-5T12	5	5	12	20	20	125	37	20	20.6	-	8.5
CTER/L2525-5T12	5	5	12	25	25	150	37	25	25.6	-	8.5
CTER/L2525-5T17	5	5	17	25	25	150	37	25	25.6	-	8.5
CTER/L2525-5T20	5	5	20	25	25	150	37	25	25.6	-	8.5
CTER/L2525-5T32	5	5	32	25	25	150	56	25	25.6	-	8.5
CTER/L3232-5T32	5	5	32	32	32	170	56	32	32.6	-	8.5
CTER/L2020-6T12	6	6	12	20	20	125	37	20	20.6	-	12
CTER/L2525-6T12	6	6	12	25	25	150	37	25	25.6	7	12
CTER/L2525-6T16	6	6	16	25	25	150	39	25	25.6	7	12
CTER/L2525-6T20	6	6	20	25	25	150	41	25	25.6	7	12
CTER/L2525-6T25	6	6	25	25	25	150	47	25	25.6	7	12
CTER/L2525-6T32	6	6	32	25	25	150	56	25	25.6	7	12
CTER/L3232-6T32	6	6	32	32	32	170	56	32	32.6	-	12
CTER/L2525-8T16	8	8	16	25	25	150	47	25	26.1	7	12
CTER/L2525-8T25	8	8	25	25	25	150	47	25	26.1	7	12
CTER/L3232-8T25	8	8	25	32	32	170	47	32	33.1	-	12
CTER/L3232-8T32	8	8	32	32	32	170	56	32	33.1	-	12
CTER/L2525-8T36	8	8	36	25	25	150	60	25	26.1	7	12
CTER/L3232-8T36	8	8	36	32	32	170	60	32	33.1	-	12

When groove depth is larger than (insert length - 1.5 mm), please use 1-cornered insert.
(1) "WF" value is calculated with groove width "CW" shown in the table.
*Torque: Recommended clamping torque (N·m)

SPARE PARTS

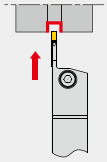

Designation	Clamping screw	Wrench
CTER/L1616-2T08	CM5X0.8X16-A	P-4
CTER/L2020-2T08	CM5X0.8X20-A	P-4
CTER/L2525-2T08	CM5X0.8X25-A	P-4
CTER/L1616-2T12	CM5X0.8X16-A	P-4
CTER/L2020-2T12	CM5X0.8X20-A	P-4
CTER/L2525-2T12	CM5X0.8X25-A	P-4
CTER/L1616-2T17	CM5X0.8X16-A	P-4
CTER/L2020-2T17	CM5X0.8X20-A	P-4
CTER/L2525-2T17	CM5X0.8X25-A	P-4
CTER/L2525-2T20	CM5X0.8X25-A	P-4
CTER/L1616-3T09	CM5X0.8X16-A	P-4
CTER/L2020-3T09	CM5X0.8X20-A	P-4
CTER/L2525-3T09	CM5X0.8X25-A	P-4
CTER/L1616-3T12	CM5X0.8X16-A	P-4
CTER/L2020-3T12	CM5X0.8X20-A	P-4
CTER/L2525-3T12	CM5X0.8X25-A	P-4
CTER/L1616-3T20	CM5X0.8X16-A	P-4
CTER/L2020-3T20	CM5X0.8X20-A	P-4
CTER/L2525-3T20	CM5X0.8X25-A	P-4
CTER/L2525-3T25	CM5X0.8X25-A	P-4
CTER/L1616-4T10	CM6X1X16-A	P-5
CTER/L2020-4T10	CM6X1X20-A	P-5
CTER/L2525-4T10	CM6X1X25-A	P-5
CTER/L2020-4T15	CM6X1X20-A	P-5
CTER/L2525-4T15	CM6X1X25-A	P-5
CTER/L1616-4T25	CM6X1X16-A	P-5
CTER/L2020-4T25	CM6X1X20-A	P-5
CTER/L2525-4T25	CM6X1X25-A	P-5
CTER/L3232-4T25	CM6X1X25-A	P-5
CTER/L2020-5T12	CM6X1X20-A	P-5
CTER/L2525-5T12	CM6X1X25-A	P-5
CTER/L2525-5T17	CM6X1X25-A	P-5
CTER/L2525-5T20	CM6X1X25-A	P-5
CTER/L2525-5T32	CM6X1X25-A	P-5
CTER/L3232-5T32	CM6X1X25-A	P-5
CTER/L2020-6T12	CM8X1.25X20-A	P-6
CTER/L2525-6T12	CM8X1.25X25-A	P-6
CTER/L2525-6T16	CM8X1.25X25-A	P-6
CTER/L2525-6T20	CM8X1.25X25-A	P-6
CTER/L2525-6T25	CM8X1.25X25-A	P-6
CTER/L2525-6T32	CM8X1.25X25-A	P-6
CTER/L3232-6T32	CM8X1.25X25-A	P-6
CTER/L2525-8T16	CM8X1.25X25-A	P-6
CTER/L2525-8T25	CM8X1.25X25-A	P-6
CTER/L3232-8T25	CM8X1.25X25-A	P-6
CTER/L3232-8T32	CM8X1.25X25-A	P-6
CTER/L2525-8T36	CM8X1.25X25-A	P-6
CTER/L3232-8T36	CM8X1.25X25-A	P-6

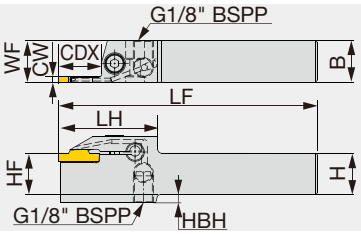
Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62

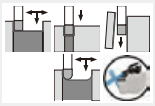
CTER/L-CHP

TUNGTURN TUNGTJET

Mono-block external grooving and parting toolholder, with high pressure coolant capability







Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CDX	H	B	LF	LH	HF	WF (1)	HBH	Torque
CTER/L12-2T17-CHP	0.079	2	2	0.669	0.750	0.750	5.000	1.772	0.750	0.715	0.157	4.06
CTER/L16-2T17-CHP	0.079	2	2	0.669	1.000	1.000	6.000	1.772	1.000	0.965	-	4.06
CTER/L12-3T25-CHP	0.118	3	3	0.984	0.750	0.750	5.000	2.008	0.750	0.703	0.157	4.06
CTER/L16-3T25-CHP	0.118	3	3	0.984	1.000	1.000	6.000	2.008	1.000	0.953	-	4.06
CTER/L16-4T25-CHP	0.157	4	4	0.984	1.000	1.000	6.000	2.170	1.000	0.941	-	5.90
CTER/L16-5T32-CHP	0.197	5	5	1.260	1.000	1.000	6.000	2.323	1.000	0.924	-	5.90
CTER/L16-6T32-CHP	0.236	6	6	1.260	1.000	1.000	6.000	2.441	1.000	0.905	0.276	8.85

Metric	CW	Seat size	CDX	H	B	LF	LH	HF	WF (1)	HBH	Torque*
CTER/L2020-2T17-CHP	2	2	17	20	20	125	45	20	20.1	4	5.5
CTER/L2525-2T17-CHP	2	2	17	25	25	150	45	25	25.1	-	5.5
CTER/L2020-3T20-CHP	3	3	20	20	20	125	48	20	20.3	4	5.5
CTER/L2525-3T20-CHP	3	3	20	25	25	150	48	25	25.3	-	5.5
CTER/L2525-3T25-CHP	3	3	25	25	25	150	51	25	25.3	-	5.5
CTER/L2525-4T25-CHP	4	4	25	25	25	150	55	25	25.5	-	8
CTER/L2525-5T20-CHP	5	5	20	25	25	150	49	25	25.58	-	8
CTER/L2525-6T20-CHP	6	6	20	25	25	150	52	25	25.58	7	12

When groove depth is larger than (insert length - 1.5 mm), please use 1-cornered insert.
(1) "WF" value is calculated with groove width "CW" shown in the table.
*Torque: Recommended clamping torque (N·m)

Inch SPARE PARTS

Designation	Clamping screw	Wrench
CTER/L12-2T17-CHP	CM5x0.8x20-A	P-4
CTER/L16-2T17-CHP	CM5x0.8x20-A	P-4
CTER/L12-3T25-CHP	CM5x0.8x25-A	P-4
CTER/L16-3T25-CHP	CM5x0.8x25-A	P-4
CTER/L16-4T25-CHP	CM6x1x16-A	P-5
CTER/L16-5T32-CHP	CM6x1x16-A	P-5
CTER/L16-6T32-CHP	CM8x1.25x20-A	P-6

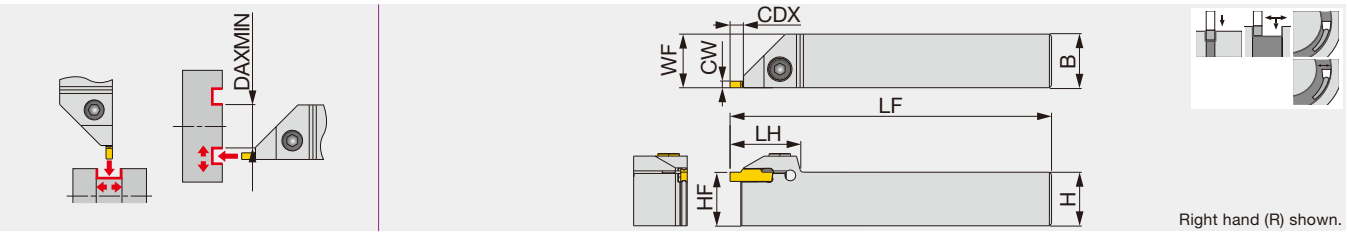
Metric SPARE PARTS

Designation	Clamping screw	Wrench
CTER/L2020-2T17-CHP	CM5x0.8x20-A	P-4
CTER/L2525-2T17-CHP	CM5x0.8x25-A	P-4
CTER/L2020-3T20-CHP	CM5x0.8x20-A	P-4
CTER/L2525-3T20-CHP	CM5x0.8x25-A	P-4
CTER/L2525-3T25-CHP	CM5x0.8x25-A	P-4
CTER/L2525-4T25-CHP	CM6x1x16-A	P-5
CTER/L2525-5T20-CHP	CM6x1x16-A	P-5
CTER/L2525-6T20-CHP	CM8x1.25x20-A	P-6

Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62
Parts for coolant hose → P.64

CTEFR/L

External face grooving and turning toolholder



Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CDX	HF	B	H	LF	WF (1)	LH	Torque
CTEFR/L12-4T04	0.157	4	2, 3, 4	0.189	0.750	0.750	0.750	5.000	0.770	1.300	6.27
CTEFR/L16-4T04	0.157	4	2, 3, 4	0.189	1.000	1.000	1.000	6.000	1.020	1.300	6.27
CTEFR/L12-6T04	0.236	6	5, 6	0.189	0.750	0.750	0.750	5.000	0.236	1.460	6.27
CTEFR/L16-6T04	0.236	6	5, 6	0.189	1.000	1.000	1.000	6.000	1.020	1.460	6.27

(1) "WF" value is calculated with groove width "CW" shown in the table.
Use the right-hand insert for the right-hand holder with DTF insert.
Torque: Recommended clamping torque: lbs·ft

SPARE PARTS


Designation	Clamping screw	Wrench
CTEFR/L12-4T04	CM6X1X20-A	P-5
CTEFR/L16-4T04	CM6X1X25-A	P-5
CTEFR/L12-6T04	CM6X1X20-A	P-5
CTEFR/L16-6T04	CM6X1X25-A	P-5

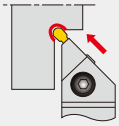
Insert	Groove width CW (in)	Face grooving Min. machining dia. DAXMIN (in)
DGM / DGS / SGN	0.079	11.614
DGM / DGS / SGN / DGL	0.118	3.622
DGM / DGS / SGN / DGL	0.157	1.457
DGM / DGS / DGL	0.197	2.362
DGM / DGS / DGL	0.236	2.244
DTE / DGG / DTM	0.118	2.441
DTE / DGG / DTM	0.157	1.654
DTE / DGG / DTM	0.197	2.520
DTE / DGG / DTM	0.236	2.402

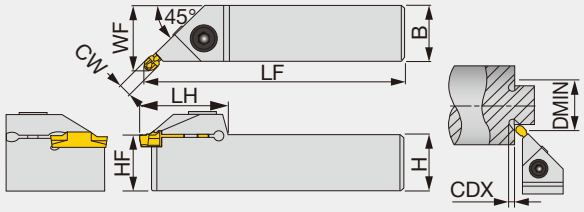
Insert	Groove width CW (in)	Face grooving Min. machining dia. DAXMIN (in)
DTR	0.118	1.732
DTR	0.157	1.260
DTR	0.197	1.890
DTR	0.236	1.890
DTX	0.118	0.866
DTX	0.157	0.787
DTX	0.197	0.787
DTX	0.236	0.906
DTF	0.118	0.787
DTF	0.157	0.787

Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62

CGEUR/L

External 45° undercutting toolholder





Right hand (R) shown.

Metric	CW	DMIN	Seat size	CDX	H	B	LF	LH	HF	WF (1)	Insert	Torque*
CGEUR/L1616-3T02	3	32	3	2.8	16	16	110	30	16	19.3	DTIU...	5
CGEUR/L2020-3T02	3	32	3	2.8	20	20	125	30	20	23.3	DTIU...	5
CGEUR/L2525-3T02	3	32	3	2.8	25	25	150	30	25	28.3	DTIU...	5
CGEUR/L1616-4T02	4	32	4	2.8	16	16	110	31	16	19.5	DTIU...	8.5
CGEUR/L2020-4T02	4	32	4	2.8	20	20	125	31	20	23.5	DTIU...	8.5
CGEUR/L2525-4T02	4	32	4	2.8	25	25	150	31	25	28.5	DTIU...	8.5
CGEUR/L2525-6T03	6	34	5, 6	3.4	25	25	150	35	25	28.9	DTIU...	8.5

(1) "WF" value is calculated with groove width "CW" shown in the table.
*Torque: Recommended clamping torque (N·m)

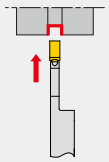
SPARE PARTS

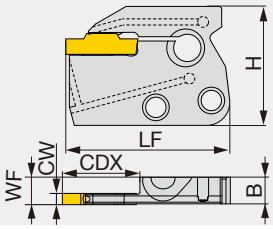
Designation	Clamping screw	Wrench
CGEUR/L****-3T02	CM5X0.8X16-A	P-4
CGEUR/L1616-4T02	CM6X1X16-A	P-5
CGEUR/L2020-4T02	CM6X1X20-A	P-5
CGEUR/L2525-4T02/6T03	CM6X1X25-A	P-5

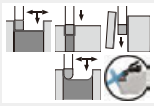
CAER/L-CHP

TUNGMODULAR SYSTEM

Modular-type external grooving and parting blade, with high pressure coolant capability







Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CDX	H	B	LF	WF (1)
CAER/L-2T16-CHP	0.079	2	2	0.630	1.299	0.283	1.634	0.287
CAER/L-2T20-CHP	0.079	2	2	0.787	1.299	0.283	1.791	0.287
CAER/L-3T16-CHP	0.118	3	3	0.630	1.299	0.283	1.634	0.291
CAER/L-3T20-CHP	0.118	3	3	0.787	1.299	0.283	1.791	0.295
CAER/L-4T16-CHP	0.157	4	4	0.630	1.299	0.283	1.634	0.303
CAER/L-4T20-CHP	0.157	4	4	0.787	1.299	0.283	1.791	0.303
CAER/L-5T20-CHP	0.197	5	5	0.787	1.299	0.283	1.823	0.307
CAER/L-6T20-CHP	0.236	6	6	0.787	1.299	0.283	1.823	0.307

When groove depth is larger than (insert length - 1.5 mm), please use 1-cornered insert.
(1) "WF" value is calculated with groove width "CW" shown in the table.

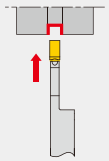
Reference pages: Inserts → P.30, Standard cutting conditions → P.62

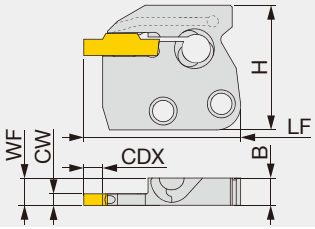
New

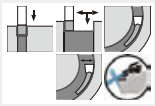
CAEFR/L-CHP

TUNGMODULAR SYSTEM

Modular-type face and external grooving blade, with high pressure coolant capability







Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CDX	H	B	LF	WF (1)
CAEFR/L-4T04-CHP	0.157	4	2,3,4	0.189	1.299	0.283	1.634	0.303
CAEFR/L-6T04-CHP	0.236	6	5,6	0.189	1.299	0.283	1.823	0.307

Use the right-hand insert for the right-hand holder with DTF insert. (1) "WF" value is calculated with groove width "CW" shown in the table.

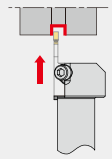
Insert	Groove width CW (in)	Face grooving Min. machining dia. DAXMIN (in)
DGM / DGS / SGN	0.079	11.614
DGM / DGS / SGN / DGL	0.118	3.622
DGM / DGS / SGN / DGL	0.157	1.457
DGM / DGS / DGL	0.197	2.362
DGM / DGS / DGL	0.236	2.244
DTE / DGG / DTM	0.118	2.441
DTE / DGG / DTM	0.157	1.654
DTE / DGG / DTM	0.197	2.520
DTE / DGG / DTM	0.236	2.402

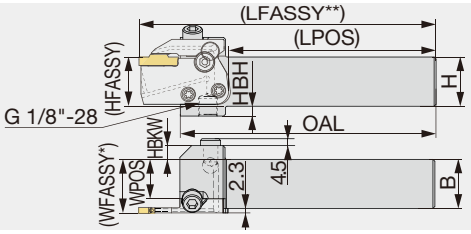
Insert	Groove width CW (in)	Face grooving Min. machining dia. DAXMIN (in)
DTR	0.118	1.732
DTR	0.157	1.260
DTR	0.197	1.890
DTR	0.236	1.890
DTX	0.118	0.866
DTX	0.157	0.787
DTX	0.197	0.787
DTX	0.236	0.906
DTF	0.118	0.787
DTF	0.157	0.787

CHSR/L-CHP

TUNGMODULAR SYSTEM

Shank for CAER/L-CHP blades with high pressure coolant capability





Right hand (R)
with right-hand blade shown.

Inch	H	B	OAL	LPOS	WPOS	HBKW	HFASSY	HBH	Blade (Option)	Torque
CHSR/L12-CHP	0.750	0.750	5.000	4.035	0.560	0.510	0.750	0.190	CAER/L-CHP	3.69
CHSR/L16-CHP	1.000	1.000	5.000	4.035	0.810	0.260	1.000	0.200	CAER/L-CHP	3.69

Metric	H	B	OAL	LPOS	WPOS	HBKW	HFASSY	HBH	Blade (Option)	Torque*
CHSR/L2020-CHP	20	20	130	105.5	15.1	12	20	10	CAER/L-CHP	5
CHSR/L2525-CHP	25	25	130	105.5	20.1	7	25	5	CAER/L-CHP	5

*WFASSY :Shank (WPOS) + blade (WF)
**LFASSY : Shank (LPOS) + blade (LF)

Please see the page 63 for instructions on installing and removing the blade or the insert.
Torque: Recommended clamping torque: lbs·ft (*N·m)
Use right-hand blades (R) with right-hand shanks (R); and left-hand blades (L) with left-hand shanks (L).
Applicable for 30 MPa coolant

SPARE PARTS







Designation	Clamping screw 1	Wrench 1	Clamping screw 2	Clamping screw 3	Wrench 2	O-ring	Plug
CHSR/L...-CHP	SRM5-04451	T-20/5	SRM6X12DIN6912	SRM6X20-XT	HW5.0	OR5X1N	PLUGG1/8ISO1179

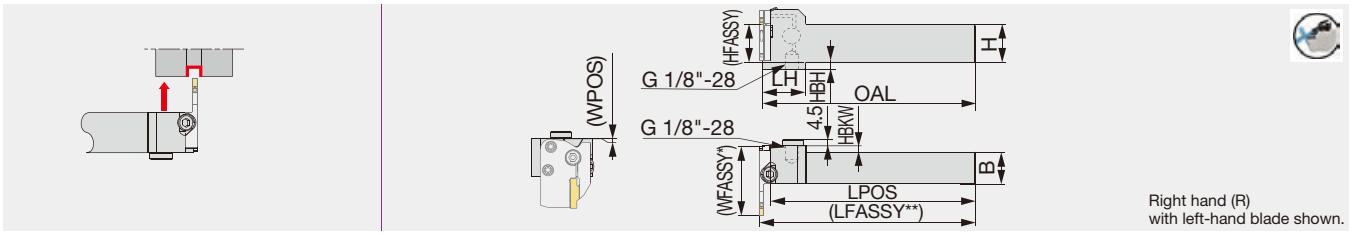
Recommended clamping torque (lbs·ft, N·m)

Clamping screw	Torque (lbs·ft)	Torque (N·m)
SRM5-04451	3.69	5
SRM6X12DIN6912	6.27	8.5
SRM6X20-XT	6.27	8.5

Reference pages: Inserts → P.20 - 33, Shank → P.41 - 43, Standard cutting conditions → P.62
Parts for coolant hose → P.64, Technical Reference → P.63

CHFVR/L-CHP

Shank for CAER/L-CHP blades with high pressure coolant capability



Inch	H	B	OAL	LH	LPOS	WPOS	HBKW	HFASSY	HBH	Blade (Option)	Torque
CHFVR/L12-CHP	0.750	0.750	5.500	1.100	5.307	0.020	0.234	0.750	0.431	CAER/L-CHP	3.69
CHFVR/L16-CHP	1.000	1.000	5.500	1.100	5.307	0.020	-	1.000	0.200	CAER/L-CHP	3.69

Metric	H	B	OAL	LH	LPOS	WPOS	HBKW	HFASSY	HBH	Blade (Option)	Torque*
CHFVR/L2020-CHP	20	20	140	28	135.1	0.5	5	20	10	CAER/L-CHP	5
CHFVR/L2525-CHP	25	25	140	28	135.1	0.5	0	25	5	CAER/L-CHP	5

*WFASSY : Shank (WPOS) + blade (LF)
**LFASSY : Shank (LPOS) + blade (WF)

Torque: Recommended clamping torque: lbs·ft (*N·m)
Use right-hand blades (R) with left-hand shanks (L); and left-hand blades (L) with right-hand shanks (R).
Applicable for 30 MPa coolant
Please see the page 63 for instructions on installing and removing the blade or the insert.

SPARE PARTS

Designation	Clamping screw 1	Wrench 1	Clamping screw 2	Clamping screw 3	Wrench 2	O-ring	Plug
CHFVR/L...	SRM5-04451	T-20/5	SRM6X12DIN6912	SRM6X20-XT	HW5.0	OR5X1N	PLUGG1/8ISO1179

Recommended clamping torque (lbs·ft, N·m)

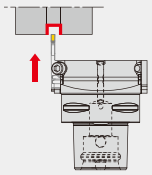
Clamping screw	Torque (lbs·ft)	Torque (N·m)
SRM5-04451	3.69	5
SRM6X12DIN6912	6.27	8.5
SRM6X20-XT	6.27	8.5

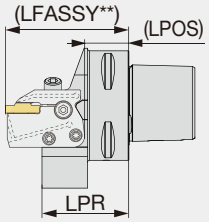
Reference pages: Inserts → P.20 - 33, Blades → P.40, Standard cutting conditions → P.62
Parts for coolant hose → P.64, Technical Reference → P.63

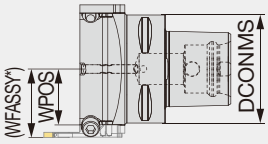
C*CHSN-CHP

TUNGCAP TUNGMODULAR SYSTEM

TungCap shank for CAER/L-CHP blades with high pressure coolant capability







Right-hand (R) blade shown.

Metric	DCONMS	LPR	LPOS	WPOS	Blade (Option)	Torque
C3CHSN19045-CHP	32	45	17.5	18.5	CAER/L...-CHP	5
C4CHSN21047-CHP	40	46.5	21.5	21	CAER/L...-CHP	5
C5CHSN26047-CHP	50	47	22.5	26	CAER/L...-CHP	5
C6CHSN33050-CHP	63	50	24.5	32.5	CAER/L...-CHP	5

*WFASSY : Shank (WPOS) + blade (WF)
**LFASSY : Shank (LPOS) + blade (LF)

Torque: Recommended clamping torque: N·m, Applicable for 30 MPa coolant
Please see the page 63 for instructions on installing and removing the blade or the insert.

SPARE PARTS

Designation	Clamping screw 1	Wrench 1	Clamping screw 2	Clamping screw 3	Wrench 2	O-ring
C*CHSN...-CHP	SRM5-04451	T-20/5	SRM6X12DIN6912	SRM6X20-XT	HW5.0	OR5X1N

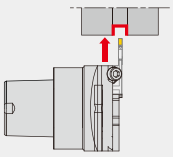
Recommended clamping torque (N·m)

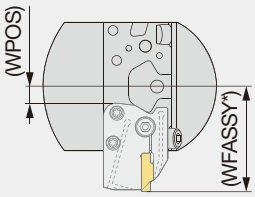
Clamping screw	Torque (N·m)
SRM5-04451	5
SRM6X12DIN6912	8.5
SRM6X20-XT	8.5

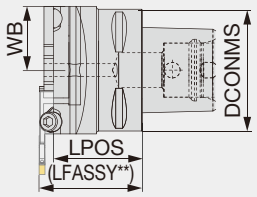
C*CHFVN-CHP

TUNGCAP TUNGMODULAR SYSTEM

TungCap shank for CAER/L-CHP blades with high pressure coolant capability







Left-hand (L) blade shown.

Metric	DCONMS	LPOS	WB	WPOS	Blade (Option)	Torque
C3CHFVN26040-CHP	32	40	26	1.5	CAER/L...-CHP	5
C4CHFVN26046-CHP	40	46	26	1.5	CAER/L...-CHP	5
C5CHFVN26046-CHP	50	46	26	1.5	CAER/L...-CHP	5
C6CHFVN33046-CHP	63	46	33	8.5	CAER/L...-CHP	5

*WFASSY : Shank (WPOS) + blade (LF)
**LFASSY : Shank (LPOS) + blade (WF)

Torque: Recommended clamping torque: N·m. Applicable for 30 MPa coolant
Please see the page 63 for instructions on installing and removing the blade or the insert.

SPARE PARTS

Designation	Clamping screw 1	Wrench 1	Clamping screw 2	Clamping screw 3	Wrench 2	O-ring
C*CHFVN...-CHP	SRM5-04451	T-20/5	SRM6X12DIN6912	SRM6X20-XT	HW5.0	OR5X1N

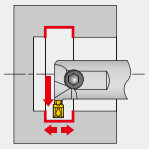
Recommended clamping torque (N·m)

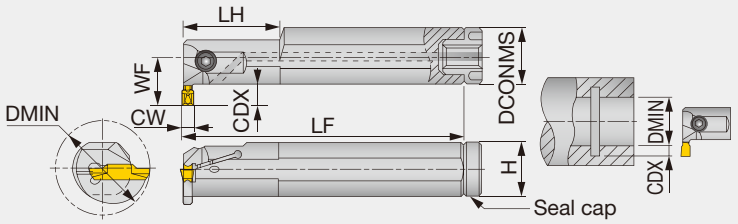
Clamping screw	Torque (N·m)
SRM5-04451	5
SRM6X12DIN6912	8.5
SRM6X20-XT	8.5

Reference pages: Inserts → P.20 - 33, Blades → P.40, Standard cutting conditions → P.62
Technical Reference → P.63

CTIR/L

Internal grooving and turning toolholder





Insert:
Seat size 2: DGIM, DGIS
Seat size 3 - 8: DTI, DTX, DGL

Right hand (R) shown.

Inch	CW (in)	CW (mm)	DMIN	Seat size	CDX	DCONMS	H	LF (1)	LH	WF	Insert	Torque
CTIR/L12-3T06-D16	0.118	3	1.000	3	0.236	0.750	0.551	6.500	1.575	0.609	DTI..., DTX...	3.69
CTIR/L16-3T05-D16	0.118	3	1.000	3	0.201	1.000	0.709	8.000	1.575	0.689	DTI..., DTX...	3.69
CTIR/L16-3T08-D20	0.118	3	1.250	3	0.315	1.000	0.709	8.000	1.575	0.846	DTI..., DTX...	3.69
CTIR/L20-3T10-D25	0.118	3	1.563	3	0.394	1.250	0.906	10.000	2.362	1.063	DTI..., DTX...	3.69
CTIR/L12-4T06-D16	0.157	4	1.000	4	0.236	0.750	0.906	6.500	1.575	0.609	DTI..., DTX...	3.69
CTIR/L16-4T08-D20	0.157	4	1.250	4	0.315	1.000	1.181	8.000	1.575	0.846	DTI..., DTX...	3.69
CTIR/L20-4T04-D20	0.157	4	1.250	4	0.157	1.250	0.709	10.000	2.362	0.819	DTI..., DTX...	3.69
CTIR/L20-4T10-D25	0.157	4	1.563	4	0.394	1.250	0.906	10.000	2.362	1.063	DTI..., DTX...	3.69
CTIR/L16-5T05-D20	0.197	5	1.250	5	0.197	1.000	1.181	8.000	2.362	0.681	DTI..., DTX...	6.27
CTIR/L20-5T10-D25	0.197	5	1.563	5	0.394	1.250	1.181	10.000	2.362	1.063	DTI..., DTX...	6.27
CTIR/L20-6T04-D20	0.236	6	1.250	6	0.157	1.250	0.906	10.000	2.362	0.820	DTI..., DTX...	6.27
CTIR/L20-6T10-D25	0.236	6	1.563	6	0.394	1.250	1.181	10.000	2.362	1.063	DTI..., DTX...	6.27
CTIR/L20-8T05-D23	0.315	8	1.438	8	0.197	1.250	1.181	10.000	2.362	0.839	DTI..., DTX...	6.27
CTIR/L24-8T05-D26	0.315	8	1.625	8	0.228	1.500	1.181	12.000	2.559	0.982	DTI..., DTX...	6.27

(1) LF is calculated with the groove width CW in the above table.
Torque: Recommended clamping torque: lbs·ft

Inch SPARE PARTS

Designation	Clamping screw	Wrench	Seal cap	Thread type for connection
CTIR/L12-3T06-D16	CM5x0.8x12-A	P-4	CA-20	M6
CTIR/L16-3T05-D16	CM5x0.8x16-A	P-4	CA-25	R1/8"
CTIR/L16-3T08-D20	CM5x0.8x16-A	P-4	CA-25	R1/8"
CTIR/L20-3T10-D25	CM5x0.8x16-A	P-4	CA-32	R1/8"
CTIR/L12-4T06-D16	CM5x0.8x12-A	P-4	CA-20	M6
CTIR/L16-4T08-D20	CM5x0.8x16-A	P-4	CA-25	R1/8"
CTIR/L20-4T04-D20	CM5x0.8x16-A	P-4	CA-32	R1/8"
CTIR/L20-4T10-D25	CM5x0.8x16-A	P-4	CA-32	R1/8"
CTIR/L16-5T05-D20	CM6x1x16-A	P-5	CA-25	R1/8"
CTIR/L20-5T10-D25	CM6x1x20-A	P-5	CA-32	R1/8"
CTIR/L20-6T04-D20	CM6x1x20-A	P-5	CA-32	R1/8"
CTIR/L20-6T10-D25	CM6x1x20-A	P-5	CA-32	R1/8"
CTIR/L20-8T05-D23	CM6x1x20-A	P-5	CA-32	R1/8"
CTIR/L24-8T05-D26	CM6x1x25-A	P-5	CA-40	R1/8"

When using the inserts that are not in the above

Insert	Groove width CW (in)	Min. diameter DMIN (in)
DGM / DGS / SGN / DGL / DTM	0.118	1.969
DGM / DGS / SGN / DTM / DGL	0.157	1.969
DGM / DGS / DTM / DGL	0.197	2.362
DGM / DGS / DTM / DGL	0.236	2.362
DGM / DGS / DTM	0.315	2.756
DTE / DGG	0.118	1.575
DTE / DGG	0.157	1.575
DTE / DGG	0.197	1.969
DTE / DGG	0.236	1.969
DTE / DGG	0.315	2.441
DTR	0.118	1.496
DTR	0.157	1.496
DTR	0.197	1.693
DTR	0.236	1.811
DTR	0.315	2.205

Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62

Metric	CW	DMIN	Seat size	CDX	DCONMS	H	LF (1)	LH	WF	Insert	Torque
CTIR/L16-2T08-D250	2	25	2	8	16	14	125	-	16.5	DGIM..., DGIS...	5
CTIR/L20-2T06-D250	2	25	2	6	20	18	160	40	15.8	DGIM..., DGIS...	5
CTIR/L20-3T06-D250	3	25	3	6	20	18	160	40	15.8	DTI..., DTX...	5
CTIR/L25-3T05-D250	3	25	3	5.1	25	23	200	40	17.5	DTI..., DTX...	5
CTIR/L25-3T08-D320	3	32	3	8	25	23	200	40	21.5	DTI..., DTX...	5
CTIR/L32-3T10-D400	3	40	3	10	32	30	250	60	27	DTI..., DTX...	5
CTIR/L20-4T06-D250	4	25	4	6	20	18	160	40	15.8	DTI..., DTX...	5
CTIR/L25-4T08-D320	4	32	4	8	25	23	200	40	21.5	DTI..., DTX...	5
CTIR/L32-4T04-D310	4	31	4	4	32	30	250	60	20.8	DTI..., DTX...	5
CTIR/L32-4T10-D400	4	40	4	10	32	30	250	60	27	DTI..., DTX...	5
CTIR/L25-5T05-D310	5	31	5	5	25	23	200	60	17.3	DTI..., DTX...	8.5
CTIR/L32-5T10-D400	5	40	5	10	32	30	250	60	27	DTI..., DTX...	8.5
CTIR/L32-6T04-D310	6	31	6	4	32	30	250	60	20.8	DTI..., DTX...	8.5
CTIR/L32-6T10-D400	6	40	6	10	32	30	250	60	27	DTI..., DTX...	8.5
CTIR/L32-8T05-D370	8	37	8	5	32	30	250	60	21.3	DTI..., DTX...	8.5
CTIR/L40-8T05-D420	8	42	8	5.8	40	38	300	65	25.8	DTI..., DTX...	8.5

(1) LF is calculated with the groove width CW in the above table.
Torque: Recommended clamping torque: N·m

Metric SPARE PARTS

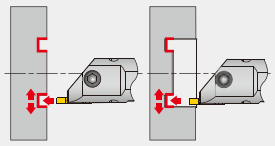
Designation	Clamping screw	Wrench	Seal cap	Thread type for connection
CTIR/L16-2T08-D250	CM5X0.8X10-A	P-4	CA-16	M6
CTIR/L20-2T06-D250	CM5X0.8X12-A	P-4	CA-20	M6
CTIR/L20-3T06-D250	CM5X0.8X12-A	P-4	CA-20	M6
CTIR/L25-3T05-D250	CM5X0.8X16-A	P-4	CA-25	R1/8"
CTIR/L25-3T08-D320	CM5X0.8X16-A	P-4	CA-25	R1/8"
CTIR/L32-3T10-D400	CM5X0.8X16-A	P-4	CA-32	R1/8"
CTIR/L20-4T06-D250	CM5X0.8X12-A	P-4	CA-20	M6
CTIR/L25-4T08-D320	CM5X0.8X16-A	P-4	CA-25	R1/8"
CTIR/L32-4T04-D310	CM5X0.8X16-A	P-4	CA-32	R1/8"
CTIR/L32-4T10-D400	CM5X0.8X16-A	P-4	CA-32	R1/8"
CTIR/L25-5T05-D310	CM6X1X16-A	P-5	CA-25	R1/8"
CTIR/L32-5T10-D400	CM6X1X20-A	P-5	CA-32	R1/8"
CTIR/L32-6T04-D310	CM6X1X20-A	P-5	CA-32	R1/8"
CTIR/L32-6T10-D400	CM6X1X20-A	P-5	CA-32	R1/8"
CTIR/L32-8T05-D370	CM6X1X20-A	P-5	CA-32	R1/8"
CTIR/L40-8T05-D420	CM6X1X25-A	P-5	CA-40	R1/8"

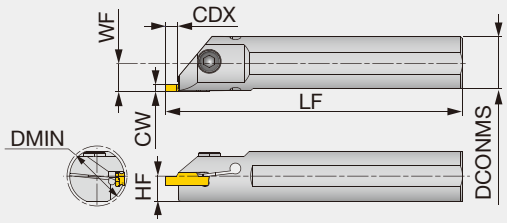
When using the inserts that are not in the above

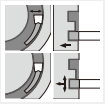
Insert	Groove width CW (mm)	Min. diameter DMIN (mm)
DGM / DGS / SGN / DGL / DTM	3	50
DGM / DGS / SGN / DTM / DGL	4	50
DGM / DGS / DTM / DGL	5	60
DGM / DGS / DTM / DGL	6	60
DGM / DGS / DTM	8	70
DTE / DGG	3	40
DTE / DGG	4	40
DTE / DGG	5	50
DTE / DGG	6	50
DTE / DGG	8	62
DTR	3	38
DTR	4	38
DTR	5	43
DTR	6	46
DTR	8	56

CTIFR/L

External/Internal face grooving and turning toolholder







Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CDX	DCONMS	LF	HF	WF (1)	Torque
CTIFR/L16-4T05-D17	0.157	4	3, 4	0.217	1.000	8.000	0.450	0.531	3.69
CTIFR/L20-4T05-D22	0.157	4	3, 4	0.217	1.250	10.000	0.590	0.656	3.69
CTIFR/L16-5T05-D17	0.236	6	5, 6	0.217	1.000	8.000	0.450	0.531	3.69
CTIFR/L20-5T05-D22	0.236	6	5, 6	0.217	1.250	10.000	0.590	0.656	3.69

Metric	CW	Seat size	CDX	DCONMS	LF	HF	WF (1)	Torque*
CTIFR/L25-4T05-D270	4	3, 4	5.5	25	200	11.5	13.3	5
CTIFR/L32-4T05-D340	4	3, 4	5.5	32	250	15	16.8	5
CTIFR/L25-5T05-D270	6	5, 6	5.5	25	200	11.5	13.3	5
CTIFR/L32-5T05-D340	6	5, 6	5.5	32	250	15	16.8	5

(1) WF is calculated with the groove width (CW) in the above table.
Use the right-hand insert for the right-hand holder with DTF insert.
Torque: Recommended clamping torque: lbs·ft (*N·m)

Inch SPARE PARTS

Designation	Clamping screw	Wrench	Seal cap
CTIFR/L16-4T05-D17	CM6X1X16-A	P-5	CA-25
CTIFR/L20-4T05-D22	CM6X1X20-A	P-5	CA-32
CTIFR/L16-5T05-D17	CM6X1X16-A	P-5	CA-25
CTIFR/L20-5T05-D22	CM6X1X20-A	P-5	CA-32

Metric SPARE PARTS

Designation	Clamping screw	Wrench	Seal cap
CTIFR/L25-4T05-D270	CM6X1X16-A	P-5	CA-25
CTIFR/L32-4T05-D340	CM6X1X20-A	P-5	CA-32
CTIFR/L25-5T05-D270	CM6X1X16-A	P-5	CA-25
CTIFR/L32-5T05-D340	CM6X1X20-A	P-5	CA-32

Insert seat size	Minimum diameter			
	DCONMS = 0.984"	DCONMS = 25 mm	DCONMS = 1.259"	DCONMS = 32 mm
3	1.035	26.3	1.311	33.3
4	1.055	26.8	1.331	33.8
5	1.035	26.3	1.311	33.3
6	1.055	26.8	1.331	33.8

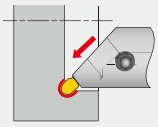
Insert seat size	DAXMIN (in)				DAXX
	DGM, DGS	DTE, DGG	DTF, DTX	DTR	
3	2.126	1.732	0.787	1.614	∞
4	1.339	1.654	0.709	1.417	∞
5	1.929	1.969	0.787	2.126	∞
6	1.811	1.890	0.709	2.126	∞

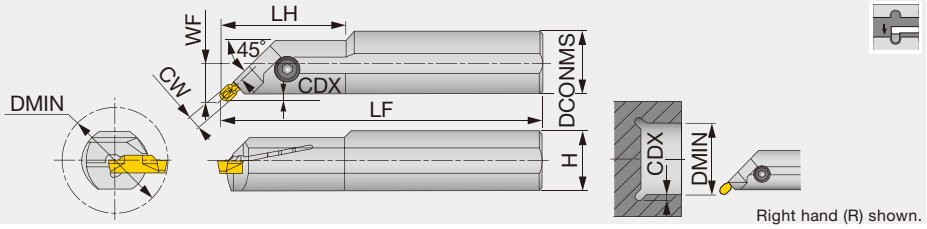
Insert seat size	DAXMIN (mm)				DAXX
	DGM, DGS	DTE, DGG	DTF, DTX	DTR	
3	92	62	19	44	∞
4	37	42	20	32	∞
5	60	64	20	48	∞
6	57	61	23	48	∞

Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62

CGIUR/L

Internal 45° undercutting toolholder





Right hand (R) shown.

Metric	CW	DMIN	Seat size	CDX	DCONMS	H	LF	LH	WF (1)	Insert	Torque*
CGIUR/L20-3T02-D380	3	38	3	2.8	20	19	160	-	12.8	DTIU...	5
CGIUR/L25-3T02-D380	3	38	3	2.8	25	23	200	40	14.8	DTIU...	5
CGIUR/L20-4T02-D380	4	38	4	2.8	20	19	160	-	12.9	DTIU...	5
CGIUR/L25-4T02-D460	4	46	4	2.8	25	23	200	40	14.9	DTIU...	5
CGIUR/L25-6T02-D460	6	46	5, 6	2.8	25	23	200	-	15.2	DTIU...	8.5

(1) WF is calculated with the groove width CW in the above table.
*Torque: Recommended clamping torque (N·m)

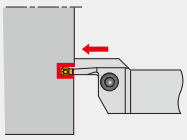
SPARE PARTS

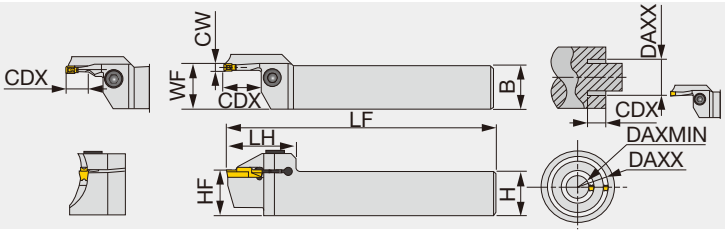
Designation	Clamping screw	Wrench
CGIUR/L20-3T02-D380	CM5X0.8X12-A	P-4
CGIUR/L25-3T02-D380	CM5X0.8X16-A	P-4
CGIUR/L**-4T02-D...	CM5X0.8X16-A	P-4
CGIUR/L25-6T02-D460	CM6X1X25-A	P-5

Reference pages: Inserts → P.30, Standard cutting conditions → P.62

CTFR/L

Face grooving and turning toolholder





Right hand (R) shown.

Metric	CW	DAXMIN	DAXX	Seat size	CDX	H	B	LF	LH	HF	WF (1)	Torque*
CTFR/L2525-3T10-024035	3	24	35	3	10	25	25	150	38	25	25.5	5
CTFR/L2525-3T10-029040	3	29	40	3	10	25	25	150	38	25	25.5	5
CTFR/L2525-3T10-034050	3	34	50	3	10	25	25	150	38	25	25.5	5
CTFR/L2525-3T15-044070	3	44	70	3	15	25	25	150	38	25	25.5	5
CTFR/L2525-3T15-064100	3	64	100	3	15	25	25	150	38	25	25.5	5
CTFR/L2525-4T10-022036	4	22	36	4	10	25	25	150	39	25	25.6	5
CTFR/L2525-4T20-028042	4	28	42	4	20	25	25	150	39	25	25.6	5
CTFR/L2525-4T20-034050	4	34	50	4	20	25	25	150	39	25	25.6	5
CTFR/L2525-4T20-042070	4	42	70	4	20	25	25	150	39	25	25.6	5
CTFR/L2525-4T20-062120	4	62	120	4	20	25	25	150	39	25	25.6	5
CTFR/L2525-4T20-112200	4	112	200	4	20	25	25	150	39	25	25.6	5
CTFR/L2525-5T25-050080	5	50	80	5	25	25	25	150	49	25	25.6	12
CTFR/L2525-5T25-070110	5	70	110	5	25	25	25	150	49	25	25.6	12
CTFR/L2525-5T25-100150	5	100	150	5	25	25	25	150	49	25	25.6	12
CTFR/L2525-5T25-140200	5	140	200	5	25	25	25	150	49	25	25.6	12
CTFR/L2525-6T25-048070	6	48	70	6	25	25	25	150	49	25	25.6	12
CTFR/L2525-6T25-058100	6	58	100	6	25	25	25	150	49	25	25.6	12
CTFR/L2525-6T25-088180	6	88	180	6	25	25	25	150	49	25	25.6	12
CTFR/L2525-6T25-168400	6	168	400	6	25	25	25	150	49	25	25.6	12

When depth is deeper than (insert length - 1.5 mm), 1 corner type is recommended.
Max. groove depth will be 15 mm with DTF insert.
Use the right-hand insert for the right-hand holder with DTF insert.
(1)WF is calculated with the groove width (CW) in the above table.
*Torque:Recommended torque (N·m)

SPARE PARTS

Designation	Clamping screw	Wrench
CTFR/L2525-3T - 4T...	CM6X1X25-A	P-5
CTFR/L2525-5T - 6T...	CM8X1.25X25-A	P-6

INSERT

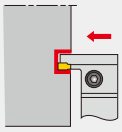
Designation	Seat size	Insert
CTFR/L2525-3T10-024035	3	DTF, DTX
CTFR/L2525-3T10-029040	3	DTF, DTX
CTFR/L2525-3T10-034050	3	DTF, DTX
CTFR/L2525-3T15-044070	3	DTF, DTX, DTR, DTE, DGG, DTM
CTFR/L2525-3T15-064100	3	DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DGL, DTM
CTFR/L2525-4T10-022036	4	DTF, DTX
CTFR/L2525-4T20-028042	4	DTF, DTX, DTR
CTFR/L2525-4T20-034050	4	DTF, DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL, SGN
CTFR/L2525-4T20-042070	4	DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL
CTFR/L2525-4T20-062120	4	DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL
CTFR/L2525-4T20-112200	4	DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL
CTFR/L2525-5T25-...	5	DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL
CTFR/L2525-6T25-...	6	DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL

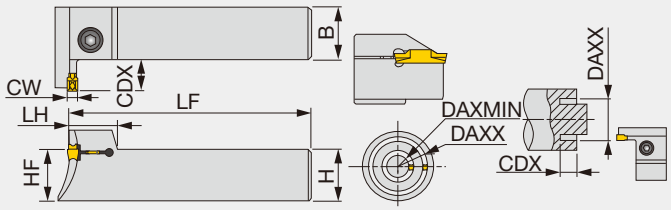
Insert	Groove width CW	Face grooving Min. machining dia. DAXMIN
DGM / DGS / SGN / DGL	3	92
DGM / DGS / SGN / DGL	4	37
DGM / DGS / DGL	5	60
DGM / DGS / DGL	6	57
DTE / DGG / DTM	3	62
DTE / DGG / DTM	4	42
DTE / DGG / DTM	5	64
DTE / DGG / DTM	6	61
DTR	3	44
DTR	4	32
DTR	5	48
DTR	6	48
DTX	3	22
DTX	4	20
DTX	5	20
DTX	6	23
DTF	3	20
DTF	4	20

Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62

CTFVR/L

Perpendicular toolholder for face grooving and turning





Right hand (R) shown.

Metric	CW	DAXMIN	DAXX	Seat size	CDX	H	B	LF	LH	HF	Torque*
CTFVR/L2525-3T10-024035	3	24	35	3	10	25	25	150	18	25	5
CTFVR/L2525-3T10-029040	3	29	40	3	10	25	25	150	18	25	5
CTFVR/L2525-3T10-034050	3	34	50	3	10	25	25	150	18	25	5
CTFVR/L2525-3T15-044060	3	44	60	3	15	25	25	150	18	25	5
CTFVR/L2525-3T15-054085	3	54	85	3	15	25	25	150	18	25	5
CTFVR/L2525-4T12-022040	4	22	40	4	12	25	25	150	18.5	25	8.5
CTFVR/L2525-4T15-032050	4	32	50	4	15	25	25	150	18.5	25	8.5
CTFVR/L2525-4T15-042060	4	42	60	4	15	25	25	150	18.5	25	8.5
CTFVR/L2525-4T15-052085	4	52	85	4	15	25	25	150	18.5	25	8.5
CTFVR/L2525-5T20-050080	5	50	80	5	20	25	25	150	22	25	12
CTFVR/L2525-5T20-070110	5	70	110	5	20	25	25	150	22	25	12
CTFVR/L2525-5T20-100150	5	100	150	5	20	25	25	150	22	25	12
CTFVR/L2525-5T20-140200	5	140	200	5	20	25	25	150	22	25	12
CTFVR/L2525-6T20-048085	6	48	85	6	20	25	25	150	22	25	12
CTFVR/L2525-6T20-073150	6	73	150	6	20	25	25	150	22	25	12
CTFVR/L2525-6T20-138250	6	138	250	6	20	25	25	150	22	25	12

When depth is deeper than (insert length - 1.5 mm), 1 corner type is recommended
Max. groove depth will be 15 mm with DTF insert.
Use the right-hand insert for the right-hand holder with DTF insert.
*Torque:Recommended torque (N·m)

SPARE PARTS


Designation	Clamping screw	Wrench
CTFVR/L2525-3T...	CM5X0.8X25-A	P-4
CTFVR/L2525-4T...	CM6X1X25-A	P-5
CTFVR/L2525-5T..., 6T...	CM8X1.25X25-A	P-6

INSERT

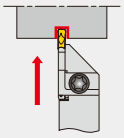
Designation	Seat size	Insert
CTFVR/L2525-3T10-024035	3	DTF, DTX
CTFVR/L2525-3T10-029040	3	DTF, DTX
CTFVR/L2525-3T10-034050	3	DTF, DTX, DTR
CTFVR/L2525-3T15-044060	3	DTF, DTX, DTE, DTR
CTFVR/L2525-3T15-054085	3	DTF, DTX, DTE, DGG, DTR, DTM
CTFVR/L2525-4T12-022040	4	DTF, DTX, DTR
CTFVR/L2525-4T15-032050	4	DTF, DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL, SGN
CTFVR/L2525-4T15-042060	4	DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL
CTFVR/L2525-4T15-052085	4	DTF, DTX, DTE, DGG, DGM, DGS, DTR, SGN, DTM, DGL
CTFVR/L2525-5T20-...	5	DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL
CTFVR/L2525-6T20-...	6	DTX, DTE, DGG, DGM, DGS, DTR, DTM, DGL

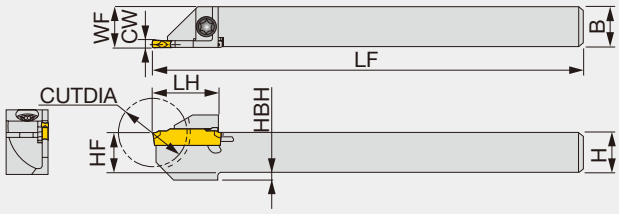
Insert	Groove width CW	Face grooving Min. machining dia. DAXMIN
DGM / DGS / SGN / DGL	3	92
DGM / DGS / SGN / DGL	4	37
DGM / DGS / DGL	5	60
DGM / DGS / DGL	6	57
DTE / DGG / DTM	3	62
DTE / DGG / DTM	4	42
DTE / DGG / DTM	5	64
DTE / DGG / DTM	6	61
DTR	3	44
DTR	4	32
DTR	5	48
DTR	6	48
DTX	3	19
DTX	4	20
DTX	5	20
DTX	6	23
DTF	3	19
DTF	4	20

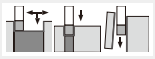
Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62

JCTER/L

External grooving and parting toolholder, for Swiss lathes







Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CUTDIA	H	B	LF	LH	HF	WF (1)	HBH	Torque
JCTER/L08-2T12	0.079	2	2	0.945	0.500	0.500	4.750	0.748	0.500	0.504	0.079	2.21
JCTER/L08-3T12	0.118	3	3	0.945	0.500	0.500	4.750	0.748	0.500	0.512	0.079	2.21
JCTER/L10-2T16	0.079	2	2	1.260	0.625	0.625	4.750	0.945	0.625	0.629	-	2.21
JCTER/L10-3T16	0.118	3	3	1.260	0.625	0.625	4.750	0.945	0.625	0.637	-	2.21

Metric	CW	Seat size	CUTDIA	H	B	LF	LH	HF	WF(1)	HBH	Torque*
JCTER/L1010X1.4T10	1.4	1	20	10	10	120	18	10	10.2	-	3
JCTER1010-1.4T10	1.4	1	20	10	10	125	18	10	10.2	-	3
JCTER/L1212F1.4T12	1.4	1	24	12	12	85	19.5	12	12.2	-	3
JCTER/L1212X1.4T12	1.4	1	24	12	12	120	19.5	12	12.2	-	3
JCTER1212-1.4T12	1.4	1	24	12	12	125	19.5	12	12.2	-	3
JCTER/L1414-1.4T12	1.4	1	24	14	14	125	19.5	14	14.2	-	3
JCTER/L1616X1.4T16	1.4	1	32	16	16	120	24	16	16.2	-	3
JCTER/L1010X2T10	2	2	20	10	10	120	19	10	10.1	2	3
JCTER/L1212F2T12	2	2	24	12	12	85	19	12	12.1	2	3
JCTER/L1212X2T12	2	2	24	12	12	120	19	12	12.1	2	3
JCTER/L1414-2T12	2	2	24	14	14	125	19	14	14.1	-	3
JCTER/L1616X2T16	2	2	32	16	16	120	24	16	16.1	-	3
JCTER/L1212F3T12	3	3	24	12	12	85	19	12	12.3	2	3
JCTER/L1212X3T12	3	3	24	12	12	120	19	12	12.3	2	3
JCTER/L1616X3T16	3	3	32	16	16	120	24	16	16.3	-	3
JCTER/L2020H3T16	3	3	32	20	20	100	24	20	20.3	-	3

(1) "WF" value is calculated with groove width "CW" shown in the table.
CUTDIA: Max. parting diameter
Torque: Recommended clamping torque: lbs·ft (*N·m)

SPARE PARTS

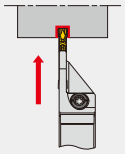
Designation	Clamping screw	Wrench
JCTER/L...	CSHB-4-A	T-15F

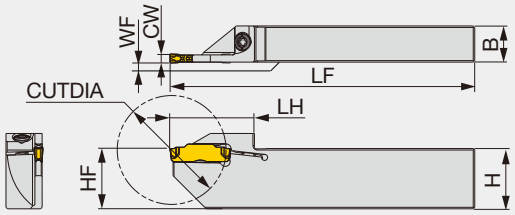
Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62

New

JCTER/L2012

External grooving and parting toolholder, for Swiss lathes





Right hand (R) shown.

Metric	CW	Seat size	CUTDIA	H	B	LF	LH	HF	WF(1)	Torque*
JCTER/L2012H2T18	2	2	36	20	12	100	25	20	0.1	3
JCTER/L2012H3T21	3	3	42	20	12	100	28	20	0.3	3

(1) "WF" value is calculated with groove width "CW" shown in the table. • CUTDIA: Max. parting diameter
*Torque: Recommended clamping torque (N·m)

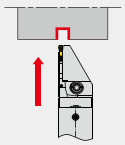
SPARE PARTS

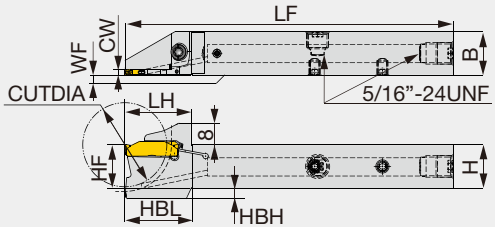
Designation	Clamping screw	Wrench
JCTER/L2012...	CSHB-4-A	T-15F

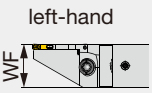
JCTER/L-CHP

DIRECT TUNG JET

External grooving and parting toolholder with DirectTungJet connection







Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CUTDIA	H	B	LF	LH	HBL	HF	WF (1)	HBH	Torque
JCTER/L08X2T12-CHP	0.079	2	2	0.984	0.500	0.500	4.750	0.972	0.965	0.500	0.000/0.500	0.169	2.21
JCTER/L10X2T12-CHP	0.079	2	2	0.984	0.625	0.625	4.750	0.972	0.965	0.625	0.000/0.625	0.039	2.21
JCTER/L10X2T16-CHP	0.079	2	2	1.260	0.625	0.625	4.750	0.972	0.965	0.625	0.000/0.625	0.157	2.21
JCTER/L12X2T16-CHP	0.079	2	2	1.260	0.750	0.750	4.750	0.972	0.965	0.750	0.000/0.750	0.037	2.21

Metric	CW	Seat size	CUTDIA	H	B	LF	LH	HF	WF (1)	HBH	HBL	Torque*
JCTER/L1212X2T12-CHP	2	2	25	12	12	120	24.7	12	0/12	5	24.7	3
JCTER/L1616X2T12-CHP	2	2	25	16	16	120	24.7	16	0/16	1	24.5	3
JCTER/L1616X2T16-CHP	2	2	32	16	16	120	24.7	16	0/16	4	24.7	3
JCTER/L2020X2T16-CHP	2	2	32	20	20	120	24.7	20	0/20	-	-	3

(1) "WF" value is calculated with groove width "CW" shown in the table. "WF" value depends on the tool hand. With 0.000/0.500 (0/12), WF is 0" (0 mm) for the right hand and 0.5" (12 mm) for the left hand.
CUTDIA: Max. parting diameter Torque: Recommended clamping torque: lbs·ft (*N·m)

SPARE PARTS



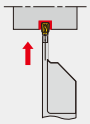


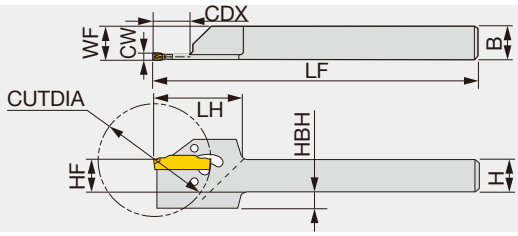

Designation	Clamping screw	Wrench 1	Coolant plug	Wrench 2	DirectJet plug	Wrench 3
JCTER/L...	CSHB-4-A	T-15F	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2

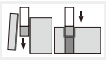
Groove width: 0.079" (2.0 mm)

CGER/L

External deep grooving and parting toolholder, for Swiss lathes







Right hand (R) shown.

Metric	CW	Seat size	CUTDIA(1)	CDX	H	B	LF	LH	HF	WF (2)	HBH
CGER/L2020-1.4T14	1.4	1	29/29	9.7	20	20	125	31	20	20.2	-
CGER/L1212-2T17	2	2	35/35	11.8	12	12	150	31	12	12.1	6
CGER/L1616-2T17	2	2	35/35	11.8	16	16	150	31	16	16.1	2
CGER/L2020-2T17	2	2	35/35	9.8	20	20	125	31	20	20.1	-
CGER/L1212-3T19	3	3	38/40	12	12	12	150	31	12	12.3	6
CGER/L1616-3T19	3	3	38/45	14.9	16	16	150	31	16	16.3	2
CGER/L2020-3T19	3	3	38/45	13.2	20	20	125	31	20	20.3	-
CGER/L2020-4T19	4	4	38/55	20.3	20	20	125	33	20	20.4	-

• Wrench (CRW**) is not included. Please order it separately. Insert is clamped by the elastic deformation of the upper jaw.
(1) DG*/SG* maximum parting diameter will depend on the insert. (2) "WF" value is calculated with groove width "CW" shown in the table.

SPARE PARTS

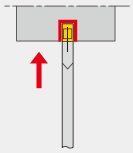
Designation	Wrench (Option)
CGER/L2020-1.4T14	CRW23
CGER/L****-2T17 - 4T19	CRW33

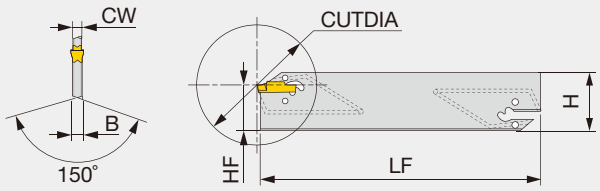
Reference pages: Inserts → P.20 - 33, Standard cutting conditions → P.62, Parts for coolant hose → P.64

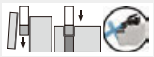
New

CGP32-CHP

External deep grooving and parting blade, with high pressure coolant capability







Inch	CW	Seat size	CUTDIA	H	B	LF	HF
CGP32-2D-CHP	0.079	2	1.968	1.260	0.071	5.906	0.976
CGP32-3D-CHP	0.118	3	3.937	1.260	0.094	5.906	0.976
CGP32-4D-CHP	0.157	4	3.937	1.260	0.126	5.906	0.980
CGP32-5D-CHP	0.197	5	4.724	1.260	0.157	5.906	0.980
CGP32-6D-CHP	0.236	6	4.724	1.260	0.205	5.906	0.980

When depth is deeper than (insert length - 0.059"), 1 corner type is recommended.
• CUTDIA Max. parting dia

SPARE PARTS

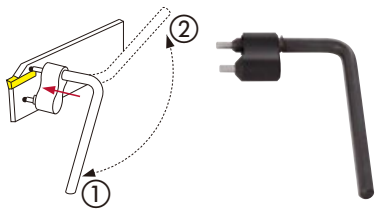

Designation	Sealing screw	Wrench (Optional)
CGP32-*D-CHP	SGC340	CRW33

■ Use the tool block CTBU16-32-U-CHP. (p.55)

Caution

Newly developed clamp

Insert is clamped by the elastic deformation of upper jaw.
Low clamping stress increases the stability and tool life.



①→②: unclamp
②→①: clamp

Reference pages: Inserts → P.20 - 33, Tool block → P.55
Standard cutting conditions → P.62, Parts for coolant hose → P.64

CGP

External deep grooving and parting blade

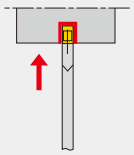


Fig.1

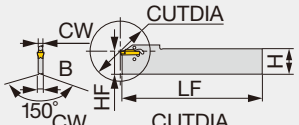


Fig.2

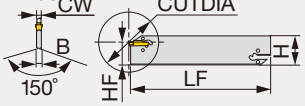
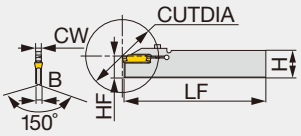


Fig.3



Inch	CW (in)	CW (mm)	Seat size	CUTDIA	H	B	LF	HF	Fig.	Torque
CGP26-1.4S	0.055	1.4	1	1.024	1.024	0.039	5.906	0.843	1	-
CGP32-1.4D	0.055	1.4	1	1.024	1.260	0.039	5.906	0.976	2	-
CGP26-2S	0.079	2	2	1.575	1.024	0.071	5.906	0.843	1	-
CGP32-2D	0.079	2	2	1.969	1.260	0.071	5.906	0.976	2	-
CGP26-3S	0.118	3	3	1.969	1.024	0.094	5.906	0.843	1	-
CGP32-3D	0.118	3	3	3.937	1.260	0.094	5.906	0.976	2	-
CGP26-4S	0.157	4	4	3.150	1.024	0.126	5.906	0.843	1	-
CGP32-4D	0.157	4	4	3.937	1.260	0.126	5.906	0.980	2	-
CGP45-4D	0.157	4	4	4.724	1.772	0.126	5.906	1.500	2	-
CGP32-5D	0.197	5	5	4.724	1.260	0.157	5.906	0.980	2	-
CGP32-6D	0.236	6	6	4.724	1.260	0.205	5.906	0.980	2	-
CGP32-8S-CL	0.315	8	8	3.150	1.260	0.244	5.906	0.980	3	2.21

When depth is deeper than (insert length - 0.059"), 1 corner type is recommended.
• CUTDIA: Max. parting dia.
Torque: Recommended clamping torque: lbs·ft

SPARE PARTS



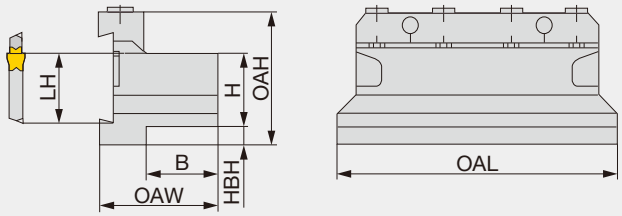
Designation	Clamping screw	Wrench	Wrench (Optional)
CGP**-1.4*	-	-	CRW23
CGP**-2/3/4/5/6	-	-	CRW33
CGP32-8S-CL	CM4X0.7X20-M0-A	P-3	-

Wrench (CRW...) is not included. Please order it separately.

Reference pages: Inserts → P.20 - 33, Tool block → P.55 - 56
Standard cutting conditions → P.62

CTBU

Tool block for CGP blades



Inch	H	B	OAL	LH	HBH	OAH	OAW	Blade (Optional)
CTBU12-26-U	0.750	1.690	3.386	0.843	0.354	1.690	1.496	CGP26...
CTBU16-26-U	1.000	1.770	4.331	0.843	0.197	1.770	1.654	CGP26...
CTBU12-32-U	0.750	1.970	3.937	0.976	0.512	1.970	1.496	CGP32...
CTBU16-32-U	1.000	1.970	4.331	0.976	0.315	1.970	1.654	CGP32...
CTBU20-32-U	1.250	2.130	4.331	0.976	0.197	2.130	1.890	CGP32...

Metric	H	B	OAL	LH	HBH	OAH	OAW	Blade (Optional)
CTBU20-26	20	21	86	21.4	9	43	38	CGP26...
CTBU25-26	25	23	110	21.4	5	45	43	CGP26...
CTBU20-32	20	19	100	24.8	13	50	38	CGP32...
CTBU25-32	25	23	110	24.8	8	50	42	CGP32...
CTBU32-32	32	29	110	24.8	5	54	48	CGP32...

Inch SPARE PARTS

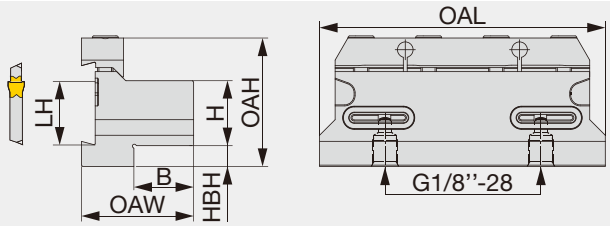
Designation	Clamp	Clamping screw	Wrench
CTBU12-26-U	CT-86	CM6X30-S	P-5
CTBU16-26-U	CT-100	CM6X30-S	P-5
CTBU12-32-U	CT-105	CM6X30-S	P-5
CTBU16-32-U	CT-110	CM6X30-S	P-5
CTBU20-32-U	CT-110	CM6X30-S	P-5

Metric SPARE PARTS

Designation	Clamp	Clamping screw	Wrench
CTBU20-26	CT-86	CM6X30-S	P-5
CTBU25-26	CT-105	CM6X30-S	P-5
CTBU20-32	CT-100	CM6X30-S	P-5
CTBU25-32	CT-110	CM6X30-S	P-5
CTBU32-32	CT-110	CM6X30-S	P-5

CTBU-CHP

Tool blocks for high pressure coolant



Inch	H	B	OAL	LH	HBH	OAH	OAW	Blade (Optional)
CTBU16-32-U-CHP	1.000	0.906	4.331	0.976	0.315	1.97	1.654	CGP32-*D-CHP

Applicable for 14 MPa coolant

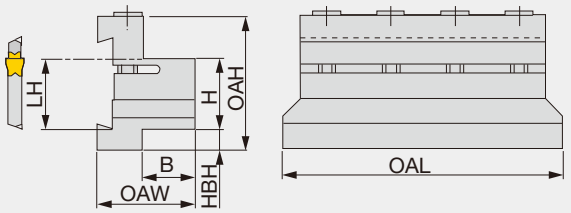
SPARE PARTS

Designation	Clamping screw	Clamp	Wrench	O-ring
CTBU16-32-U-CHP	SRM6X16DIN912-12.9	CT-110	P-5	OR14X2.5NN

Reference pages: Blades → P.53 - 54, Parts for coolant hose → P.64

CTBF

Tool block for CGP blades (fixed clamp)



Metric	H	B	OAL	LH	HBH	OAH	OAW	Blade (Optional)
CTBF25-45	25	22	110	38.1	25	66	40	CGP45...
CTBF32-45	32	28	120	38.1	18	66	45	CGP45...

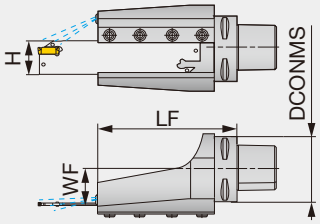
SPARE PARTS

Designation	Clamping screw	Wrench
CTBF...	CM6X1.0X40-A	P-5

C-TBK-R/L

TUNGCAP

Adapter for parting blades



Right hand (R) shown.

Metric	DCONMS	WF	LF	H
C6TBK-32R/L	63	32	138	32

Applicable for 3 MPa coolant

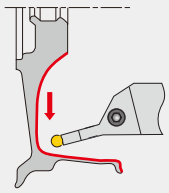
SPARE PARTS

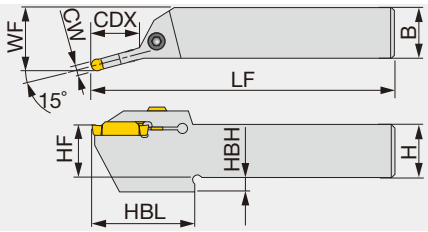
Designation	Clamp	Clamping screw	Wrench	Coolant parts
C6TBK-32R/L	BK32-9WEDG	SRM6X16DIN912-12.9	HW5.0	EZ125

Reference pages: Blades → P.54

CTER/L-15A

Square shank toolholder for profiling aluminum wheel





Right hand (R) shown.

Metric	CW	Seat size	CDX	H	B	LF	HF	WF	HBH	HBL	Insert	Torque*
CTER/L2525-6T25-15A	6	6	25	25	25	150	25	32.2	7	50.5	DTA...	5
CTER/L2525-8T30-15A	8	8	30	25	25	150	25	32.9	7	55	DTA...	5

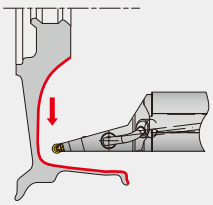
*Torque: Recommended clamping torque (N·m)

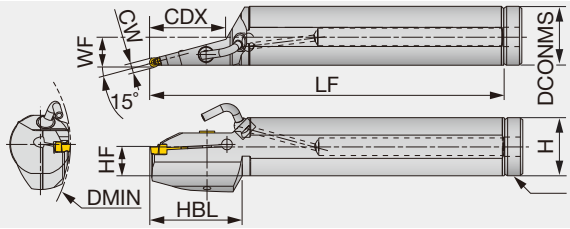
SPARE PARTS

Designation	Clamping screw	Wrench
CTER/L2525-****-15A	CM6X1X25-A	P-5

CGIUR/L-15A

Round-shank toolholder for profiling aluminum wheel





Right hand (R) shown.

Metric	CW	DMIN	Seat size	CDX	DCONMS	H	WF	LF	HF	HBL	Insert	Seal cap	Torque*
CGIUR/L40-6T50-D160-15A	6	160	6	50	40	38.5	19.7	320	19	60	DTA...	CA-40	5
CGIUR/L40-8T83-D160-15A	8	160	8	83	40	38.5	20.5	320	19	85	DTA...	CA-40	5
CGIUR/L50-6T85-D200-15A	6	200	6	85	50	48.5	25.2	350	23.5	85	DTA...	-	5
CGIUR/L50-8T85-D200-15A	8	200	8	85	50	48.5	25.9	350	23.5	85	DTA...	-	5

*Torque: Recommended clamping torque (N·m)

SPARE PARTS

Designation	Clamping screw	Wrench	Seal cap
CGIUR/L**-15A	CM6X1X25-A	P-5	CA-40

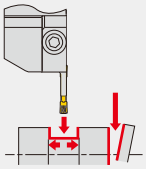
NOZZLE

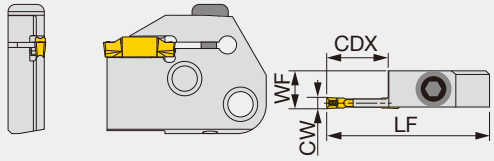
Coolant pipe	Coolant nozzle
PNZ5	CNZ125

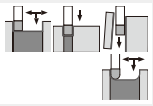
Reference pages: Inserts → P.33, Standard cutting conditions → P.62

CAER/L

External grooving, parting and turning blade







Right hand (R) shown.

Inch	CW (in)	CW (mm)	Seat size	CDX	LF	WF	Shank	Torque
CAER/L-3T16	0.118	2	2	0.630	1.772	0.409	CHFVL/R...,CHSR/L...	3.69
CAER/L-4T16	0.157	2	2	0.630	1.772	0.413	CHFVL/R...,CHSR/L...	3.69
CAER/L-5T20	0.197	3	3	0.787	1.929	0.413	CHFVL/R...,CHSR/L...	3.69
CAER/L6T20	0.236	3	3	0.787	1.929	0.413	CHFVL/R...,CHSR/L...	3.69

Torque: Recommended clamping torque: lbs·ft
Not compatible with TungModularSystem
When groove depth is larger than insert length - 0.059", please use 1-cornered insert.

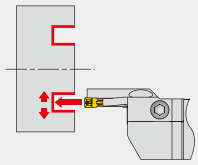
SPARE PARTS

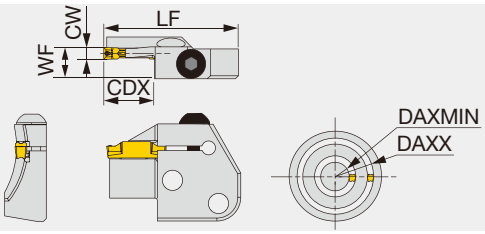
Designation	Clamping screw	Wrench
CAER/L...	BHM6-20-A	P-4

Reference pages: Inserts → P.20 - 33, Shank → P.60 - 61, Standard cutting conditions → P.62

CAFR/L

Face grooving and turning blade





Right hand (R) shown.

Inch	CW (in)	CW (mm)	DAXMIN	DAXX	Seat size	CDX	LF	WF (1)	Torque
CAFR/L-3T12-040055	0.118	3	1.575	2.17	3	0.472	1.772	0.409	3.69
CAFR/L-3T12-055075	0.118	3	2.165	2.95	3	0.472	1.772	0.409	3.69
CAFR/L-3T12-075100	0.118	3	2.953	3.94	3	0.472	1.772	0.409	3.69
CAFR/L-3T12-100140	0.118	3	3.937	5.51	3	0.472	1.772	0.409	3.69
CAFR/L-3T12-140200	0.118	3	5.512	7.87	3	0.472	1.772	0.409	3.69
CAFR/L-4T16-050070	0.157	4	1.969	2.76	4	0.630	1.772	0.413	3.69
CAFR/L-4T16-070100	0.157	4	2.756	3.94	4	0.630	1.772	0.413	3.69
CAFR/L-4T16-100150	0.157	4	3.937	5.91	4	0.630	1.772	0.413	3.69
CAFR/L-4T16-150250	0.157	4	5.906	9.84	4	0.630	1.772	0.413	3.69
CAFR/L-5T20-055080	0.197	5	2.165	3.15	5	0.787	1.929	0.413	3.69
CAFR/L-5T20-080120	0.197	5	3.15	4.72	5	0.787	1.929	0.413	3.69
CAFR/L-5T20-120180	0.197	5	4.724	7.09	5	0.787	1.929	0.413	3.69
CAFR/L-5T20-180300	0.197	5	7.087	11.81	5	0.787	1.929	0.413	3.69
CAFR/L-5T20-300000	0.197	5	11.811	0	5	0.787	1.929	0.413	3.69
CAFR/L-6T25-060090	0.236	6	2.362	3.54	6	0.984	2.165	0.413	3.69
CAFR/L-6T25-090150	0.236	6	3.543	5.91	6	0.984	2.165	0.413	3.69
CAFR/L-6T25-150250	0.236	6	5.906	9.84	6	0.984	2.165	0.413	3.69
CAFR/L-6T25-250400	0.236	6	9.843	15.75	6	0.984	2.165	0.413	3.69

When groove depth is larger than (insert length - 0.059"), please use 1-cornered insert.
Max. groove depth will be 0.591" with DTF insert.
Not compatible with TungModularSystem
(1) WF is calculated with the groove width (CW) in the above table.
(2) Not applicable to CAFR/L-3T12-040055
(3) Seat sizes of DTF are only 3 and 4.
Torque: Recommended clamping torque: lbs·ft

SPARE PARTS

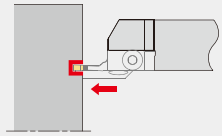
Designation	Clamping screw	Wrench
CAFR/L...	BHM6-20-A	P-4

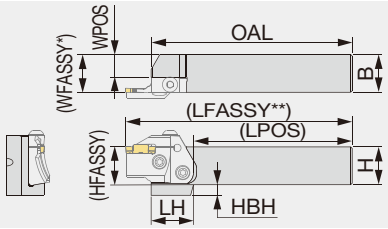
Insert	Groove width CW (in)	Face grooving Min. machining dia. DAXMIN (in)
DGM / DGS / SGN / DGL	0.118	3.622
DGM / DGS / SGN / DGL	0.157	1.457
DGM / DGS / DGL	0.197	2.362
DGM / DGS / DGL	0.236	2.244
DTE / DGG / DTM	0.118	2.441
DTE / DGG / DTM	0.157	1.654
DTE / DGG / DTM	0.197	2.520
DTE / DGG / DTM	0.236	2.402
DTR	0.118	1.732
DTR	0.157	1.260
DTR	0.197	1.890
DTR	0.236	1.890
DTX	0.118	0.866
DTX	0.157	0.787
DTX	0.197	0.787
DTX	0.236	0.906
DTF	0.118	0.787
DTF	0.157	0.787

Reference pages: Inserts → P.20 - 33, Shank → P.60 - 61, Standard cutting conditions → P.62

CHSR/L

Shank for CAER/L and CAFR/L blades





Right hand (R)
with left-hand blade shown.

Inch	H	B	OAL	LPOS	LH	WPOS	HFASSY	HBH	Blade (Option)
CHSR/L12-U	0.750	0.750	5.330	4.227	1.380	0.356	0.750	0.502	CAFL/R...
CHSR/L16-U	1.000	1.000	5.330	4.227	1.100	0.606	1.000	0.280	CAFL/R...
CHSR/L20-U	1.250	1.250	6.330	5.227	-	0.856	1.250	-	CAFL/R...

Metric	H	B	OAL	LPOS	LH	WPOS	HFASSY	HBH	Blade (Option)
CHSR/L2020	20	20	133	105	35	10	20	12	CAFL/R...
CHSR/L2525	25	25	133	105	28	15	25	7	CAFL/R...
CHSR/L3232	32	32	153	105	-	22	32	-	CAFL/R...

*WFASSY : Shank (WPOS) + blade (WF)
**LFASSY : Shank (LPOS) + blade (LF)

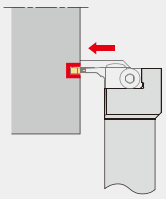
Not compatible with TungModularSystem

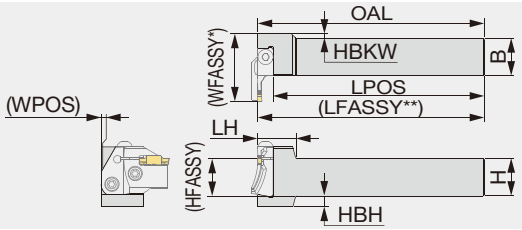
SPARE PARTS

Designation	Clamping screw	Wrench
CHSR/L...	CSHB-6-A	P-4

CHFVR/L

Shank for CAER/L and CAFR/L blades





Right hand (R)
with right-hand blade shown.

Inch	H	B	OAL	LPOS	LH	WPOS	HBKW	HFASSY	HBH	Blade (Option)
CHFVR/L12-U	0.750	0.750	6.000	5.606	0.984	-0.001	0.352	0.750	0.502	CAFR/L...
CHFVR/L16-U	1.000	1.000	6.000	5.606	0.984	-0.001	0.102	1.000	0.276	CAFR/L...
CHFVR/L20-U	1.250	1.250	7.000	6.606	0.984	0.147	-	1.250	-	CAFR/L...

Metric	H	B	OAL	LPOS	LH	WPOS	HBKW	HFASSY	HBH	Blade (Option)
CHFVR/L2020	20	20	150	140	25	0	8	20	12	CAFR/L...
CHFVR/L2525	25	25	150	140	25	0	3	25	7	CAFR/L...
CHFVR/L3232	32	32	170	160	25	4	-	32	-	CAFR/L...

*WFASSY : Shank (WPOS) + blade (LF)
**LFASSY : Shank (LPOS) + blade (WF)

Not compatible with TungModularSystem

SPARE PARTS

Designation	Clamping screw	Wrench
CHFVR/L...	CSHB-6-A	P-4

Combination of blade and toolholder

Toolholder	Blade			
	CAER...	CAEL...	CAFR...	CAFL...
CHSR...	●			●
CHSL...		●	●	
CHFVR...		●	●	
CHFVL...	●			●

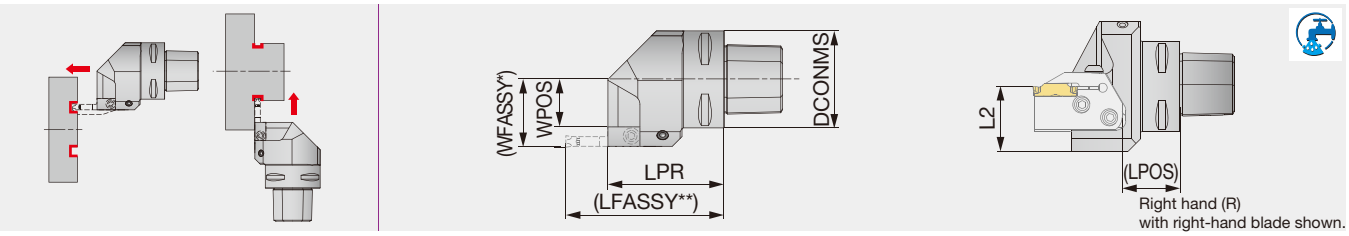
● : Corresponding

Reference pages: Inserts → P.20 - 33, Blades → P.58 - 59, Standard cutting conditions → P.62

C-CHSR/L

TUNGCAP

TungCap shank for CAER/L and CAFR/L blades



Metric	DCONMS	LPR	LPOS	L2	WPOS	Blade (Option)
C3CHSR/L22050N	32	50	22.1	35	11.5	CAER/L..., CAFL/R...
C4CHSR/L27050N	40	50	22.1	36	16.5	CAER/L..., CAFL/R...
C5CHSR/L35060N	50	60	32.1	36	24.5	CAER/L..., CAFL/R...
C6CHSR/L45065N	63	65	32.1	41	34.5	CAER/L..., CAFL/R...

*WFASSY :Shank (WPOS) + blade (WF)
**LFASSY : Shank (LPOS) + blade (LF)
Applicable for 7 MPa coolant. Not compatible with TungModularSystem.

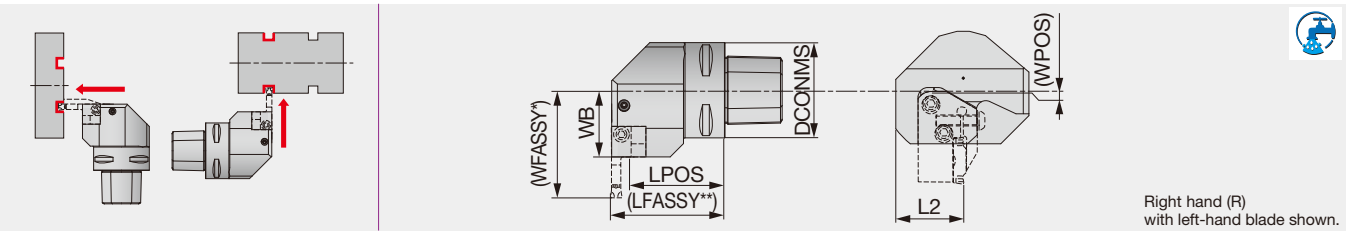
SPARE PARTS

Designation	Coolant parts	Clamping screw	Wrench
C3CHSR/L22050N	SATZ-M8X1-M3	CSHB-6-A	P-4
C4CHSR/L27050N	SATZ-M8X1-M3	CSHB-6-A	P-4
C5CHSR/L35060N	SATZ-M10X1-M5	CSHB-6-A	P-4
C6CHSR/L45065N	SATE-M10X1-M5	CSHB-6-A	P-4

C-CHFVR/L

TUNGCAP

TungCap shank for CAER/L and CAFR/L blades



Metric	DCONMS	LPOS	L2	WB	WPOS	Blade (Option)
C3CHFVR/L22040N	32	32.5	35	22	-5.9	CAEL/R..., CAFR/L...
C4CHFVR/L27050N	40	42.5	36	27	-0.9	CAEL/R..., CAFR/L...
C5CHFVR/L35060N	50	49.5	36	35	7.1	CAEL/R..., CAFR/L...
C6CHFVR/L45065N	63	54.5	41	45	17.1	CAEL/R..., CAFR/L...

*WFASSY : Shank (WPOS) + blade (LF)
**LFASSY : Shank (LPOS) + blade (WF)
Applicable for 7 MPa coolant. Not compatible with TungModularSystem.

SPARE PARTS

Designation	Coolant parts	Clamping screw	Wrench
C3CHFVR/L22040N	SATZ-M8X1-M3	CSHB-6-A	P-4
C4CHFVR/L27050N	SATZ-M8X1-M3	CSHB-6-A	P-4
C5CHFVR/L35060N	SATZ-M10X1-M5	CSHB-6-A	P-4
C6CHFVR/L45065N	SATZ-M10X1-M5	CSHB-6-A	P-4

Combination of blade and toolholder

Toolholder	Blade			
	CAER...	CAEL...	CAFR...	CAFL...
C*CHSR...	●			●
C*CHSL...		●	●	
C*CHFVR...		●	●	
C*CHFVL...	●			●

● : Corresponding

Reference pages: Inserts → P.20 - 33, Blades → P.58 - 59, Standard cutting conditions → P.62

STANDARD CUTTING CONDITIONS

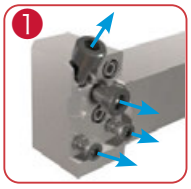
ISO	Workpiece material	Hardness	Priority	Grade	Cutting speed *Vc* (sfm)
P	Steels (1045, 4135, etc.)	< 300 HB	First choice	AH7025, AH725	164 - 591
		< 300 HB	Priority for wear resistance	New T9225	262 - 984
		< 300 HB	Priority for wear resistance	T9125	262 - 656
		< 300 HB	Priority for impact resistance	GH130	164 - 394
		< 300 HB	Priority for surface finish	NS9530	262 - 722
M	Stainless steel (304SS, 316SS, 17-4 PH, etc.)	< 200 HB	First choice	AH7025, AH725	164 - 394
		< 200 HB	Priority for impact resistance	GH130	164 - 394
K	Gray cast iron (No.250B, No.300B, etc.)	-	First choice	T515, AH7025	164 - 591
		-	Priority for impact resistance	GH130	164 - 591
	Ductile cast irons (60-40-18, 60-55-06, etc.)	-	First choice	T515, AH7025	164 - 394
		-	Priority for impact resistance	GH130	164 - 394
N	Aluminum alloys (Si < 12%)	-	First choice	TH10	33 - 1640
		-	First choice	KS05F	33 - 1969
S	Superalloys (Inconel718, etc.)	< HRC 40	First choice	AH7025	66 - 197
		< HRC 40	Priority for wear resistance	AH905	66 - 262
	Titanium alloys Ti-6Al-4V, etc.	< HRC 40	First choice	AH905	66 - 262
		< HRC 40	Priority for impact resistance	AH7025, AH725	66 - 262
		< HRC 40	Priority for surface finish	KS05F	66 - 197
H	Hardened steels (4137, etc.)	> HRC 50	First choice	BX360	80 - 150

*Please see the page **P15 - 19** for feed: *f* (ipr).

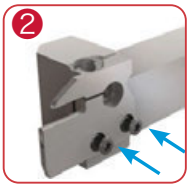
TUNGMODULAR SYSTEM

HOW TO INSTALL AND REMOVE THE BLADE AND INSERT

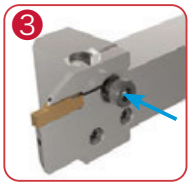
Assembly



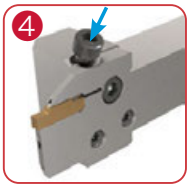
❶ Remove all four screws and ensure the O rings are all in place.



❷ Place the blade and tighten two bottom clamping screws.



❸ Place the insert in the pocket and tighten the fixing screw in the center.

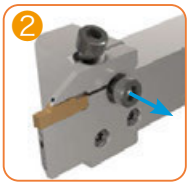


❹ Place the long screw in the angular direction and tighten to clamp the insert.

Please follow the installation order as shown above. When the screws are tightened in the ❹ → ❸ order, the insert clamping may be insufficient and unstable.

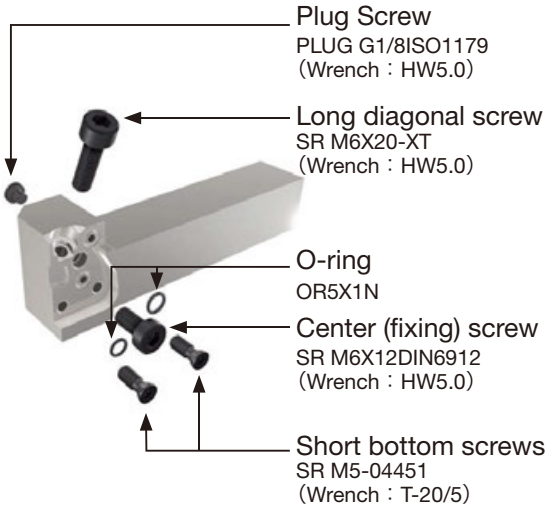
Disassembly

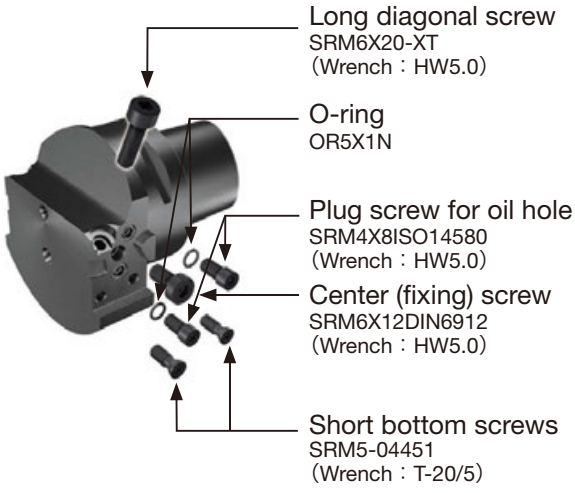
❶ First loosen the long screw in the angular direction.



❷ Loosen the fixing screw in the center and remove the insert.

Loosening the long screw alone may not release the insert.





* All parts listed here are included in the tool holder.

PARTS FOR COOLANT HOSE

Connecting hose

Fig.1

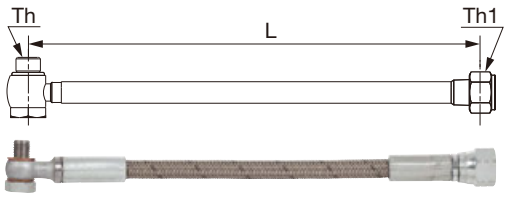
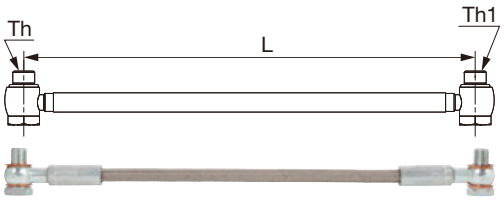
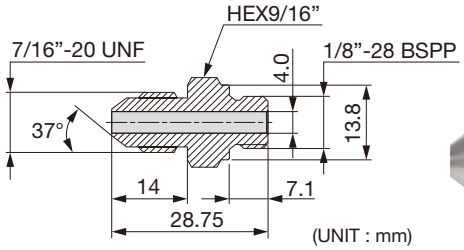


Fig.2



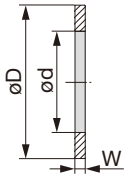
Designation	Length L (in)	Screw Th	Screw Th1	Max. pressure (Mpa)	Fig.
CHP-HOSE-G1/8-7/16-200BS	7.874	G1/8"-28 BSPP	7/16"-20 UNF	26	1
CHP-HOSE-G1/8-7/16-250BS	9.843	G1/8"-28 BSPP	7/16"-20 UNF	26	1
CHP-HOSE-5/16-7/16-200BS	7.874	5/16"-24UNF	7/16"-20 UNF	20	1
CHP-HOSE-5/16-G1/8-200BS	7.874	5/16"-24UNF	G1/8"-28 BSPP	20	1
CHP-HOSE-G1/8-G1/8-200BB	7.874	G1/8"-28 BSPP	G1/8"-28 BSPP	26	2
CHP-HOSE-G1/8-G1/8-250BB	9.843	G1/8"-28 BSPP	G1/8"-28 BSPP	26	2

Adapter



Designation
CHP-NIPPLE-G1/8-7/16UNF

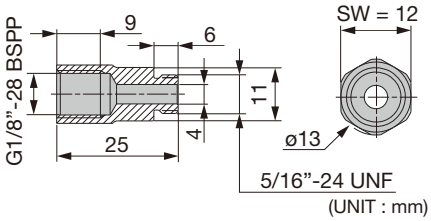
Seal washer



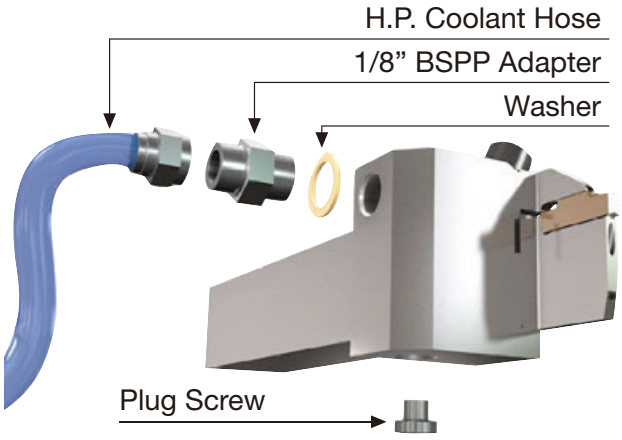
Designation	øD	ød	W
CHP-COPPER-SEAL1/8	0.591	0.394	0.039
CHP-COPPER-SEAL5/16	0.469	0.321	0.053
CHP-COPPER-SEAL5/16-2.5	0.370	0.315	0.098

(UNIT : in)

Connector for small lathe with seal washer



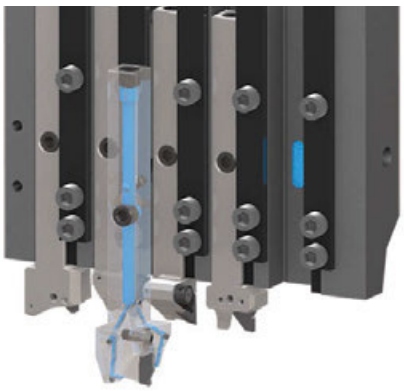
Designation
CHP-CONECTOR5/16-G1/8



DIRECT TUNGJET system

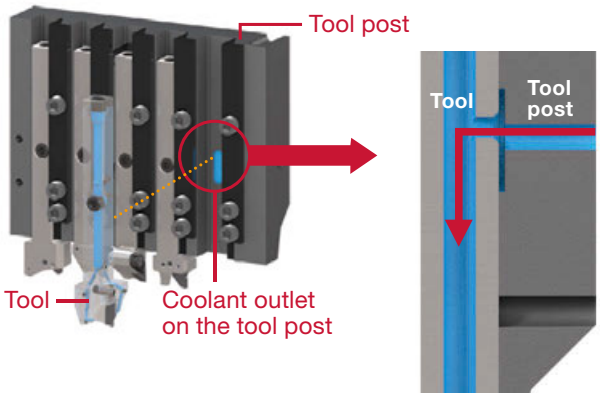
Tube-less design streamlines tool setup
Through-coolant supply enables high productivity

DirectTungJet system



No need for coolant tube setup.
Eliminates chip entanglement on tubes and streamlines tool replacements.

Coolant is supplied from the tool post directly to the tools



GUIDELINE FOR ORDERING SPECIAL INSERTS

Specially designed inserts are available upon request.

Acceptable specification

- *Special inserts are manufactured from the base insert styles shown below.*

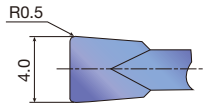
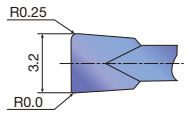
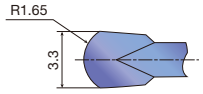
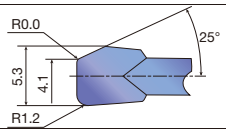
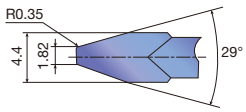
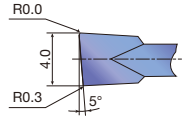
** Please contact Tungaloy for more details.*

External grooving & turning		Internal grooving & turning	Profiling & undercutting	
DTE (Ground)	**DGE (Ground)**	**DTI (Ground)**	**DTR (Ground)**	**DTIU (Ground)**
				

DESIGNATION SYSTEM FOR SPECIAL INSERTS (sample)

DTE	320	-	000R-025L	AH725
① Main style of insert	② Max. width of insert		③ Additional codes	④ Grade

SHAPE SAMPLES

Shape	Samples of designation	Note
	**DTE400-050 AH7025**	Base style: DTE type Special corner radius
	**DTE320-000R 025L AH725**	Base style: DTE type Special corner radius, asymmetric type
	**DTR330-165 T515**	Base style: DTR type Full radius type with special insert width
	**DTE530-120R-25LA T9225**	Base style: DTE type Special figure of groove, asymmetric type
	**DGG440-035-29A KS05F**	Base style: DTE type Special figure of groove
	**DTE400-030R-005RA NS9530**	Base style: DTE type Right handed insert with special angle and corner radius.

Expedited delivery service for special grooving insert

Expedited delivery service for special grooving inserts is rendered under the following lead time and quantity terms. Please note that this service is applicable only for the order of an initial test batch; a repeat order is to be placed through the regular ordering process.

ORDER
3 - 15 pcs.

LEAD TIME
from the point of order receipt
(excluding transportation)

COATED INSERT
4 weeks

NON-COATED INSERT
3 weeks

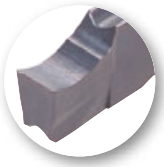
DELIVERY

TUNGCUT
TUNGALOY

Special width & corner radii

With chamfer edges

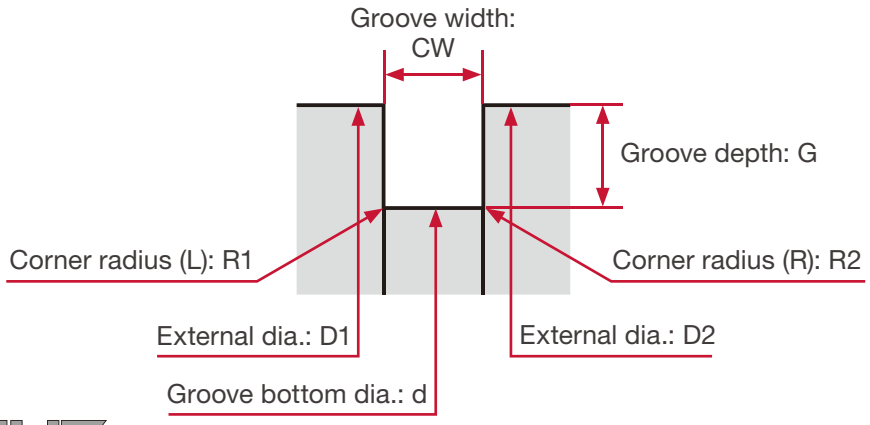
DGN Chipbreaker



DTE Chipbreaker

	Grade	
	Coated carbide	Cermet
	AH725	NS9530
DGN200	•	•
DGN300	•	•
DGN400	•	•
DGN500	•	•
DGN600	•	•
DTE300	•	•
DTE400	•	•
DTE500	•	•
DTE600	•	•
DTE800	•	

Special width & corner radii



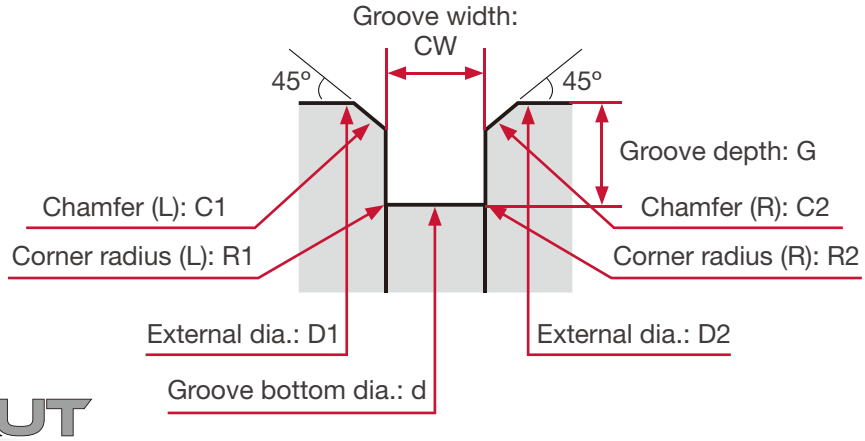
Edge type	Insert blank	Seat size	Groove width (CW)	Max. groove depth (G)	Corner radii (R1 / R2)	Toolholder
A	DGN* DTE*	2 - 6	0.020" - 0.029"	- 0.059"	0 or 0.05 - W/2 (Full radius is available)	CTEFR/L
			0.030" - 0.039"	- 0.071"		
			0.039" - 0.059"	- 0.098"		
			0.059" - 0.236"	- 0.189"		
B	DGN300/DTE300	3	0.104" - 0.118"	Up to holder (Max.0.709")		CTER/L
	DGN400/DTE400	4	0.130" - 0.157"			
	DGN500/DTE500	5	0.165" - 0.197"	Up to holder (Max.1.102")		CTEFR/L
	DGN600/DTE600	6	0.205" - 0.236"			
	DTE800	8	0.252" - 0.315"			CTER/L

*Tolerances of the insert are based on the standard item.


Edge type A


Edge type B

Grooving & chamfering



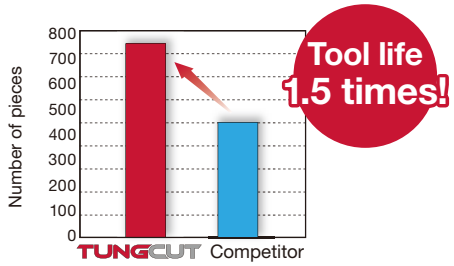
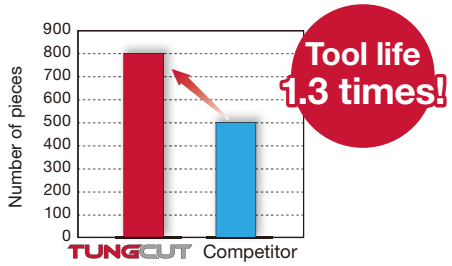
Insert blank	Seat size	Groove width (CW)	Max. groove depth (G)	Corner radii (R1 / R2)	Toolholder
DGN200 DGN300 DGN400 DGN500 DGN600	2 - 6	0.039" - 0.189"	0.039" - 0.157"	0 or 0.05 - W/2 (Full radius is available)	CTEFR/L CTEFR/L (Modified)

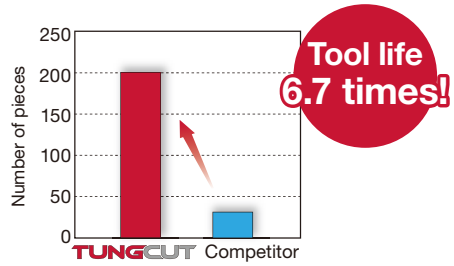
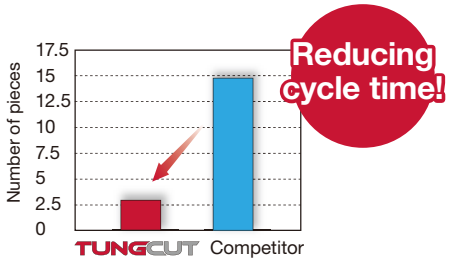
*Tolerances of the insert are based on the standard item.

Max. width of chamfer is 0.020".

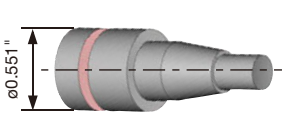
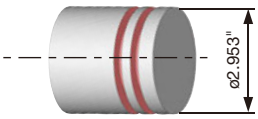
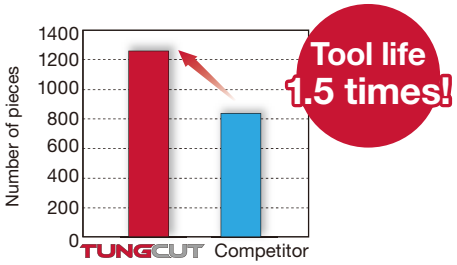
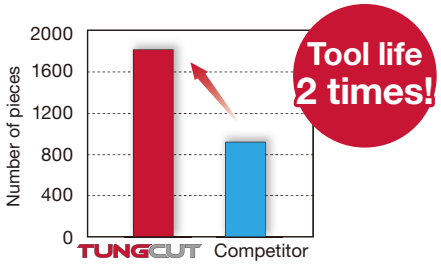
Some combinations of a groove width, depth, a corner radius(R), and chamfer may not be manufacturable.

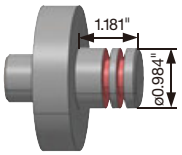
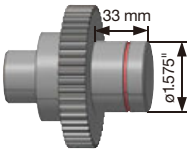
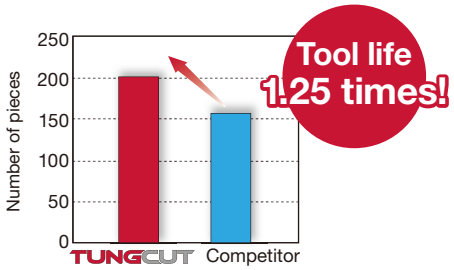
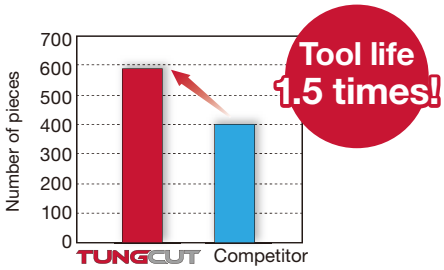
PRACTICAL EXAMPLES

	Workpiece type	Ring encoder	Gear Housing
	Toolholder	CTER12-4T25	CTER16-3T09
	Insert	DGM4-030	DTX3-030
	Grade	AH7025	AH725
	Workpiece material	1213  P	SCM420  P
Cutting conditions	Grooving width : CW (in)	0.157	0.118
Cutting conditions	Cutting speed : Vc (sfm)	591	394
Cutting conditions	Feed : f (ipr)	0.008	0.006
Cutting conditions	Cutting edge depth : CDX (in)	0.315	0.276
Cutting conditions	Machining	Parting off	Grooving
Cutting conditions	Coolant	Wet	Wet
	Results	 TungCut increased cutting speed and feed. Despite the frequent impacts in parting off, TungCut provided stable machining with no fracture even under high cutting conditions.	 The competitor's insert had microchipping issues. TungCut has improved productivity at greater cutting speed and feed rate with no micro-chipping on the cutting edge.

	Workpiece type	Valve	Gear Segment
	Toolholder	CTIR16-3T05-D16	Special
	Insert	DTX3-030	DTX3.8-020
	Grade	AH7025	AH7025
	Workpiece material	S30400  M	Inconel 718  S
Cutting conditions	Grooving width : CW (in)	0.118	0.150
Cutting conditions	Cutting speed : Vc (sfm)	262	26
Cutting conditions	Feed : f (ipr)	0.003	0.001
Cutting conditions	Cutting edge depth : CDX (in)	0.087	0.276
Cutting conditions	Machining	Grooving	Grooving
Cutting conditions	Coolant	Wet	Wet
	Results	 Conventional tool caused vibration, tool life was 30 pcs/edge. TungCut has high rigidity clamping, improving productivity, cutting surface and tool life drastically.	 The shape of the work piece had heavy interrupted cutting. Conventional tool could machine only 2.5pcs per edge before fracture, limiting productivity improvement. AH7025 could increase feed rate without fracture.

PRACTICAL EXAMPLES

	Workpiece type	**Automotive parts**	**Machine parts**
	Toolholder	CTER10-2T08	CTER16-4T10
	Insert	DGM2-020	DGM4-030
	Grade	AH725	AH725
	Workpiece material	5140  P	4140  P
Cutting conditions	**Grooving width : CW (in)**	0.079	0.157
	Cutting speed : *Vc* (sfm)	308	492
	Feed : *f* (ipr)	0.003	0.004
	Cutting edge depth : CDX (in)	-	0.236
	Machining	Parting off	Grooving
	Coolant	Wet	Wet
	Results	 TungCut has higher wear resistance and achieves tool life improvements by150%.	 TungCut provided better chip control doubling tool life.

	Workpiece type	**Machine parts**	**Gear**
	Toolholder	CTEL12-3T09	CTER16-2T08
	Insert	DTE3-040	SGN200-020
	Grade	T9125	BX360
	Workpiece material	1053  P	SCM415H (58HRC) / 18CrMo4  H
Cutting conditions	**Grooving width : CW (in)**	0.118	0.079
	Cutting speed : *Vc* (sfm)	656	394
	Feed : *f* (ipr)	0.008	0.002
	Cutting edge depth : CDX (in)	0.197	0.031
	Machining	Grooving	Grooving
	Coolant	Wet	Wet
	Results	 Excellent wear resistance of TungCut improved tool life by 25% at higher cutting speed.	 TungCut extended tool life by 1.5 times in cutting hardened steel thanks to extremely stable CBN grade.

MEMO

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Apr. 2021 (TJ)

GrooveLine

TUNGCUT

www.tungaloy.com/us

Tungaloy Report No. 391S1-US

Expansion of CBN inserts for interrupted grooving of hardened steel

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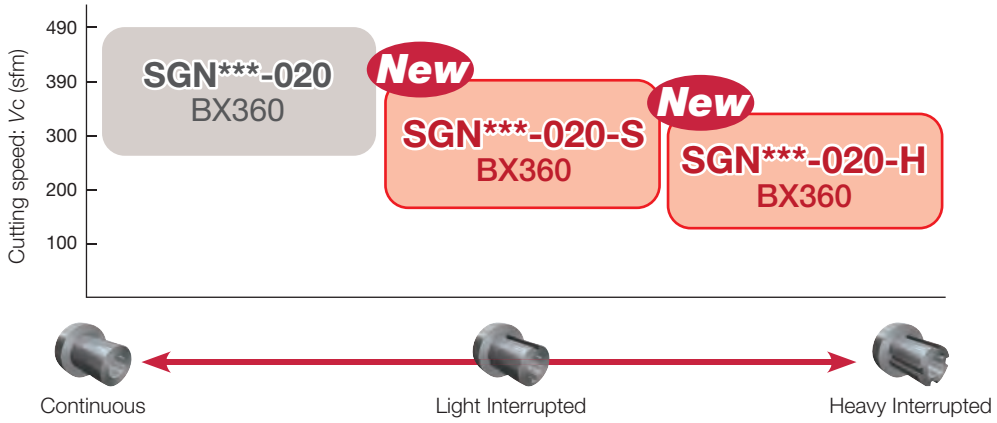
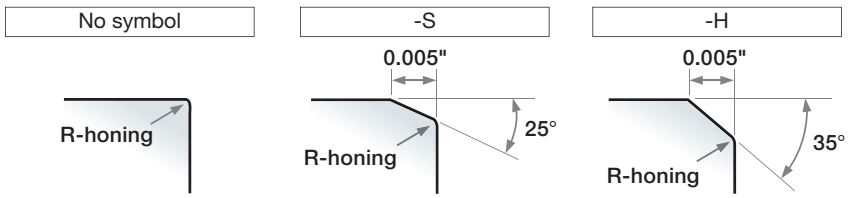
For more information

Two new edge preparation options are available for grooving hardened steel parts

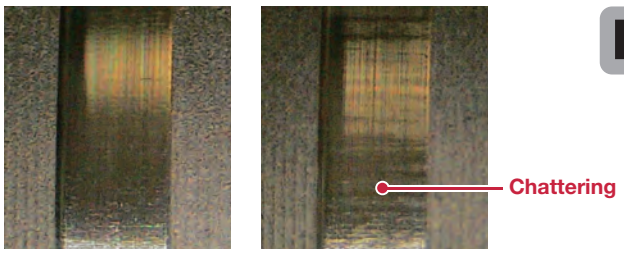


Edge preparations



CUTTING PERFORMANCE

Continuous grooving



SGN300-020
BX360

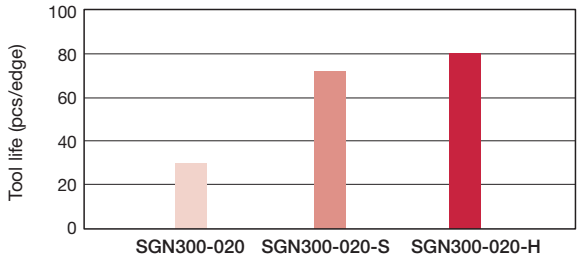
SGN300-020-S
BX360

H

Toolholder : CTEL2525-3T
Workpiece material : SCM420 (58HRC)
Cutting speed : *Vc* = 490 sfm
Feed : *f* = 0.002 ipr
Coolant : Wet

Inserts without edge preparation symbol recommended for continuous grooving

Heavy interrupted grooving



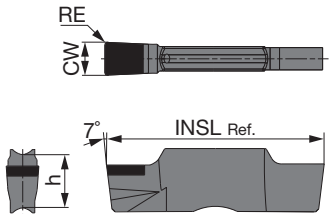
H

Toolholder : CTEL2525-3T
Workpiece material : SCM435 (58HRC)
Cutting speed : *Vc* = 330 sfm
Feed : *f* = 0.002 ipr
Coolant : Dry

-H type edge preparation recommended for heavy interrupted grooving

SGN

External grooving of hardened steel



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

★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.025 (mm)	CW±0.001 (in)	RE (in)	CBN	INSL (in)	h (in)	Edge prep.		
					BX360			No symbol	S	H
SGN200-020	2	2	0.079	0.008	●	0.787	0.197	○		
SGN200-020-S	2	2	0.079	0.008	●	0.787	0.197		○	
SGN200-020-H	2	2	0.079	0.008	●	0.787	0.197			○
SGN300-020	3	3	0.118	0.008	●	0.787	0.197	○		
SGN300-020-S	3	3	0.118	0.008	●	0.787	0.197		○	
SGN300-020-H	3	3	0.118	0.008	●	0.787	0.197			○
SGN400-020	4	4	0.157	0.008	●	0.787	0.197	○		
SGN400-020-S	4	4	0.157	0.008	●	0.787	0.197		○	
SGN400-020-H	4	4	0.157	0.008	●	0.787	0.197			○
SGN500-020-S	5	5	0.197	0.008	●	0.984	0.217		○	
SGN500-020-H	5	5	0.197	0.008	●	0.984	0.217			○

●: New

STANDARD CUTTING CONDITIONS

ISO	Grade	Edge preparation	Workpiece condition	Cutting speed *Vc* (sfm)	Feed *f* (ipr)
H	BX360	No symbol	Continuous	260 - 490	0.0012 - 0.0031
		-S	Light interrupted	160 - 390	0.0012 - 0.0031
		-H	Heavy interrupted	130 - 330	0.0012 - 0.0024

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Dec. 2020 (TJ)

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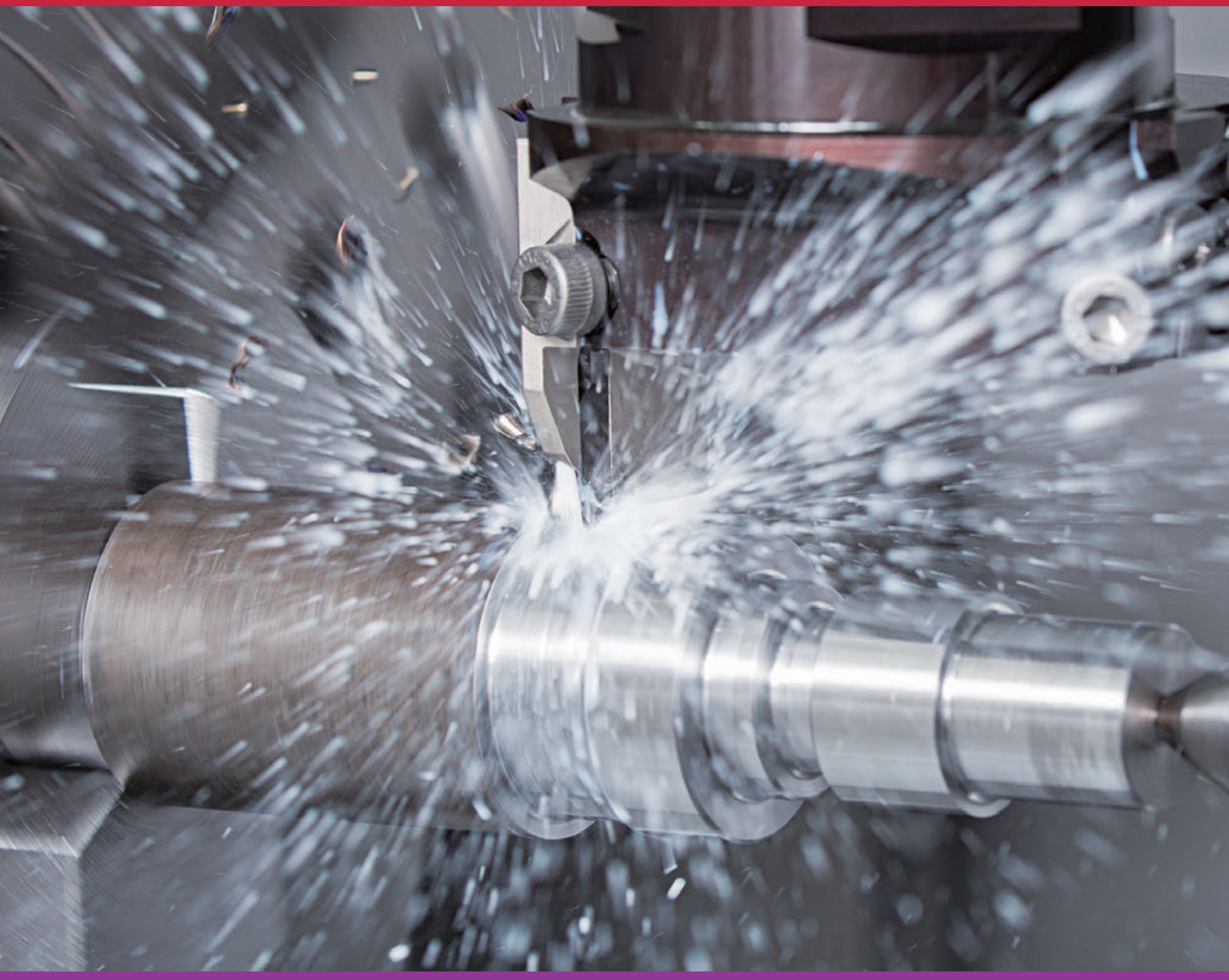
Tungaloy Report No. 391S2-US

Expanded lineup with **AH8005** and **KS05F** grade inserts for HRSAs and DGS geometry with **0.002" or 0.004" (0.05 or 0.1 mm) corner radii**



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For more information

New AH8005

Incredible reliability in grooving of heat-resistant alloys

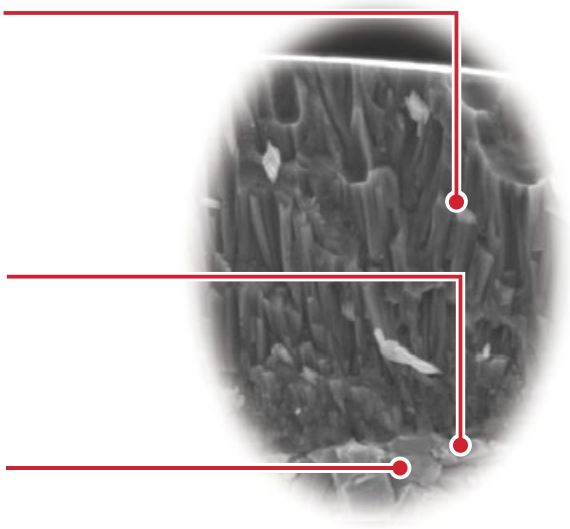
- **Nano-multi-layered AlTiN coating with high Al content**
  - Increases hardness by 20%
  - Prevents micro cracks from developing

  → Long tool life & stable machining

- **Improved adhesion strength**

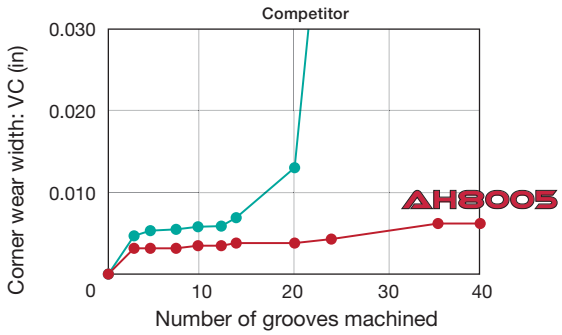
  Prevents notch wear that tends to occur in machining heat-resistant alloys

- **Newly developed substrates**



CUTTING PERFORMANCE

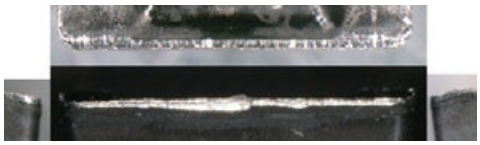
S Inconel718



Cutting speed	: *Vc* = 197 sfm
Feed	: *f* = 0.002 ipr
Groove width	: CW = 0.197"
Depth of cut	: *ap* = 50.197"
Machining	: External grooving
Coolant	: Wet (7MPa)

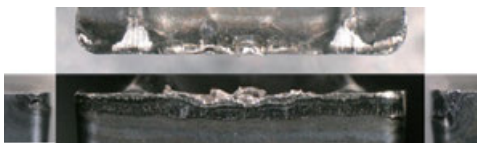
AH8005

After 40 grooves (Insert: DGM5-030)



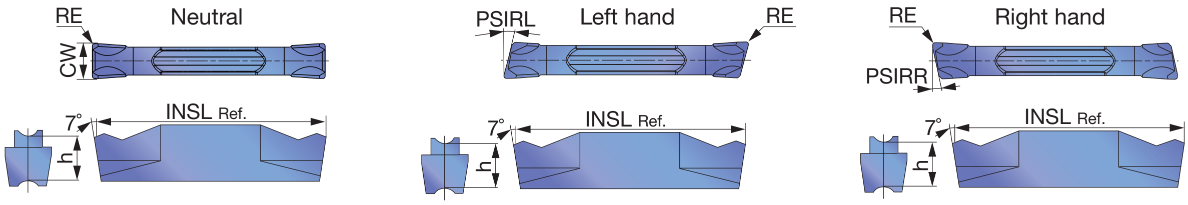
Competitor

After 20 grooves



DGM

External grooving and parting, 2 corners



	Material	T9225	AH7025	AH725	AH8005	AH905	GH130	NS9530	KS05F
P	Steel	★	★	☆			☆	★	
M	Stainless	★	★	☆	☆		★		
K	Cast iron	☆	★		☆	☆	☆	☆	☆
N	Non-ferrous								☆
S	Superalloys		★	☆	★	★			★
H	Hard materials								

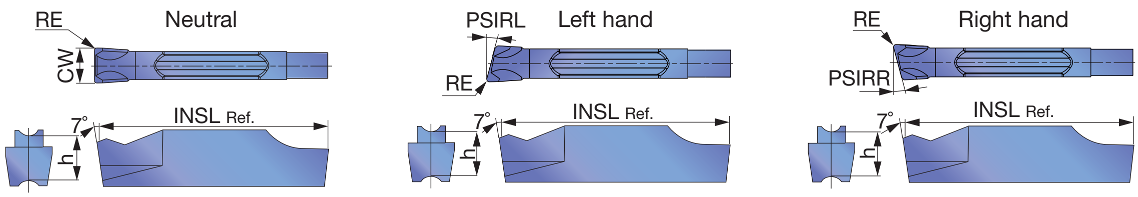
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated: T9225	Coated: AH7025	Coated: AH725	Coated: AH8005	Coated: AH905	Coated: GH130	Cermet: NS9530	Uncoated: KS05F	INSL (in)	h (in)	PSIRL	PSIRR
DGM2-020	2	N	2	0.079	0.008	●	●	●	● (New)		●	●	● (New)	0.787	0.197	0°	0°
DGM3-020	3	N	3	0.118	0.008	●	●	●	● (New)	●	●	●	● (New)	0.787	0.197	0°	0°
DGM4-030	4	N	4	0.157	0.012	●	●	●	● (New)	●	●	●	● (New)	0.787	0.197	0°	0°
DGM5-030	5	N	5	0.197	0.012	●	●	●	● (New)	●	●	●	● (New)	0.984	0.217	0°	0°
DGM6-030	6	N	6	0.236	0.012	●	●	●	● (New)	●	●		● (New)	0.984	0.217	0°	0°
DGM8-040	8	N	8	0.315	0.016	●	●	●	● (New)		●		● (New)	1.181	0.264	0°	0°

● (red): New
●: Line up

SGM

External deep grooving and parting, 1corner



	Material	AH7025	AH725	AH8005	GH130	KS05F
P	Steel	★	☆		☆	
M	Stainless	★	☆	☆	★	
K	Cast iron	★		☆	☆	☆
N	Non-ferrous					☆
S	Superalloys	★	☆	★		★
H	Hard materials					

★ : First choice
☆ : Second choice

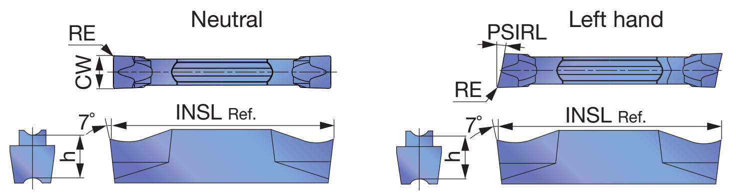
Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated: AH7025	Coated: AH725	Coated: AH8005	Coated: GH130	Uncoated: KS05F	INSL (in)	h (in)	PSIRL	PSIRR
SGM2-020	2	N	2	0.079	0.008	●	●	● (New)	●	● (New)	0.787	0.197	0°	0°
SGM3-020	3	N	3	0.118	0.008	●	●	● (New)	●	● (New)	0.787	0.197	0°	0°
SGM4-030	4	N	4	0.157	0.012	●	●	● (New)	●	● (New)	0.787	0.197	0°	0°
SGM5-030	5	N	5	0.197	0.012	●	●	● (New)	●	● (New)	0.984	0.217	0°	0°
SGM6-030	6	N	6	0.236	0.012	●	●		●	● (New)	0.984	0.217	0°	0°
SGM8-040	8	N	8	0.315	0.016	● (New)				● (New)	1.181	0.264	0°	0°

● (red): New
●: Line up

TUNGCUT
TUNGALOY

DGS

External grooving and parting, 2 corners



		T9225	AH7025	AH725	AH8005	GH130	NS9530	KS05F
P	Steel	★	★	☆		☆	★	
M	Stainless	★	★	☆	☆	★		
K	Cast iron	☆	★		☆	☆	☆	☆
N	Non-ferrous							☆
S	Superalloys		★	☆	★			★
H	Hard materials							

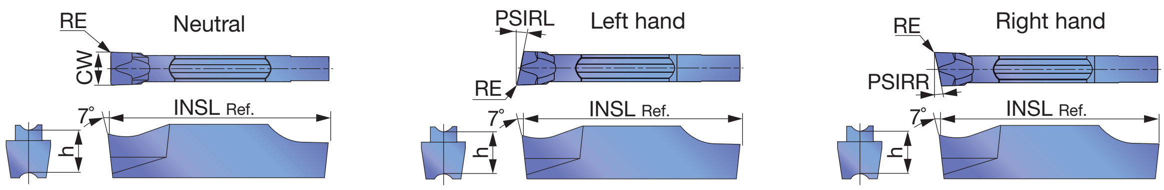
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	T9225 (Coated)	AH7025 (Coated)	AH725 (Coated)	AH8005 (Coated)	GH130 (Coated)	NS9530 (Cermet)	KS05F (Uncoated)	INSL (in)	h (in)	PSIRL	PSIRR
DGS1.4-005	1	N	1.4	0.055	0.002			🔴					0.630	0.169	0°	0°
DGS1.4-010	1	N	1.4	0.055	0.004			🔴					0.630	0.169	0°	0°
DGS2-005	2	N	2	0.079	0.002			🔴					0.787	0.197	0°	0°
DGS2-010	2	N	2	0.079	0.004			🔴					0.787	0.197	0°	0°
DGS2-020	2	N	2	0.079	0.008	●	●	●	🔴	●	●	🔴	0.787	0.197	0°	0°
DGS3-020	3	N	3	0.118	0.008	●	●	●	🔴	●	●	🔴	0.787	0.197	0°	0°
DGS4-030	4	N	4	0.157	0.012	●	●	●	🔴	●	●	🔴	0.787	0.197	0°	0°
DGS5-030	5	N	5	0.197	0.012	●	●	●	🔴	●	●	🔴	0.984	0.217	0°	0°
DGS6-030	6	N	6	0.236	0.012	●	●	●	🔴	●		🔴	0.984	0.217	0°	0°

🔴: New
●: Line up

SGS

External deep grooving and parting, 1corner



		AH7025	AH725	AH8005	GH130	KS05F
P	Steel	★	☆		☆	
M	Stainless	★	☆	☆	★	
K	Cast iron	★		☆	☆	☆
N	Non-ferrous					☆
S	Superalloys	★	☆	★		★
H	Hard materials					

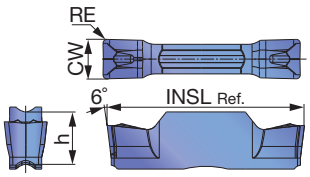
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	AH7025 (Coated)	AH725 (Coated)	AH8005 (Coated)	GH130 (Coated)	KS05F (Uncoated)	INSL (in)	h (in)	PSIRL	PSIRR
SGS2-020	2	N	2	0.079	0.008	●	●	🔴	●	🔴	0.787	0.197	0°	0°
SGS3-020	3	N	3	0.118	0.008	●	●	🔴	●	🔴	0.787	0.197	0°	0°
SGS4-030	4	N	4	0.157	0.012	●	●	🔴	●	🔴	0.787	0.197	0°	0°
SGS5-030	5	N	5	0.197	0.012	●	●	🔴	●	🔴	0.984	0.217	0°	0°
SGS6-030	6	N	6	0.236	0.012	●	●		●	🔴	0.984	0.217	0°	0°

🔴: New
●: Line up

DTM

External face grooving and turning



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

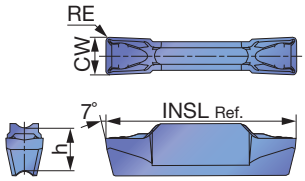
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated		INSL (in)	h (in)
					AH7025	AH8005		
DTM3-030	3	3	0.118	0.012	●	●	0.787	0.197
DTM4-040	4	4	0.157	0.016	●	●	0.787	0.197
DTM4-080	4	4	0.157	0.031	●	●	0.787	0.197
DTM5-080	5	5	0.197	0.031	●	●	0.984	0.217
DTM6-080	6	6	0.236	0.031	●	●	0.984	0.217
DTM8-080	8	8	0.315	0.031	●	●	1.181	0.264

●: New
●: Line up

DTX

External/Internal face grooving and turning



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

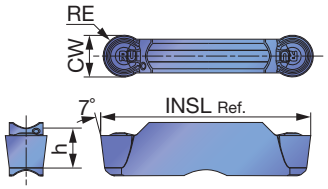
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated					Cermet		Uncoated		INSL (in)	h (in)
					T9225	AH7025	AH725	AH8005	GH130	NS9530		KS05F			
DTX3-030	3	3	0.118	0.012	●	●	●	●	●	●		●		0.787	0.197
DTX4-040	4	4	0.157	0.016	●	●	●	●	●	●		●		0.787	0.197
DTX5-040	5	5	0.197	0.016	●	●	●	●	●	●		●		0.984	0.217
DTX6-080	6	6	0.236	0.031		●	●	●	●			●		0.984	0.217

●: New
●: Line up

DTR

Profiling and undercutting



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

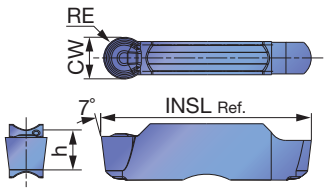
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated							Cermet			Uncoated				INSL (in)	h (in)
					T9225	AH7025	AH725	AH8005	AH905	GH130		NS9530			KS05F					
DTR3-150	3	3	0.118	0.059	●	●	●	●	●	●		●			●				0.787	0.197
DTR4-200	4	4	0.157	0.079	●	●	●	●	●	●		●			●				0.787	0.197
DTR5-250	5	5	0.197	0.098	●	●	●	●	●	●		●			●				0.984	0.217
DTR6-300	6	6	0.236	0.118	●	●	●	●		●					●				0.984	0.217
DTR8-400	8	8	0.315	0.157	●	●		●							●				1.181	0.264

●: New
●: Line up

STR

Profiling and undercutting, 1 corner



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

★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05 (mm)	CW±0.002 (in)	RE (in)	Coated							Uncoated							INSL (in)	h (in)
					AH7025	AH8005						KS05F								
STR3-150	3	3	0.118	0.059	●	●						●							0.787	0.197
STR4-200	4	4	0.157	0.079	●	●						●							0.787	0.197
STR5-250	5	5	0.197	0.098	●	●						●							0.984	0.217
STR6-300	6	6	0.236	0.118	●	●						●							0.984	0.217
STR8-400	8	8	0.315	0.157	●	●						●							1.181	0.264

●: New

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Priority	Grade	Cutting Speed *Vc* (sfm)
P	Steel 1045, 4135, etc.	< 300 HB	First choice	AH7025, AH725	164 - 591
		< 300 HB	Wear resistance	T9225	262 - 984
		< 300 HB	Impact resistance	GH130	164 - 394
		< 300 HB	Suface quality	NS9530	262 - 722
M	Stainless steel 304SS, 316SS, 17-4 PH, etc.	< 200 HB	First choice	AH7025, AH725	164 - 394
		< 200 HB	Wear resistance	AH8005	164 - 394
		< 200 HB	Impact resistance	GH130	164 - 394
K	Gray cast iron No.250B, No.300B, etc.	-	First choice	T515, AH7025	164 - 591
		-	Impact resistance	GH130	164 - 591
	Ductile cast iron 60-40-18, 60-55-06, etc.	-	First choice	T515, AH7025	164 - 394
		-	Impact resistance	GH130	164 - 394
N	Aluminum alloys Si < 12%	-	First choice	TH10	328 - 1640
		-	First choice	KS05F	328 - 1969
S	Superalloys Inconel718, etc.	< HRC 40	First choice	AH8005	66 - 262
		< HRC 40	Impact resistance	AH7025, AH725	66 - 197
	Titanium alloys Ti-6Al-4V, etc.	< HRC 40	First choice	KS05F	66 - 262
		< HRC 40	Impact resistance	AH7025, AH725	66 - 262
H	Hardened steel 4137, etc.	> HRC 50	First choice	BX360	262 - 492

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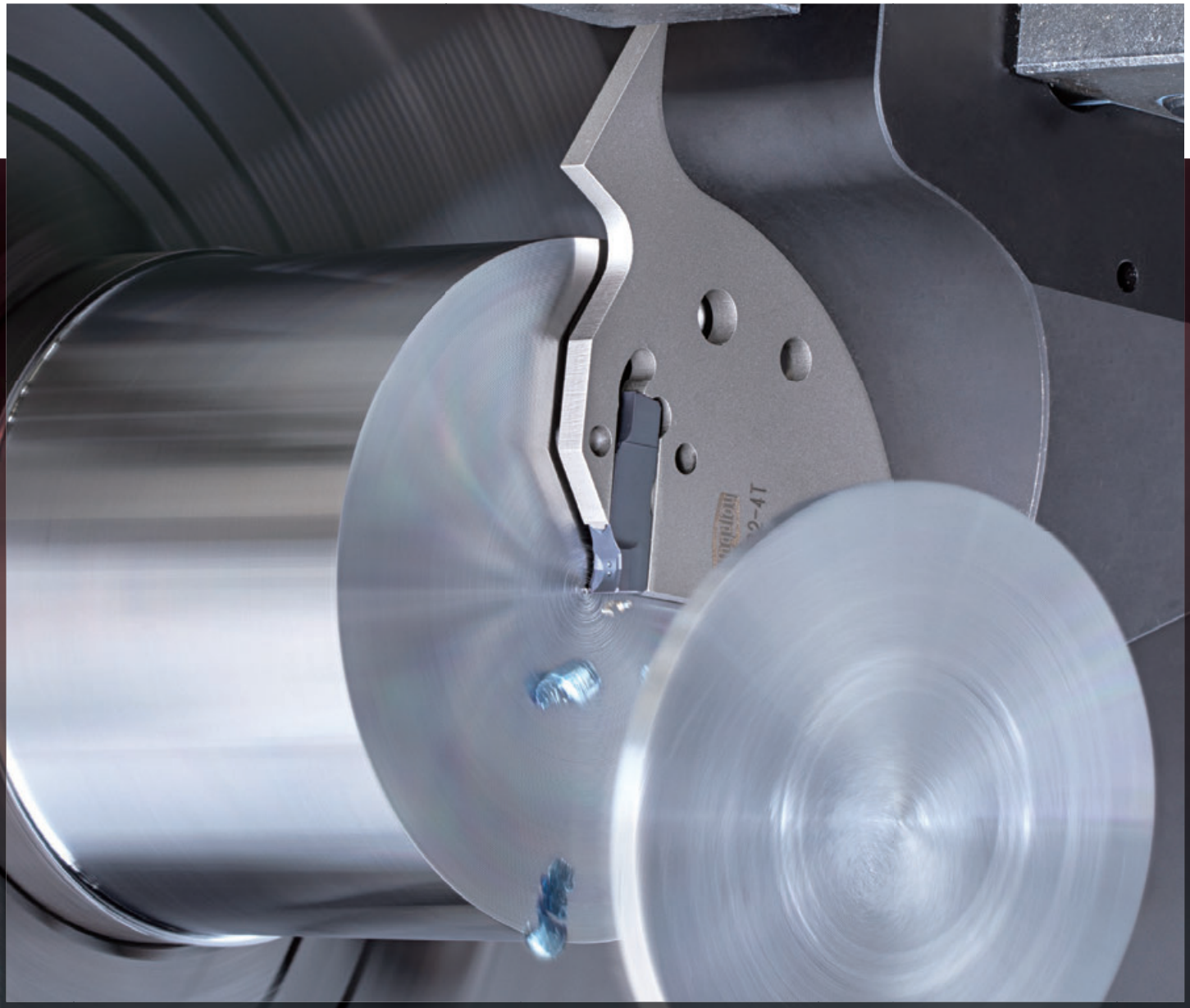
GrooveLine
Expansion 3

TUNGCUT

Tungaloy Report No. 391S3-US

Now offers **TungFeed-Blade** holders for grooving and parting-off



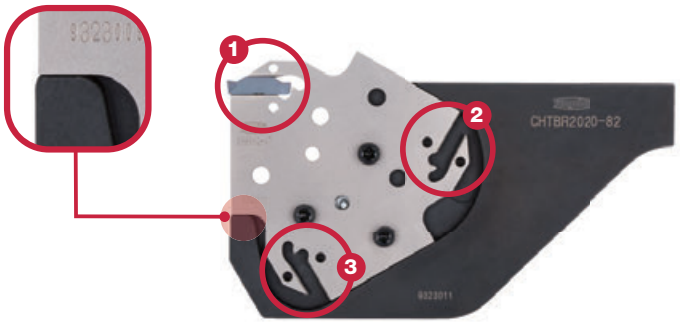
TUNGALOY ADDFORCE ACCELERATED LINES

TUNGCUT

For more information

Strong holder design ensures excellent stability and productivity during demanding applications

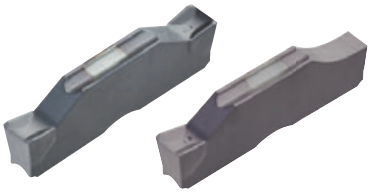
- The support blade is designed to eliminate chatter during machining, providing better surface finish and straightness of the groove.



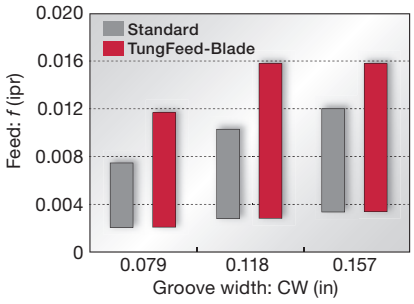
- Each blade has three insert seats for tool economy.

- The holder has two contact faces for enhanced rigidity.

DGM type (2 corners)
SGM type (1 corner)



■ Increase with High feed blade



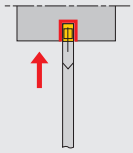
Enables high feed machining when used with high rigidity holders

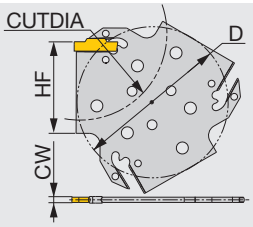
New

CHGP

TUNGFEED BLADE

Parting-off and external grooving blade





Metric	CW	Seat size	CUTDIA	HF	D
CHGP52-2T	2	2	52	27	48.3
CHGP52-3T	3	3	52	27	48.3
CHGP82-3T	3	3	82	42	69.3
CHGP82-4T	4	4	82	42	69.3

When depth is deeper than insert length - 1.5mm, 1 corner type is recommended.

SPARE PARTS

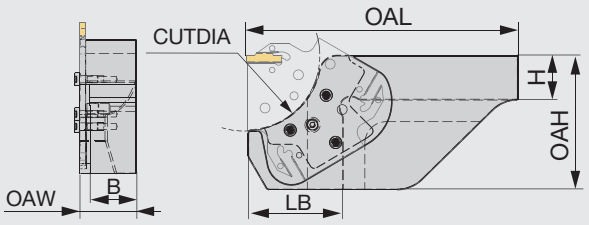
Designation	Wrench (Option)
CHGP...	CRW33

New

CHTBR/L

TUNGFEED BLADE

Tool block for CHGP blade



Right hand (R) shown.

Inch	CUTDIA	H	B	OAL	OAH	OAW	LB
CHTBR/L12-52	2.047	0.750	0.770	4.000	1.970	1.000	1.457
CHTBR/L16-52	2.047	1.000	1.020	5.000	1.970	1.250	1.457
CHTBR/L12-82	3.228	0.750	0.770	5.500	2.950	1.000	2.087
CHTBR/L16-82	3.228	1.000	1.020	6.000	2.950	1.250	2.087

Metric	CUTDIA	H	B	OAL	OAH	OAW	LB
CHTBR/L2020-52	52	20	20.5	100	50	26.5	37
CHTBR/L2525-52	52	25	25.5	125	50	31.5	37
CHTBR/L2020-82	82	20	20.5	140	75	26.5	53
CHTBR/L2525-82	82	25	25.5	150	75	31.5	53

SPARE PARTS

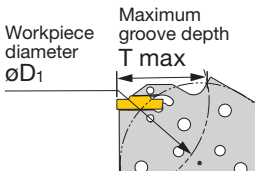


Designation	Clamping screw	Grip	Torx bit
CHTBR/L...	SR-ISO14580M4X10	SW6-SD	BLDT20/S7

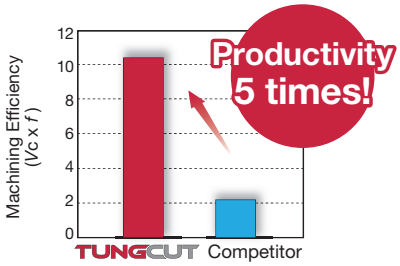
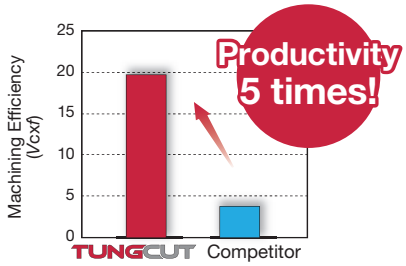
Maximum groove depth (T max) as function of workpiece diameter (øD1)

Designation	øD1 (in)																	
CHTBR/L****-D52	2.087	2.126	2.165	2.205	2.283	2.362	2.441	2.559	2.677	2.835	3.071	3.307	3.622	4.016	4.528	5.236	6.260	7.795
CHTBR/L****-D82	4.094	4.252	4.409	4.567	4.764	5.000	5.276	5.591	5.945	6.378	6.929	7.559	8.346	9.331	10.630	12.323	14.764	18.425
T max	0.827	0.787	0.748	0.709	0.669	0.630	0.591	0.551	0.512	0.472	0.433	0.394	0.354	0.315	0.276	0.236	0.197	0.157

Designation	øD1 (in)											
CHTBR/L****-D82	3.268	3.307	3.346	3.386	3.425	3.504	3.543	3.622	3.701	3.780	3.858	3.976
T max	1.339	1.299	1.220	1.181	1.142	1.102	1.063	1.024	0.984	0.945	0.906	0.866



PRACTICAL EXAMPLES

Workpiece type		Bolt parts	Elevator parts
Toolholder		CHGP82-4T / CHTBR2525-82	CHGP52-3T / CHTBR2020-52
Insert		SGS4-030	SGM3-020
Grade		AH7025	AH7025
Workpiece material		S45C / C45	STKM13A
		 P	 P
Cutting conditions	Grooving width : CW (in)	0.157	0.118
	Cutting speed : Vc (sfm)	230	623
	Feed : f (ipr)	0.006	0.004
	Cutting edge depth : CDX (in)	0.984	0.197
	Machining	Parting off	Parting off
	Coolant	Wet	Wet
Results		 TungFeed-Blade doubled tool life, while also increasing feed rate 5 times when used with the high rigidity CHTBR holder.	 The high rigidity holder increased feed rate by 5 times and tool life by 3 times.

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TUNGALOY ATLAS

Dr. Carbide Tungaloy

May. 2021 (TJ)

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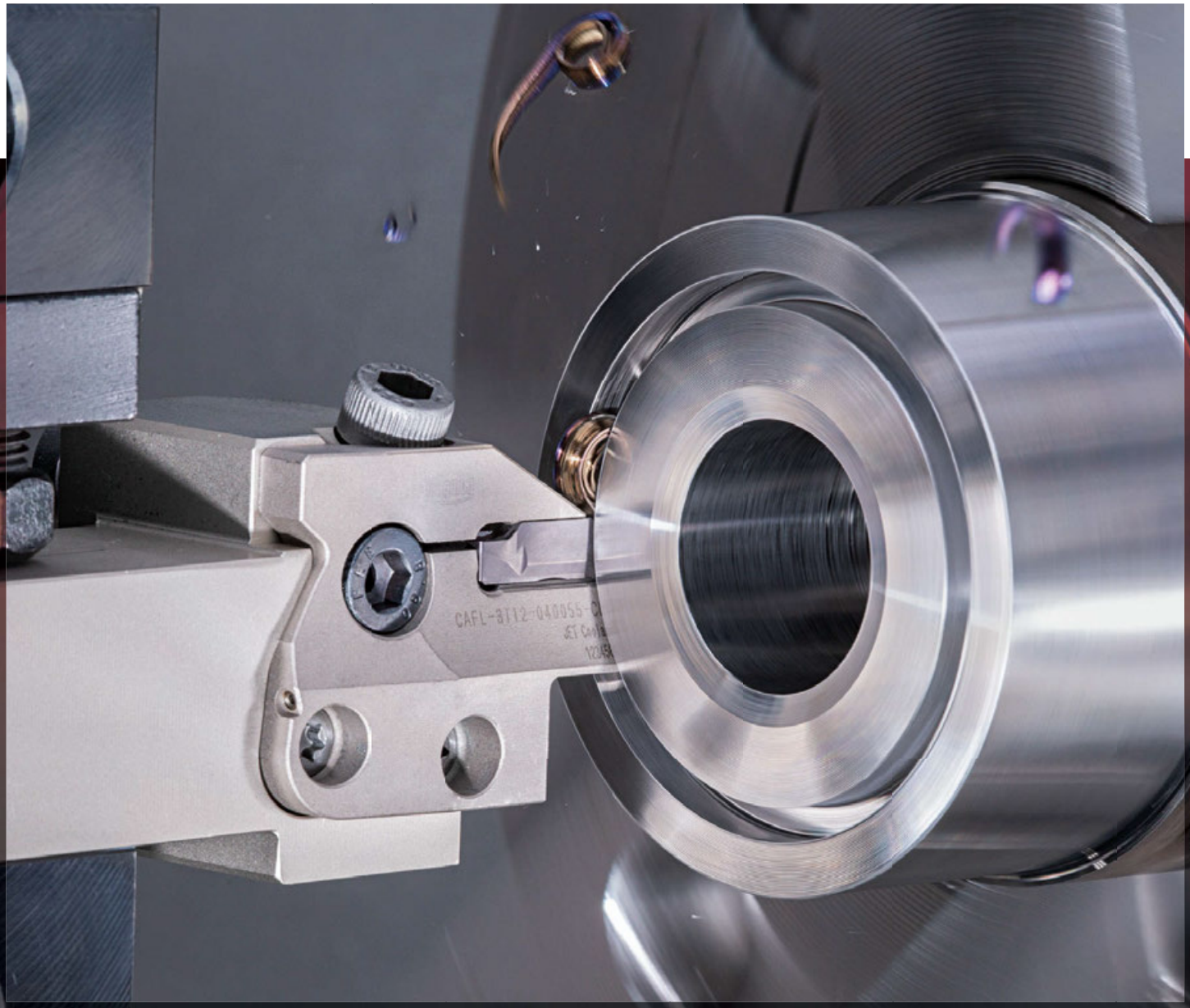
GrooveLine
Expansion 4

TUNGCUT

Tungaloy Report No. 391S4-US

Expansion of TungModular Adapter Line for OD and Face Grooving



TUNGALOY ADDFORCE ACCELERATED LINES

TUNGCUT

For more information

- Highly rigid insert clamping provides stability in all OD and face grooving processes
- Through-coolant technology provides improved chip evacuation
- Modular tooling provides customers with reduced cycle time and tool cost

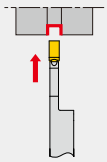
For Face Grooving (CHP)

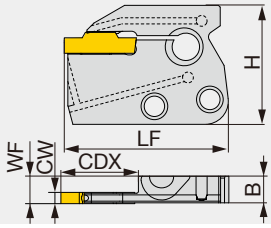
For External Grooving (Non CHP)

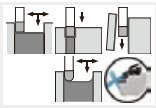
CAER/L-CHP

TUNGMODULAR SYSTEM

Modular-type external grooving and parting adapter, with high pressure coolant capability







Right hand (R) shown.

	Metric	CW	Seat size	CDX	H	B	LF	WF (1)
New	CAER/L-8T25-CHP	8	8	25	33	7.2	51.1	8.3

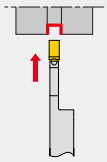
(1) WF is calculated with the groove width (CW) in the above table.

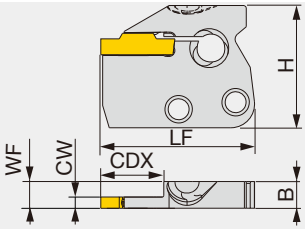
CAER/L-MD

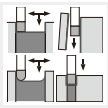
TUNGMODULAR SYSTEM

Modular-type external grooving and parting adapter

New







Right hand (R) shown.

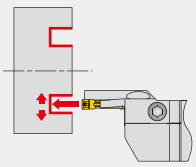
Metric	CW	Seat size	CDX	H	B	LF	WF (1)
CAER/L-2T16-MD	2	2	16	33	7.2	41.5	7.3
CAER/L-3T16-MD	3	3	16	33	7.2	41.5	7.4
CAER/L-4T16-MD	4	4	16	33	7.2	41.5	7.7
CAER/L-5T20-MD	5	5	20	33	7.2	46.3	7.8
CAER/L-6T20-MD	6	6	20	33	7.2	46.3	7.8
CAER/L-8T25-MD	8	8	25	33	7.2	51.1	8.3

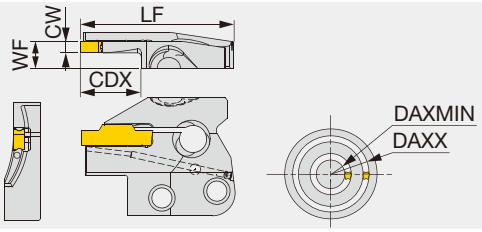
(1) WF is calculated with the groove width (CW) in the above table.

CAFR/L-CHP

Modular-type Face grooving and turning adapter

New





Right hand (R) shown.

Metric	CW	DAXMIN	DAXX	Seat size	CDX	LF	WF (1)
CAFR/L-3T12-040055-CHP	3	40	55	3	12	43	7.5
CAFR/L-3T12-055075-CHP	3	55	75	3	12	43	7.5
CAFR/L-3T12-075100-CHP	3	75	100	3	12	43	7.5
CAFR/L-3T12-100140-CHP	3	100	140	3	12	43	7.5
CAFR/L-3T12-140200-CHP	3	140	200	3	12	43	7.5
CAFR/L-4T16-050070-CHP	4	50	70	4	16	43	8
CAFR/L-4T16-070100-CHP	4	70	100	4	16	43	8
CAFR/L-4T16-100150-CHP	4	100	150	4	16	43	8
CAFR/L-4T16-150250-CHP	4	150	250	4	16	43	8
CAFR/L-5T20-055080-CHP	5	55	80	5	20	47	8.5
CAFR/L-5T20-080120-CHP	5	80	120	5	20	47	8.5
CAFR/L-5T20-120180-CHP	5	120	180	5	20	47	8.5
CAFR/L-5T20-180300-CHP	5	180	300	5	20	47	8.5
CAFR/L-5T20-300000-CHP	5	300	∞	5	20	47	8.5
CAFR/L-6T25-060090-CHP	6	60	90	6	25	52	9
CAFR/L-6T25-090150-CHP	6	90	150	6	25	52	9
CAFR/L-6T25-150250-CHP	6	150	250	6	25	52	9
CAFR/L-6T25-250400-CHP	6	250	400	6	25	52	9

When groove depth is larger than (insert length - 1.5 mm), please use 1-cornered insert.
Max. groove depth will be 15 mm with DTF insert.
Use the right-hand insert for the right-hand holder with DTF insert.
(1)WF is calculated with the groove width (CW) in the above table.
(2) Seat sizes of DTF are only 3 and 4.

Combination of adapter and toolholder

Toolholder	adapter			
	CAER...	CAEL...	CAFR...	CAFL...
CHSR...	●			●
CHSL...		●	●	
CHFVR...		●	●	
CHFVL...	●			●

● : Corresponding

Insert	Groove width CW	Face grooving Min. machining dia. DAXMIN
DGM / DGS / SGN / DGL	3	92
DGM / DGS / SGN / DGL	4	37
DGM / DGS / DGL	5	60
DGM / DGS / DGL	6	57
DTE / DGG / DTM	3	62
DTE / DGG / DTM	4	42
DTE / DGG / DTM	5	64
DTE / DGG / DTM	6	61
DTR	3	44
DTR	4	32
DTR	5	48
DTR	6	48
DTX	3	22
DTX	4	20
DTX	5	20
DTX	6	23
DTF	3	20
DTF	4	20

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Dr. Carbide Tungaloy

May. 2021 (TJ)